Analysis of the effect of financial inclusion and literature intensity on financial technology: Empirical study on college students in Malang city)

Dhiya Azami A, Eko Suprayitno
Fakultas Ekonomi Universitas Islam Negeri Maulana Malik Ibrahim Malang, Malang, Indonesia

Abstract
In today's modern era technology is no longer stranger to the Indonesian peoples. Almost all Indonesian people use information technology, especially in internet services. Fintech is one method of service in the financial sector that is popular in the digital era. This sector is a factor that is highly expected by the government and the community in increasing access to financial services. This study uses a partial least square (SEM-PLS) structure equation analysis with a tool in the form of SmartPls software and is supported by data from questionnaires distributed to students using fintech services in Malang City. The results obtained from this study are known that financial literacy has a positive and significant effect on financial technology on Students in Malang City. This is indicated by the original sample value of 0.028 and the t-statistical value of 13.613. The value of t statistic is greater than the value of t table which is 1.96. Then from this research it is also known that financial inclusion has a positive and insignificant effect on financial technology in Malang City Students. This is indicated by the original sample value of 0.832 and the t-statistical value of 0.454, besides that it is also known that the t-statistical value is smaller than the t-table value of 1.96.

Keywords: financial literacy, financial inclusion, financial technology, sharia banking

Introduction
The introduction explains the main points discussed as the background of the research/problem, which contains the research problem, research objectives, and a summary of relevant theoretical studies.

In today's modern era technology is not foreign to the people of Indonesia. Almost all Indonesian people use information technology, especially in internet services. According to Bank Indonesia regulation No.19/12/PBI/2017 concerning the process of financial technology, developments and information systems continue to issue new innovations, especially in the field of technology, in order to fulfill all public needs for financial services. Various kinds of digital applications as payment instruments are evidence that shows the development of the financial sector in this digital economy era (Puslitbang Aptika and IKP 2019) [1]

Fintech is one method of service in the financial sector that is popular in the digital era. Digital payments are one of the most developed fintech sectors in Indonesia. This sector is a factor that is highly expected by the government and the community in increasing access to financial services. The beginning of the emergence of Fintech was from credit card innovation, credit cards and terminals that provide cash, such as automated teller machines (ATMs) (Arner et.al, 2015) [2]. After that followed the emergence of telephone banking with various financial products following the deregulation of the capital market and bonds. Then, internet banking emerged which encouraged the existence of branchless banking and remote activities carried out by banks. In addition, cellular device technology (mobile) has emerged that can make financial transactions easier. Some of these changes have led to the emergence of direct financing and intermediation, which are predicted to replace expensive and inefficient indirect financing and financial intermediation (Dewi 2020) [3].

Increasing financial inclusion in Indonesia with satisfactory results cannot guarantee that the welfare of its people has been evenly distributed. Of the 34 provinces in Indonesia, 18 provinces have a level of financial inclusion below the national average, in this case it can be interpreted that more than half of the provinces in Indonesia do not yet have a good level of financial inclusion (Sari and Kautsar 2020) [4]. Based on data from the Financial Services Authority in 2017 it shows that the preferences of financial products and services owned by the Indonesian people, which are spread across 34 provinces, are not all the same. Therefore, developing countries such as Indonesia are included in the category of countries that have not evenly distributed information technology infrastructure in all regions such as telecommunication and internet access. However, most of this access can only be felt by urban communities (APPI, 2018) [5].

Penetration in banking services is quite low, people have low access to identify financial products and obtain financial facilities (Wareza, 2019) [6]. According to the Otoritas Jasa Keuangan (2019) [7] that one of the influencing factors in economic development is quality human resources. The context referred to in this economic development is the quality of human resources that must be continuously improved, including

strengthening their competencies, one of which is related to financial literacy. It has become a necessity in people's daily lives to have financial literacy knowledge.

Review of Literature
Financial literacy is a basic need for behavior related to money. A prosperous life is based on someone who has financial literacy, with proper financial management, everyone will be able to avoid financial problems. Chen and Volpe (1998) [8] there are four aspects of financial literacy, namely the first is knowledge related to personal finance in general which includes an understanding of basic personal finance, both savings and loans this section includes knowledge about the use of credit cards which are also still related to savings and loans, the three basic knowledge of insurance and insurance products such as vehicle insurance and life insurance and the last is investment which includes several parts, namely knowledge of market interest rates, mutual funds, and investment risks.

According to Muzdalifah et al (2018) [9], it is stated that the low level of financial literacy among the community, including students. There is empirical evidence, as stated by Chen and Vilpe (1998)[8] that the low financial literacy of students occurs due to the lack of personal finance education at the university, where students are one of the groups that are very vulnerable to consumptive behavior. This happens because the patterns that have been consumed by someone are formed at the age of students and it is also often the case that students are easy to be seduced by advertisements, are unrealistic, follow friends, and also tend to be wasteful in using money (Alim et al, 2022) [10].

According to Ansong & Gyensare (2012) [11], students who are majoring in economics and business have better knowledge of finance than other majors. Then Robb and Sharpe (2009) [12] in their research also suggested that there were 6520 students at Midwestern University found that financial knowledge had a significant relationship with behavior in the use of a credit card.

It can be assumed that residents in Indonesia, especially college students in Malang City, are easy to access and able to use financial services but do not have the understanding and knowledge to get good services. Research conducted by Morgan & Trinh (2017) [13] states that there is a significant influence between age, education, income on the literacy of credit card users. Anisyah et al, (2021) [14] state that convenience has a positive and insignificant effect on the use of fintech with mediation interests.

Research conducted by Fitriana, et al. (2019) [15] stated that it is recommended to recommend the importance of financial education for women entrepreneurs in rural areas as well as the expansion of the use of the internet and digital finance. Research conducted by Alawi et al, (2020) [16, 17] states that financial inclusion has a positive and significant relationship with financial technology.

Method
Sources and types of data in this study using primary data and secondary data. Primary data is data obtained from students using financial technology services. Secondary data is data obtained from research related to the scope of the material, namely books, journals, articles and so on.

The measuring instrument used in this research is using a Likert scale. The purpose is to determine the level of agreement of respondents on statements related to the object of research. The population of this study are students who use financial technology services. Then the characteristics used in sampling are 1) Students who have fintech services as a transaction tool 2) Domiciled in Malang City 3) Minimum age of 18-25 years.

In this study, the researchers used a partial least square (SEM-PLS) structure equation analysis using a tool in the form of SmartPLS software (Misissaifi and Sriyana 2021) [18].

Results and Discussion
This study uses a questionnaire that has been filled out by students in Malang City with the characteristics of the respondents, including gender and age used in order to strengthen and complete the research.

Respondents in this study are students who have internet banking and at least have become customers of a bank. The general description of the respondents in this study is as follows:

1. Characteristics of respondents by gender
This study uses gender as one of the characteristics of the respondents in this study. The following are the results of gender characteristics in the following table:
Based on Figure 1, there are more female respondents than male respondents. This can be seen from the number of respondents, amounting to 61 respondents from a total of 105 respondents or 58%. While male respondents amounted to 44 respondents from a total of 105 respondents or 42%.
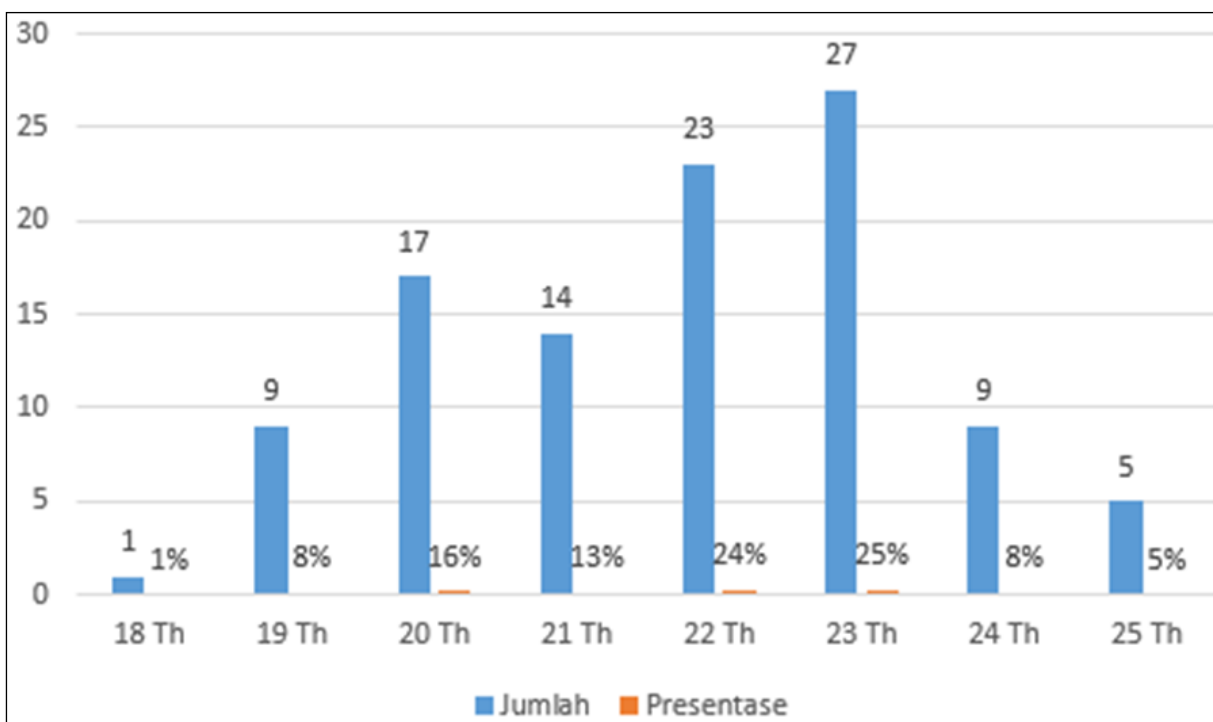
2. Characteristics of Respondents by Age
This study uses age as one of the characteristics of the respondents in this study. The following are the results of age characteristics in the following table:
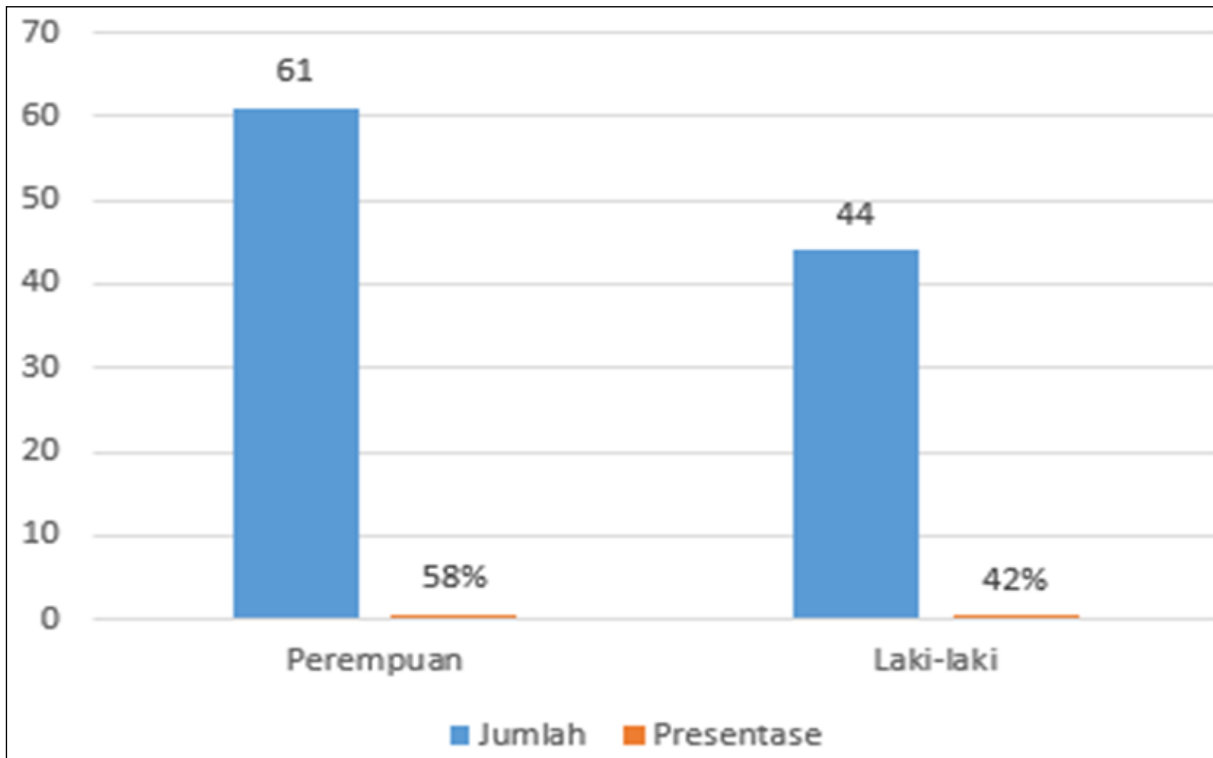
Source: Data processed by excel, 2022

Fig 1: Respondents by Gender

Source: Data processed by excel, 2022

Fig 2: Respondents by Age

Based on Figure 2, it can be seen that the largest number of respondents, namely the age of 23 years, was 27 respondents or 25%. Then respondents with the age of 22 years were 23 respondents or 24% while respondents aged 20 years were 17 respondents or 16%.

Measurement Model (Outher Model)
In the measurement model (outher louding) in this study. There are several variables that do not meet the loading factor requirements of more than 0.7. Latent variables that do not meet the conditions, then some of the existing data is deleted. So that researchers do data processing for the second, as follows:
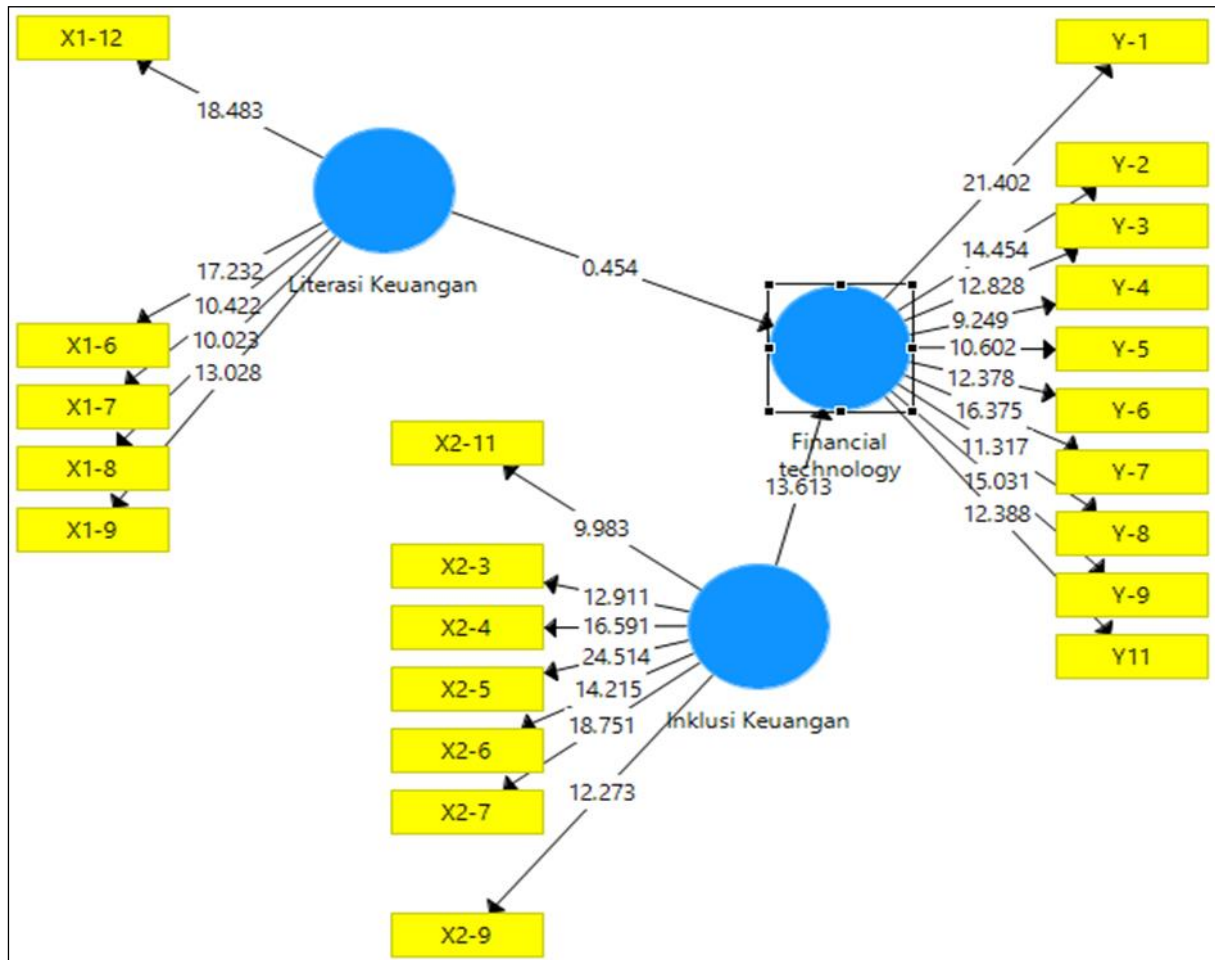
Fig 3: Outer Model

1. Convergent Validity

Convergent validity is one of the tests used to measure and find out the questionnaire being measured is truly valid. It is said to be valid if an indicator has a loading factor value > 0.7. The value listed on the loading factor shows the statement value of each indicator. The following is the value of Convergent Validity that has been deleted on variables that do not meet the requirements by using SmartPLS 3.0.

Based on the results of the AVE value, each variable, namely, financial literacy, financial inclusion and financial technology shows that the AVE value is greater than 0.5 so it can be concluded that the variable has good discriminant validity.

Table 1: Value of Convergent Validity Average Variance Extracted (AVE)

Variable	AVE	Information
Financial Literacy	0.584	Valid
Financial Inclusion	0.653	Valid
Financial Technology	0.603	Valid

Source: Data processed with Smart PLS, 2022

2. Reliability

Testing the reliability of a variable construct can be seen by looking at the composite reliability and Cronbach alpha values. A variable is said to be reliable when the composite reliability and Cronbach alpha values are > 0.7. The following is the value of composite reliability and cronbach alpha.

Table 2: Composite Reliability

Variable	Items	Loading factor	Information
Financial Literacy	X1-6	0.797	Valid
	X1-7	0.762	Valid
	X1-8	0.738	Valid
	X1-9	0.776	Valid
	X1-12	0.748	Valid
Financial Inclusion	X2-3	0.786	Valid

	X2-4	0.819	Valid
	X2-5	0.884	Valid
	X2-6	0.749	Valid
	X2-7	0.858	Valid
	X2-9	0.782	Valid
	X2-11	0.770	Valid
Financial Technology	Y-1	0.854	Valid
	Y-2	0.816	Valid
	Y-3	0.797	Valid
	Y-4	0.726	Valid
	Y-5	0.703	Valid
	Y-6	0.785	Valid
	Y-7	0.805	Valid
	Y-8	0.725	Valid
	Y-9	0.801	Valid
	Y-11	0.742	Valid

Source: Data processed with Smart PLS, 2022

Table 3: Croanbach's Alpha Value

	Cronbach's Alpha	Composite Reliability	Information
Financial Literacy	0.826	0.875	Reliable
Financial Inclusion	0.911	0.929	Reliable
Financial technology	0.927	0.938	Reliable

Source: Data processed with Smart PLS, 2022

Based on the test results, it is shown that the composite reliability and Cronbach alpha values are each above 0.70 so that the variables in this study have good composite reliability.

Structural Model (Inner Model)
The inner model of the statistical test in this study was conducted to see the relationship between the constructs simultaneously. This test can be seen by testing the R- square on the dependent variable. The following is the result of R - square using PLS.

Table 4: R Square Test Results

	R Square
Financial Technology	0.724

Source: Data processed with Smart PLS, 2022

Based on the test results, the R- square value on the financial technology variable is 0.724. This means that simultaneously the financial technology variable is able to explain financial literacy and the intensity of financial inclusion as an independent variable by 72%, the remaining 28% is explained by other variables that are not in this research model.

Hypothesis Testing

Table 5: Hypothesis Testing Results

Hypothesis	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Financial Literacy -> Financial technology	0.028	0.032	0.062	13.613	0.000
Financial Inclusion -> Financial technology	0.832	0.825	0.061	0.454	0.650

Source: Data processed with Smart PLS, 2022

1. Financial Literacy Affects Financial Technology
In this hypothesis, the original sample value is 0.028 and the t-statistic value is 13.613. The value of t statistic is greater than the value of t table which is 1.96. The results of this study indicate that financial literacy has a positive and significant effect on financial technology. So the first hypothesis (H1) which states that financial literacy has a significant influence on financial technology is accepted.
Financial literacy is a financial skill and the overall insight that a person has in order to be able to manage his finances (Asandimitra & Kautsar, 2020) [19], CÃ¡mara, N., & Tuesta, D. A. (2016) [20]. Several theories support

it. Based on research conducted by Wokabi, V. W., & Fatoki, O. I. (2019) [21], stated that fintech activities, namely transactions and information, are significant to the financial literacy of business owners. In the research of Pulungan & Ndruru (2019) [22], Hutarabat (2018) [23], Bhushan, P. dan Medury, Y. (2013) [24]. and Bongomin *et al*. (2016) [25] found positive and significant results where financial literacy has an influence on financial inclusion, so that with good financial literacy, the application of financial products and services can be better as well.

2. Financial Inclusion Affects Customer Satisfaction

In this hypothesis, the original sample value is 0.832 and the t statistic is 0.454. The statistical t value is smaller than the t table value, namely 1.96. This shows that financial inclusion has a positive and insignificant effect on financial technology. So the second hypothesis (H2) which states that the intensity of financial inclusion has an influence on financial technology is rejected.

According to Durai & Stella (2019) [26], financial inclusion is a process to ensure credit and financial services at an affordable cost. The availability of fintech is expected so that access is used by people who have not been able to reach financial services effectively so as to stimulate inclusive financial growth (Hutabarat, 2018) [23]. The results of this study explain that the higher the number of students in using financial services, which of course are digital-based, can support the achievement of financial inclusion implementation in Indonesia. Several research results show that the development of the financial sector can encourage economic growth in two ways (Tuesta *et al*, 2015) [27], (Tiwari *et al*, 2013) [28].

Conclusion

Based on the results of the study indicate that financial literacy and financial inclusion has a positive and significant effect on financial technology. Factors of financial literacy and inclusion are the most influential factors on financial technology in college students in Malang City, namely the achievement of financial technology capabilities is strongly influenced by the level of understanding and skills of one's financial management so that one can access financial products and services wisely.

This research provides results that are expected to be used for consideration, strategy development, and policy making by several related parties. It is hoped that OJK together with Bank Indonesia will create financial education programs, benefits and risks regarding financial products and services, as well as financial management training for students, the general public, and business actors or MSMEs in order to improve financial literacy. In addition, educational institutions such as schools to university level have an important role in being able to instill understanding and skills in financial management from an early age, both academic and non-academic by providing learning about financial planning, income management, a culture of saving, and risk in every financial decision making.

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