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THE INFLUENCE OF FINANCIAL TECHNOLOGY (FINTECH), FINANCIAL LITERACY, AND INCOME LEVEL ON INVESTMENT DECISIONS OF THE MILLENNIAL GENERATION IN SIDOARJO

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ABSTRACT

Technological developments in the digital era have transformed various aspects of life, including the financial sector, where Financial Technology (FinTech) has emerged as an innovative solution that facilitates access to investment for the public, especially millennials. This study analyzed the influence of Financial Technology (FinTech) usage, Financial Literacy, and Income Level on the Investment Decisions of the millennial generation in Sidoarjo. The method used a quantitative approach with multiple linear regression analysis techniques. Data was collected through questionnaires distributed to millennials investing in various financial instruments. The results showed that Financial Technology (FinTech) usage and Financial Literacy had a significant influence on Investment Decisions, while income level had moderate influence. These findings provided insights into Financial Technology (FinTech) developers, financial institutions, and investors in understanding the factors that influence the Investment Decisions of the millennials. In conclusion, the increasing usage of technology in financial services, understanding Financial Literacy had been becoming increasingly important to encourage wiser Investment Decisions in the digital era.

Keywords: *Financial Technology (FinTech), Financial Literacy, Income Level, Investment Decisions, Millennials.*

INTRODUCTION

Transformation in the financial sector is occurring in line with advances in digital technology, one of which is the emergence of Financial Technology (FinTech). OJK data from 2023 shows a surge in the number of Financial Technology (FinTech) users in Indonesia, particularly among millennials. According to a 2024 report by Statista, more than 80% of Indonesians have adopted Financial Technology (FinTech) services, indicating rapid growth in the use of financial technology. Despite this, public understanding of financial aspects remains relatively low. According to the 2023 National Financial Literacy and Inclusion Survey conducted by the Financial Services Authority (OJK), Indonesia's financial literacy rate was only 49.68%. This lack of financial literacy can hinder a person's ability to make informed investment decisions.

To determine the public's understanding of Financial Technology (FinTech) and financial literacy, researchers conducted a pre-survey among millennials in Sidoarjo. The pre-survey used two methods: direct interviews and secondary data collection from the internet. Interviews with 10 millennial Financial Technology (FinTech) users revealed that 7 of them frequently used apps like DANA and Bibit. However, a small percentage, 3 out of 10, had a deeper understanding of investment features. Meanwhile, data obtained from Katadata and Databoks websites indicated that the Bibit, Ajaib, and Pluang apps experienced a surge in users in 2023. Unfortunately, this user growth was not matched by a uniform increase in investment knowledge. This indicates a gap between app usage and user understanding.

Income level is also a factor influencing investment decisions. According to a 2023 report from the Central Statistics Agency (BPS) in Sidoarjo, there was an increase in the average income of the productive-age population. However, an increase in a person's income is not automatically followed by an increase in their investment activity, this indicates that there are other factors that influence investment decisions.

Financial Technology (FinTech)

Financial Technology (FinTech) is an innovation in the financial world that utilizes digital technology to provide more practical, accessible, and user-friendly services for users in conducting financial transactions. This technology enables a variety of financial services to be carried out more quickly and securely, including digital payments, fund transfers, and online investments.

According to Schueffel (2016), the scope of Financial Technology (FinTech) encompasses various innovations, such as cashless payments, peer-to-peer lending, online fundraising, and algorithm-based services for financial management. Meanwhile, Gomber et al. (2018) define Financial Technology (FinTech) as technology that supports digital financial services, encompassing various aspects such as electronic payments, online investments, digital loans, and technology-based financial management. With rapid technological developments, Financial Technology (FinTech) has now become a key component in the structure of today's financial industry.

The development of Financial Technology (FinTech) aims to expand access to financial services, including those unaffected by traditional banking services. Financial Technology (FinTech) enables people to access financial services more easily, including groups previously excluded from conventional banking services. Furthermore, Financial Technology (FinTech) also supports financial inclusion by providing opportunities for unbanked individuals to access digital-based financial services.

Financial Technology (FinTech) exists to offer financial services that are timesaving, cost-effective, and easy to understand for users, by offering more efficient services compared to conventional financial systems, both in terms of time and cost. Furthermore, the technology within Financial Technology (FinTech) can reduce financial service costs and increase efficiency in transaction processes.

The development of Financial Technology (FinTech) is influenced by various factors, including technological advancements, where innovations in artificial intelligence (AI), blockchain, and big data are accelerating the growth of the Financial Technology (FinTech) sector by providing more sophisticated and secure services. Government regulations also play a crucial role, with policies related to data security, digital transactions, and consumer protection playing a key role in regulating and encouraging the adoption of Financial Technology (FinTech).

Furthermore, the public's digital literacy level significantly influences the adoption of Financial Technology (FinTech) services, as a good understanding of digital technology fosters trust and convenience in their use. User trust also plays a significant role, particularly regarding personal data security and service transparency. Security, transparency, and personal data protection are key considerations for consumers when using Financial Technology (FinTech) services.

Key indicators reflecting the use of Financial Technology (FinTech) in investment include ease of access and use. Financial Technology (FinTech) services must have a user-friendly interface and be easily accessible to users from all walks of life. Transaction speed is also a crucial factor, as efficiency in processing financial transactions is one of the main advantages of Financial Technology (FinTech) compared to traditional financial systems.

Furthermore, data security and protection are crucial aspects, where Financial Technology (FinTech) must be equipped with a reliable security system to maintain user data confidentiality and prevent misuse of information. Finally, more competitive service fees compared to conventional financial services are an attractive added value for users, making them more likely to choose Financial Technology (FinTech) services.

With the rapid development of technology, Financial Technology (FinTech) continues to adapt and innovate to meet the public's needs for digital financial services. Proper implementation of this technology can help improve efficiency, financial inclusion, and provide better financial solutions for various segments of society.

Financial Literacy

Financial literacy refers to an individual's ability to understand, manage, and make wise financial decisions carefully and prudently (OECD, 2020). This literacy encompasses understanding income, expenses, debt management, investments, and sustainable long-term financial planning. The OECD (2020) states that financial literacy extends beyond understanding financial products or services, but also encompasses an individual's attitudes, motivation, and ability to make appropriate financial decisions, both for short-term and long-term needs. Individuals with good financial literacy are better able to manage risk, understand the benefits of diversification, and plan wisely for their future finances, including in the context of investments.

The goal of financial literacy is to equip individuals to manage their finances effectively, for both short-term and long-term needs. With a sound understanding, individuals can make wiser investment decisions based on accurate information. Furthermore, financial literacy plays a role in preventing financial risks arising from a lack of understanding of financial products. Awareness of the importance of long-term financial planning is also a primary goal, enabling individuals to achieve financial stability in their lives.

Several factors can impact a person's level of financial literacy. A higher educational background generally correlates positively with a better level of financial understanding. Furthermore, experience using financial services and conducting financial transactions can enhance a person's understanding of financial concepts.

Another contributing factor is access to information. Media, financial education, and easy access to information significantly impact a community's financial literacy. Furthermore, social and cultural factors also play a significant role in shaping individual financial behavior, including savings and investment. Assessment of financial literacy levels is based on several key indicators. One of these is understanding financial products, namely an individual's ability to recognize the various types of investment products and financial services available.

Furthermore, financial planning skills are also an important indicator, encompassing short- and long-term financial management, including investment planning and emergency funds. Understanding risk is a crucial aspect in assessing an individual's level of financial literacy, particularly in the context of investment, where individuals must be able to identify and manage investment risks to minimize potential losses. By understanding and managing finance effectively, as explained by Lusardi & Mitchell (2017), individuals can improve their financial well-being and reduce the risk of poor financial decisions.

Income

An individual's income is defined as the total income received over a specific period, whether through permanent employment, personal business, or investment sources. This income is a primary factor in determining a person's ability to meet needs, save, and invest. A stable and sufficient income allows a person to have greater purchasing power, increasing their ability to meet basic needs and save for long-term goals. According to Friedman (1957), a person's income significantly influences their capacity to save and invest. Individuals with higher incomes tend to have a greater capacity to invest than those with lower incomes. This is because individuals with higher incomes could set aside a portion of their income for investment without sacrificing their basic needs.

Understanding income levels is crucial for effective financial planning and measuring individual or household well-being. First, this understanding helps individuals plan their finances and investments more optimally to achieve financial stability in the future. Second, income levels allow for further analysis of the relationship between income and individual consumption and savings patterns, which contributes to better financial management. Furthermore, income levels are used to assess the well-being of individuals and households based on their economic capacity. Furthermore, understanding income levels can help assess the impact of economic factors on an individual's income and investment decisions (Jappelli & Padula, 2017).

Many variables determine a person's income, ranging from education and skills to national economic conditions. Education and skills are key factors, with individuals with higher levels of education and skills tending to earn higher incomes due to greater competitiveness in the labor market. Furthermore, job opportunities and economic conditions also play a significant role, as job availability, macroeconomic conditions, and a country's economic stability all influence a person's income. When the economy is growing well, job opportunities increase, which impacts income levels. Another factor is work experience: the longer a person has experience in a field, the greater their likelihood of earning a higher income through promotions or salary increases. Furthermore, macroeconomic factors such as inflation, interest rates, and fiscal policy also influence a person's purchasing power and income levels, which ultimately impact their ability to invest (Jappelli & Padula, 2017).

There are several important indicators for assessing a person's income level, namely monthly income, sources of income, and the ability to save and invest. Monthly income refers to the amount of salary or primary income received in each period, which can be a measure of a person's financial stability. Furthermore, diverse income sources, such as salary from employment, profits from businesses, investments, or other passive income, indicate the extent to which a person has financial flexibility. A person's ability to set aside income for savings or investment is a key indicator of their financial health, as it shows how much income is allocated to savings and investment, reflecting the stability and sustainability of a person's financial condition. Research by Jappelli & Padula (2017) emphasizes that economic factors have a significant influence on a person's ability to invest. Higher income levels allow individuals to allocate more funds to investments, while unstable economic conditions can hinder investment decisions due to income uncertainty. Therefore, understanding the economic factors that influence income levels is crucial in analyzing the investment patterns of millennials in Sidoarjo.

Investment Decision-Making

Investment decision-making is the process of selecting financial instruments that align with personal financial goals, risk tolerance, and expected return estimates. Millennials tend to utilize digital technology in their investment activities, distinguishing them from previous generations (Baker et al., 2019). This is due to developments in Financial Technology (FinTech), which provide broader access to various digital investment instruments. The primary goal of investing among millennials is to build long-term financial security and prepare funds for future needs. By investing, individuals hope to achieve greater economic stability and have sufficient reserves for various future needs. Investments are also made to achieve long-term profits. Millennials tend to choose investment instruments with the potential for higher returns than simply keeping funds in a bank account. Furthermore, a variety of income sources is an important factor in determining investment decisions. By having various types of investments, millennials can reduce their dependence on a single source of income and increase their financial security.

Several factors influence millennials' investment decisions, including easy access to technology, the availability of digital information, and their level of financial literacy. Technological advances and digitalization allow millennials to more easily access investment-related information and conduct investment transactions online. Furthermore, financial literacy also plays a crucial role in investment decision-making. An understanding of financial and investment concepts influences millennials' ability to make rational investment decisions. Another factor is the level of acceptable risk, where individual risk preferences determine the type of investment chosen, whether low- or high-risk. Income and financial capacity are also key factors in investment decisions, as an individual's income level and the availability of investable funds significantly influence the choice of investment instruments.

Various indicators reflecting millennials' investment decisions include the types of assets they choose, how often they invest, and the reasons behind their choice of instruments. One such indicator is the type of investment chosen, with millennials favoring investment instruments such as stocks, mutual funds, crypto, property, or bonds. Furthermore, investment frequency is also an important indicator, reflecting how often individuals invest, whether regularly or irregularly. Other factors considered in investment selection include criteria such as risk level, return, ease of asset disbursement (liquidity), and technological aspects supporting investment decisions (Baker et al., 2019).

METHOD

This study was designed with a quantitative and associative approach, aiming to analyze the influence of Financial Technology (FinTech), financial literacy, and income level on the investment decisions of millennials in Sidoarjo. Data were collected through questionnaires distributed to predetermined respondents. The population in this study comprised all millennials in Sidoarjo Regency who have or are currently using Financial Technology (FinTech) services and have experience in investing. Millennials are individuals born between 1981 and 1996 and have access to digital financial services. This population was selected because it represents a group of active users of financial technology and is of productive age for investing. By using the purposive sampling method, this study can obtain more focused and in-depth data from respondents who have experience and understanding regarding investment.

RESULT AND DISCUSSION

Finding

Respondent Characteristics

Table 1 Respondent Characteristics by Gender

No	Gender	Total	Percentage
1	Male	38	48,10%
2	Female	41	51,90%
	Total	79	100%

Table 1 shows that the majority of respondents in this study were female, at 41 (51.90%), while 38 (48.10%) were male. This finding indicates a predominance of female respondents. This finding suggests that women have a high interest in using Financial Technology (FinTech) and making investment decisions.

Table 2: Respondent Characteristics by Age

No	Age	Total	Percentage
1	25 – 30	27	34,18%
2	31 – 35	35	44,30%
3	36 – 40	17	21,52%
	Total	79	100%

Based on data from Table 2, the majority of respondents were aged 31–35 (44.30%). This fact reflects that the majority of respondents are from the younger generation, still in their productive years. This generation is generally more responsive to technological developments, including digital finance and investment.

Table 3: Respondent Characteristics by Occupation

No	Occupation	Total	Percentage
1	Private	42	53,16%
2	Entrepreneur	18	22,78%
3	Public Servant	11	13,92%
4	Housewife	4	5,06%
5	Teacher	1	1,27%
6	Retired	1	1,27%
7	Physician	1	1,27%
8	Non-Job	1	1,27%
	Total	79	100%

Table 3 shows that the majority of respondents (42, or 53.16%) work as private sector employees, followed by 18 (22.78%) entrepreneurs, 11 (13.92%) civil servants, and the remaining 8 (10.14%) work in other fields. This indicates that the majority of respondents are from those with a steady income, thus tending to be more prepared to allocate a portion of their income to investment.

Table 4 Frequency of Financial Technology (FinTech) Application Use

No	Frequency	Total	Percentage
1	<once/week	8	10,13%
2	1-3 times/week	32	40,51%
3	>3 time/week	39	49,37%
	Total	79	100%

Table 4 shows that 39 respondents (49.37%) use financial technology (FinTech) applications more than three times a week. This indicates a high level of financial technology (FinTech) usage among millennials in Sidoarjo. This fact also indicates that millennials in Sidoarjo are becoming accustomed to using technology for financial transactions and investments.

Table 5 Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.828	.687		-1.204	.233
	FinTech	.112	.042	.219	2.634	.011
	Financial Literacy	.191	.064	.333	2.976	.004
	Income Level,	.331	.077	.422	4.294	.000

a. Dependent Variable: Investment Decisions

Based on Table 5, the multiple linear regression equation obtained is as follows:

$$Y = -0.828 + 0.112X_1 + 0.191X_2 + 0.331X_3$$

Regression Coefficient (B): All independent variables have positive coefficients, indicating that any increase in the variables FinTech (X_1), Financial Literacy (X_2), and Income Level (X_3) will be followed by an increase in Investment Decisions (Y).

Significance Value (Sig.): 1) Financial Technology (FinTech) has a significant value of 0.011 (<0.05), indicating a significant influence on Investment Decisions. 2) Financial Literacy has a significant value of 0.004 (<0.05), indicating a significant influence on Investment Decisions. 3) Income Level has a significant value of 0.000 (<0.05), indicating a very significant influence on Investment Decisions.

Thus, partially, the three independent variables (FinTech, Financial Literacy, and Income Level) have a significant influence on Investment Decisions.

Table 6 Correlations

Correlations

		FinTech	Financial Literacy	Income Level	Investment decision
FinTech	Pearson Correlation	1	.718**	.610**	.716**
	Sig. (2-tailed)		.000	.000	.000
	N	69	69	69	69
Financial Literacy	Pearson Correlation	.718**	1	.808**	.832**
	Sig. (2-tailed)	.000		.000	.000

	N	69	69	69	69
Income level	Pearson Correlation	.610**	.808**	1	.825**

**. Correlation is significant at the 0.01 level (2-tailed).

This correlation table shows a positive and significant relationship between all variables at the 0.01 significance level. The Pearson correlation figures show: 1) Financial Literacy has the strongest correlation with Investment Decisions (0.832). 2) Income Level has the second strongest correlation (0.825). 3) FinTech has the third strongest correlation (0.716). This indicates that increases in all three independent variables tend to be followed by increases in Investment Decisions.

Table 7 Results of Multiple Linear Regression Analysis

Variables	Coefficient Beta	t Count	Sig.
Financial Technology (FinTech)	0,219	2,634	0,011
Financial Literacy	0,333	2,976	0,004
Income Level	0,422	4,294	0,000

Based on the revised summary table, it can be concluded that, partially, the three independent variables—FinTech, Financial Literacy, and Income Level—have a positive and significant impact on Investment Decisions: 1) Positive Influence: All beta coefficients are positive, indicating that the higher the level of FinTech, Financial Literacy, and Income Level, the higher the level of Investment Decisions made by respondents. 2) Significant Influence: The significance values (Sig.) for the three variables (0.011, 0.004, and 0.000) are all less than 0.05, proving that the influence is statistically significant. 3) Strongest Influence: Based on the standardized beta coefficient values, Income Level has the strongest influence on Investment Decisions (Beta = 0.422), followed by Financial Literacy (Beta = 0.333), and finally, FinTech (Beta = 0.219).

Table 8 t Test (Partial)

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	-.828	.687		-1.204	.233
	FinTech	.112	.042	.219	2.634	.011
	Financial Literacy	.191	.064	.333	2.976	.004
	Income Level	.331	.077	.422	4.294	.000

a. Dependent Variable: Investment Decisions

Based on Table 8, 1) the Influence of FinTech on Investment Decisions: The FinTech variable has a significant value of 0.011. Because this value is less than 0.05, it can be concluded that FinTech has a significant influence on Investment Decisions. 2) The Influence of Financial Literacy on Investment Decisions: The Financial Literacy variable has a significant value of 0.004. Because this value is less than 0.05, it can be concluded that Financial Literacy has a significant influence on Investment Decisions. 3) The Influence of Income Level on Investment Decisions: The Income Level variable has a significance value of 0.000. Because this value is less than 0.05, it can be concluded that Income Level has a significant influence on Investment Decisions. The t-test results indicate that, partially, the three independent variables studied—FinTech, Financial Literacy, and Income Level—have a significant and positive influence on Investment Decisions. Among the three, Income Level has the highest t-value of 4.294, indicating that this variable has the most dominant influence on the investment decisions of the millennial generation.

Table 9 F Test (Simultaneous)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	333.565	3	111.188	78.016	.000[b]
	Residual	92.638	65	1.425		
	Total	426.203	68			

a. Dependent Variable: Investment Decisions

b. Predictors: (Constant), Income Level, FinTech, Financial Literacy

Based on Table 9, the calculated F-value is 78.016 with a significance level (Sig.) of 0.000. Because this significant value is less than 0.05, it can be concluded that the variables FinTech, Financial Literacy, and Income Level simultaneously have a significant effect on Investment Decisions. Thus, the regression model used in this study is appropriate and can explain the relationship between the independent variables and the dependent variable.

Table 10 Coefficient of Determination (R^2)

Model Summary[b]

Model 1	R	Square	R	Adjust ed R Square	Std. Error of the Estimate
	.88		.78	.773	1.194
	5a	3			

a. Predictors: (Constant), X3, X1, X2

b. Dependent Variable: Y

Based on Table 10, several important values were obtained: 1) Correlation Coefficient (R): 0.885. This value indicates a very strong relationship between the variables FinTech, Financial Literacy, and Income Level simultaneously on Investment Decisions. 2) Coefficient of Determination (R Square): 0.783. This value means that 78.3% of the variation in Investment Decisions can be explained by the regression model formed by the three independent variables (FinTech, Financial Literacy, and Income Level). 3) Adjusted R Square: 0.773. This value is nearly identical to the R Square value, indicating that this research model is quite robust and adequate in explaining the influence of the independent variables on the dependent variable.

The R Square value of 78.3% indicates that the three independent variables have a strong ability to explain the factors influencing investment decisions. Meanwhile, the remaining 21.7% is influenced by factors outside this research model, such as psychological factors, risk preferences, or social influences.

Discussion

The Influence of Financial Technology (FinTech) on Investment Decisions

Based on the research results, it was found that the use of Financial Technology (FinTech) has a significant positive influence on investment decisions. This finding supports the theory proposed by Schueffel (2016), which states that easy access to financial technology increases investment participation among the public. The results of this study also align with the findings of Baker et al. (2019), which emphasize the important role of technology in expanding investment access. Therefore, it can be concluded that the use of Financial Technology (FinTech) can provide convenience and speed in investment decision-making.

The Influence of Financial Literacy on Investment Decisions

In this study, Financial Literacy is the most prominent variable. A better understanding of financial concepts tends to make individuals wiser in making investment decisions. This supports the theory of Lusardi & Mitchell (2017), which emphasizes the importance of financial literacy in determining one's financial behavior. This finding also aligns with the research of Chen & Volpe (1998), which states that good financial literacy improves financial intelligence and prudent investment behavior. Therefore, improving financial literacy among the millennial generation is crucial.

The Influence of Income Level on Investment Decisions

Income has a significant positive impact on investment decisions. This finding aligns with Friedman's (1957) opinion, which states that income influences a person's capacity to invest. The higher a person's income, the greater the individual's opportunity to allocate funds to investment instruments. This research also supports the findings of Sari (2023), who stated that income influences the investment preferences and capabilities of the millennial generation. In other words, higher income provides more latitude for an individual to make investment decisions.

The Simultaneous Influence of Financial Technology (FinTech), Financial Literacy, and Income on Investment Decisions

Simultaneously, these three variables have been shown to have a significant impact on investment decisions. This indicates that the investment decisions of millennials in Sidoarjo are influenced by access to Financial Technology (FinTech) and financial knowledge, as well as by their financial capabilities. This finding supports research by Gito Septa Putra & Jhon Fernos (2023), which states that the combination of financial literacy and external factors such as technology and income influences people's financial behavior. Therefore, investment among millennials is influenced by the synergy between technology, knowledge, and adequate income.

CONCLUSION

The use of Financial Technology (FinTech) has a significant influence on investment decisions among millennials in the Sidoarjo region. Financial literacy is the most influential factor in influencing investment decisions. Individual income also has a significant impact on investment decisions. Overall, these three factors have a significant influence on investment decisions. Based on the research results and conclusions obtained, the author offers the following recommendations: Financial Technology (FinTech) industry players are expected to improve the quality of their services by adding financial learning features to their applications. This aims to help users better understand the risks and benefits of investing. Furthermore, companies are also expected to improve transaction security and ease of use of their applications to increase millennials' interest in investing through Financial Technology (FinTech) platforms and millennials are expected to improve their financial literacy through training, seminars, and available educational platforms. A good understanding of investment products and financial management will help the millennial generation make wiser and more planned investment decisions.

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