

# THE IMPACT OF FINANCIAL LITERACY, FINANCIAL TECHNOLOGY, AND INTELLECTUAL CAPITAL ON MICRO SMALL, MEDIUM ENTERPRISES (MSMES) PERFORMANCE IN MANADO

*DAMPAK DARI LITERASI KEUANGAN, TEKNOLOGI KEUANGAN DAN MODAL INTELEKTUAL TERHADAP KINERJA USAHA MIKRO KECIL, DAN MENENGAH (UMKM) DI MANADO*

By:  
**Efrani Poluan<sup>1</sup>**  
**Joy Elly Tulung<sup>2</sup>**  
**Ferdinand J. Tumewu<sup>3</sup>**

<sup>123</sup>International Business Administration, Management Department  
Faculty of Economics and Business  
Sam Ratulangi University Manado

E-mail:

<sup>1</sup>[efranipoluan062@student.unsrat.ac.id](mailto:efranipoluan062@student.unsrat.ac.id)

<sup>2</sup>[joy.tulung@unsrat.ac.id](mailto:joy.tulung@unsrat.ac.id)

<sup>3</sup>[tumewufj@unsrat.ac.id](mailto:tumewufj@unsrat.ac.id)

**Abstract:** This research examines the Impact of Financial Literacy, Financial Technology, and Intellectual Capital on the Performance of Micro, Small and Medium Enterprises (MSMEs) in Manado. MSMEs play an important role in economic development, especially in developing countries such as Indonesia. However, they face major challenges related to financial management, technology adoption, and understanding of business management. This research uses a quantitative approach, collecting data through a structured online questionnaire to 96 MSMEs actors in Manado. Adopting multiple regression analysis testing procedure, using IBM SPSS Version 29 to analyze the data. The findings show that the level of financial literacy, financial technology, and intellectual capital has a positive effect on the performance of MSMEs simultaneously for partial only financial technology has slightly no impact. The results emphasize the need for stakeholder intervention to improve financial literacy, encourage the adoption of financial technology, and leverage intellectual capital to foster sustainable growth and competitiveness among MSMEs.

**Keywords:** Financial Literacy, Financial Literacy, Intellectual Capital, Micro Small Medium Enterprises (MSMES)

**Abstrak:** Penelitian ini menguji pengaruh Literasi Keuangan, Teknologi Keuangan, dan Modal Intelektual Terhadap Kinerja Usaha Mikro Kecil Menengah (UMKM) di Manado. UMKM berperan penting dalam pembangunan ekonomi, khususnya di negara-negara berkembang seperti Indonesia. Namun, mereka menghadapi tantangan besar terkait pengelolaan keuangan, adopsi teknologi, dan pemahaman pengelolaan usaha. Penelitian ini menggunakan pendekatan kuantitatif, pengumpulan data melalui kuesioner online terstruktur terhadap 96 pemilik UMKM di Manado. Mengadopsi prosedur pengujian analisis regresi berganda kemudian menggunakan IBM SPSS Versi 29 untuk menganalisis data. Temuan ini menunjukkan bahwa tingkat literasi keuangan, teknologi keuangan, dan modal intelektual berpengaruh positif terhadap kinerja UMKM secara simultan untuk parsial hanya teknologi keuangan yang sedikit tidak berpengaruh. Hasil penelitian ini menekankan perlunya intervensi pemangku kepentingan untuk meningkatkan literasi keuangan, mendorong adopsi teknologi keuangan, dan memanfaatkan modal intelektual untuk mendorong pertumbuhan berkelanjutan dan daya saing di antara UMKM.

**Kata Kunci:** Literasi Keuangan, Teknologi Keuangan, Modal Intelektual, Usaha Mikro Kecil dan Menengah (UMKM)

## INTRODUCTION

### Research Background

Micro Small, Medium Enterprises (MSMEs) are the variety of economic business activity that is most commonly carried out by the people's with the aim of earning income as well as for their survival (Suyadi et al., 2018). MSMEs are the foundation of the world economy and jobs, MSMEs play extremely important role in reducing poverty rates, cutting the gap between people, creating decent jobs, and being productive to achieve social justice International Labour Organization ILO (2023). MSMEs are characterized as takes after: micro enterprises 1-9

employees, small 10-49 employees. According to SME Finance Forum in 2010, within the 132 economies covered, there are 125 million formal MSMEs of which 89 million serve in emerging markets.

According to International Labour Organization (ILO) in 2023, MSMEs is a business that forms a small-scale economy and is the majority of employment in many countries, the number reaches 80% in Southeast Asia due to the jobs generated by small economic units make MSMEs very important in almost all economic sectors. MSMEs are control more than 99.87% entrepreneurs, according to Indonesia Badan Pusat Statistik in 2023. According to Indonesian Chamber of Commerce and Industry in 2023, the endowment of MSMEs to national Gross Domestic Product GDP is 60.5%. MSMEs absorb around 117 million workers, 97% of the total workforce. On the other side, according to Ministry of Finance in 2022, MSMEs play a massive role in the social community, namely the equal distribution of welfare. It can be concluded that Indonesia has strong national economic potential because of the massive number of MSMEs, the percentage of MSMEs that increase every year can reduce the unemployment rate and have a space to contribute to the Indonesian economy.

However, currently MSMEs are experiencing concerned challenges and obstacles and have the potential to experience a decline regarding the MSMEs performance. Based on to Otoritas Jasa Keuangan (OJK) in 2022, the financial literacy rate of Indonesian people is only 49.68%. Chen and Volpe (1998) classify the level of financial literacy into three groups: 80% demonstrates that the individual is at a high level of financial literacy, according this research it can be definite that financial literacy level in indonesia at the low category.

Nowadays the lack of financial literacy causing the community both individuals and groups difficult to manage their finances properly, potentially in debt, vulnerable to financial fraud, and difficult to achieve financial goals. Lack of financial literacy affect business hinder for growth and performance, additionally low financial literacy enlarge difficulties accesing finance of business Organization for Economic Co-operation and Development OECD (2017). The performance and failure of MSMEs influence by financial literacy, MSMEs potential to experience losses regarding their business if they do not understand well about financial literacy (Brochado and Mendes, 2021).

Furthermore, MSMEs have several other problems, they are difficult to develop their business due to limited capital 46,2% MSMEs in Indonesia have difficulty in accessing financing services, this is a challenge for the growth of MSMEs, Bank Indonesia (2015). MSMEs also face serious problems that affect their growth such as the availability of access to finance, capital, markets, and digital infrastructure ILO (2023).The requirements to apply opening banks account are complicated, and difficult accessing financial services OECD (2017). According to databoks 2021 60,2% MSMEs in Indonesia only have the capital to last a maximum of 3 months, therefore MSMEs stop operating due to lack of capital. Moreover, MSMEs face another problem, namely the limitations of MSMEs actors in using digital technology in financing and operations DPR RI (2023).

On the other hand, according to Ministry PPN/Bappenas in 2020, the technical and operational capabilities of MSMEs in Indonesia are not qualified and relatively low, thus limiting MSMEs from making brilliant innovations, also MSMEs have not been supported by quality human resources, causing business management tends to not be carried out professionally. Other significant factors that influence the performance of MSMEs are management skills if not maintan properly will reduce business profits and performance, lastly management skill secure the long run performance of business. Lack of entrepreneur skills are considered to be an obstacle across the different phase of an enterprise. Lack of entrepreneur skills are a problem for potential and freshly well-established business (Atkinson, 2017).

### Research Objectives

Based on the background of the problem, the objectives in this research are:

1. To examine the impact of financial literacy on the performance of MSMEs in Manado partially
2. To examine the impact of financial technology on the performance of MSMEs in Manado partially
3. To examine the impact of intellectual capital on the performance of MSMEs in Manado partially

## THEORETICAL REVIEW

### Financial Management

Financial management encompasses the process of a structured set of management to effectively manage the finances required for its diverse activities consisting of a systematic process such as planning, organizing, controlling, and mentoring financial resources, in other words financial management is the comprehensive art and science of managing finances wisely with the aim of achieving prosperity and sustainability the ultimate goal of

financial management is to maximize the value of the business itself by efficiently using financial resources, as well as minimizing financial risks (Banerjee, 2015).

### **Financial Literacy**

Financial literacy is a fundamental understanding in terms of knowledge of financial concepts. Financial literacy is a crucial factor in this era individuals, groups, and business are frequently faced with varied choices in the financial aspect that require intelligence to make wise decision about how to manage financial properly. Financial literacy is important for achieve financial surveillance, groups, business and individual well-being (Zaimovic et al., 2023).

### **Financial Technology**

Basically financial technology (Fintech) can be interpreted as a technological advancement to support various financial activities used by individuals, groups and business. Fintech described as an innovation that includes the use of technology to provide financial services in the form of digital banks, modernization in digital payments, lending platforms, P2P currency exchanges, and the last is data analysis regarding the provision of financial services

### **Intellectual Capital**

The definition of intellectual capital is the result of what is produced by the 3 main key elements of the organization; human capital, structural capital, and relational capital which are closely related to knowledge and technology can also provide value to the business such as the competitive advantage (Sawarjuwono and Kadir, 2003). Essentially intellectual capital is an important intangibles assets that own by a business, intellectual capital through knowledge management processes, can influence entrepreneurial orientation towards the creation of sustainable business linked to the Sustainable Development Goals (SDG) 2030.

### **MSMES Performance**

Performance of MSMEs is the actual work result that is fully achieved compared to the work results, goals, or criteria that have been determined at the previous stage and mutually agreed upon in a business entity (Gunawan et al., 2022). Performance measurement assist MSMEs business to achieve their goals by improving efficiency, effectiveness, and accountability (Heinicke, 2018).

### **Previous Research**

Hasanudin and Panigfat (2023) sought to assess the effect of financial literacy, financial inclusion, and fintech lending on the MSME performance in North Maluku Province, Sula Islands Regency, Sanana District, Indonesia. This research employed business capital as the mediating variable. Using a structural equation modelling, this study indicates that financial literacy, financial inclusion, and fintech lending have a positive and significant effect on the performance of micro, small, and medium enterprises. The presence of business capital can serve as a mediating factor in how financial literacy, financial inclusion, and fintech lending affect the performance of micro, small, and medium enterprises.

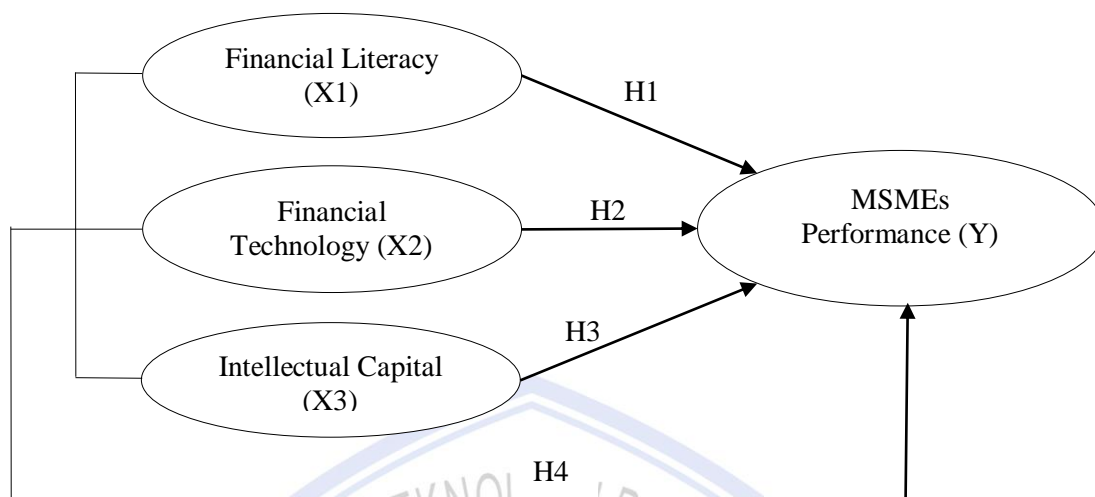
Hamidah, Prihatni, and Ulupui (2020) analyzed and examined the effect of financial literacy, fintech (financial technology), and intellectual capital on the performance of MSMEs in Depok City. Determination of the sample using probability sampling with a proportional random sampling technique than simple random sampling. The number of samples used was 286 samples. The primary data source was taken by using a survey method with a questionnaire. The research design used descriptive and parametric statistical analysis methods with instrument tests and multiple linear regression analysis. The results of this study are financial literacy, fintech (financial technology) and intellectual capital have a positive and significant effect on the performance of MSMEs in Depok City. Examined The Effect of Financial Literacy, Fintech (Financial Technology) and Intellectual Capital on The Performance of MSMEs in Depok, West Java. This research revealed that financial literacy financial technology and intellectual capital have a positive and significant effect on the performance of MSMEs in Depok City.

Sumani and Prasetya (2022) analyzed how financial technology can affect the performance of Micro Small and Medium Enterprises in Jakarta, Bogor, Depok, Tangerang and Bekasi. The data taken for this study is primary data obtained through the distribution of online questionnaires to MSM entrepreneurs in Jakarta, Bogor, Depok, Tangerang, and Bekasi. The number of samples in this study was 130 respondents with a non-probability sampling method with purposive sampling technique. The research data that has been obtained were analyzed using SPSS 26 software. The results showed that the use of financial technology did not significantly affect the performance of



MSMEs. Meanwhile, financial technology funding, cash back, or promos on products sold affects the performance of MSMEs.

### Conceptual Framework



**Figure 1. Conceptual Framework**

*Source: Literature Review*

### Research Hypothesis

H1: Financial Literacy has a positive effect on MSMEs performance partially

H2: Financial Technology has a positive effect on MSMEs performance partially

H3: Intellectual Capital has a positive effect on MSMEs performance partially

H4: Financial Literacy, Financial Technology, and Intellectual Capital has a positive effect on MSMEs performance simultaneously

## RESEARCH METHOD

### Research Approach

This research implemented quantitative approach. Quantitative research is an endeavour to gain knowledge, investigate problems based on empirical experience involving various theories, designs, hypotheses and determine the subject of research, basically quantitative research is the process of obtaining knowledge based on numeric data or numbers. Moreover quantitative research method translates data into numbers to analyze the results of its findings and is descriptive, correlational, or based on relationships between variables (Purwanza, 2022).

### Population, Samples and Technique Sampling

Population can be defined the whole accumulation of examination, which the parent's sample group will be structured, definition of population brings a meaning distinct than a traditional approach. Beside that in research methodology types are different population, indicates characteristics of a precise or specified group (Pandey and Pandey, 2015). The population in this research consists of MSMEs actors in Manado specifically the type of culinary business; cafes, restaurants, tenant food, and street food. In this research 96 samples were obtain. Sample in this research using non-probability sampling. Specific method using purposive sampling defines that samples are taken according to the requirements of the sample needed, the sampling is carried out deliberately by taking only certain samples that 48 have, characteristics, criteria, and certain properties. In the end, the samples taken were not random (Fauzy, 2019).

### Data Collection Method

To retrieve a piece of research data, primary data collection was implemented through questionnaires support by secondary data in the form of articles, internet, books, and other related documentation. The use of questionnaires is efficient if the researcher has understood with certainty the variables to be measured and what is expected from

respondents. Furthermore, this questionnaires technique is also suitable for respondents who are quite large in number and spread over a large area.

### Operational Definition of Research Variables

**Table 1. Operational Definition and Indicator of Research Variables**

Variable	Definition	Indicators
Financial Literacy (X <sub>1</sub> )	Financial Literacy is an individual process of perceiving the financial knowledge that is to be used in financial decision-making	1. Financial behavior 2. Financial knowledge 3. Financial attitude (Dewi et al., 2020)
Financial Technology (X <sub>2</sub> )	Financial technology (fintech) is a new financial industry that use technology to improve financial activities	1. P2P Lending 2. Equity Crowdfunding 3. E-wallet (Suryanto et al., 2020)
Intellectual Capital (X <sub>3</sub> )	Intellectual capital is a very valuable intangible asset of a business	1. Human Capital 2. Structural Capital 3. Relational Capital (Sawarjuwono and Kadir, 2003)
MSMEs Performance (Y)	Measurement system to determine the level of effectiveness MSMEs in achieving their business goals	1. Customer Growth 2. Sales Growth 3. Profit Growth (Rapih, Martono, and Riyanto 2015)

### Testing of Research Instruments

#### Validity and Reliability Test

Validity test utilize to identify the validity of the question, whether the questions in the questionnaire are valid and consistent with the research or not valid. That is it indicates that the validity of an analysis is determined by how accurately a researcher can measure the intended variables. Moreover, in particular the validity of quantitative research relies on the empiricist perspective, which prioritize evidence, objectivity, truth, deduction, rationality, factual information, and numerical data, if the correlation  $r$  is higher than 0.05, it indicated that the instruments items are valid.

A reliability test assesses how consistent and stable a test is in measuring its intended target. The primary goal of evaluating the reliability of research tools is to gauge the consistency of a measurement instrument employed by quantitative researchers. Reliability test normal if the cronbach alpha value > reliability standards. In other words reliability coefficient is higher than 0.06 then all of the statement is declared reliable.

### Data Analysis Techniques

#### Test of Classical Assumptions

##### Normality Test

Using a normally test that aims to identify whether the data is normally distributed or not, normally distributed data implies that the data will conform to the shape of the normal distribution curve. As well, if the data spread all around the diagonal line indicated normal pattern occur. Additionally alongside apply normality test with P-P Plot result, to make this test more clearly, this test engaged to determine if the monetary data being examined follows normal distribution or not with criteria in determining the hypothesis taken in the normality test, data normal if the significance level higher than 0.05.

##### Multicollinearity Test

A multicollinearity test is carried out to verify that the independent variable should not exhibit ant phenomenon of multicollinearities, indicated by a significant correlation between independent variables. If symptoms of multicollinearity occur, one of the procedures to upgrade the model is to remove the variable from the regression model. This research is free from multicollinearity if the tolerance value > 0.1 and VIF value < 10.

##### Heteroscedasticity Test

Test heteroscedasticity to express in regression where the variance of the residual is different for one observation to another. In regression analysis, it is essential that the variance of the residuals between consecutive

observations does not exhibit any discernible pattern. Using the Glyser method to detect heteroscedasticity, this method is in the form of correlating the absolute value of the residual with an independent variable or predictor. If there is a significant correlation, then it can be concluded that there is heteroscedasticity occur.

### Multiple Linear Regression Analysis

Multiple Linear Regression (MLR) is a statistical procedure that models the relationship between a dependent variable and multiple independent variables. Multiple linear regression, which incorporates multiple independent variables, is carried out to ascertain both the direction and extent of influence the independent variables exert on the dependent variable.

The general forms of multiple linear regression are as follows

$$Y = \alpha + \beta_1.X_1 + \beta_2.X_2 + \beta_3.X_3 + \varepsilon$$

Description:

Y	= MSMEs Performance
$\alpha$	= Constant
$\beta_1, \beta_2, \beta_3$	= The regression coefficient of each variable
X1	= Financial Literacy
X2	= Financial Technology
X3	= Intellectual Capital
$\varepsilon$	= Standard error

### The Coefficient Of Determination (R2)

The coefficient of determination test (R2) was conducted to inspect how much the percentage contribution of the independent variables together to the dependent variable. R2 value is determined between 0 – 1, if the R2 value is near to 1 at that point then the independent variable gives nearly all the data required to predict the variance of the dependent variable. This analysis inspect to what scope the variables used in the study are capable to define the dependent variable the greater the value of the determination coefficient, the superb the independent variable in explaining the dependent variable with the following formula:

### Hypothesis Testing

#### Partial Test (T-Test)

The t-test is utilized to decide the impact of independent variables partially or individually on the dependent variable. This test assists to answer whether a particular independent variable contributes significantly to the change of the dependent variable. In this significance test, described in the following way:

- t-count  $\geq$  t-table  $\alpha = 0.05$  indicated there is a significant impact partially. In addition to that  $H_0$  is rejected and  $H_a$  is accepted
- t-count  $<$  t-table  $\alpha = 0.05$  indicated there no significant impact partially. In addition to that  $H_0$  is accepted and  $H_a$  is rejected

#### Simultaneous Test (F Test)

This test is the significance of the equation apply to find out exactly how the variable independent simultaneously impact the dependent variable. In this test include independent variables (the impact of financial literacy, financial technology and intellectual capital) on the dependent variable (MSMEs performance) to jointly test for the presence or absence of an impact. The test results assess by analyze the F value conferred in the ANOVA table with significance value 0.05. Step of simultaneous test described in the following way:

- f-count  $\geq$  f-table  $\alpha = 0.05$  indicated that  $H_0$  is rejected and  $H_a$  is accepted, demonstrate that the independent variables simultaneously have an significant impact on the dependent variable
- f-count  $<$  f-table  $\alpha = 0.05$  indicated that  $H_0$  is accepted and  $H_a$  is rejected, demonstrate that the independent variables simultaneously no significant impact on the dependent variable

## RESULT AND DISCUSSION

### Result

#### Validity Test and Reliability Test

**Table 2. Validity Test**

Variable	Question	R Count	R Table	Conclusion
Financial Literacy ( $X_1$ )	X1.1	0.638	0.200	Valid
	X1.2	0.735	0.200	Valid
	X1.3	0.678	0.200	Valid
	X1.4	0.655	0.200	Valid
	X1.5	0.583	0.200	Valid
	X1.6	0.706	0.200	Valid
Financial Technology ( $X_2$ )	X2.1	0.515	0.200	Valid
	X2.2	0.701	0.200	Valid
	X2.3	0.518	0.200	Valid
	X2.4	0.570	0.200	Valid
	X2.5	0.673	0.200	Valid
	X2.6	0.564	0.200	Valid
Intellectual Capital ( $X_3$ )	X3.1	0.661	0.200	Valid
	X3.2	0.724	0.200	Valid
	X3.3	0.781	0.200	Valid
	X3.4	0.806	0.200	Valid
	X3.5	0.622	0.200	Valid
	X3.6	0.598	0.200	Valid
MSMEs Performance (Y)	Y.1	0.731	0.200	Valid
	Y.2	0.699	0.200	Valid
	Y.3	0.748	0.200	Valid
	Y.4	0.625	0.200	Valid
	Y.5	0.716	0.200	Valid
	Y.6	0.764	0.200	Valid

Sources: Data Processed from SPSS 29, 2024

R count numbers obtained from each questionnaire are above the R table of 0.200, indicating that all indicators are valid.

**Table 3. Reliability Test**

Variable	Cronbach's Alpha	Critical Value	Conclusion
Financial Literacy ( $X_1$ )	0.742	>0.60	Reliable
Financial Technology ( $X_2$ )	0.630	>0.60	Reliable
Intellectual Capital ( $X_3$ )	0.794	>0.60	Reliable
MSMEs Performance (Y)	0.806	>0.60	Reliable

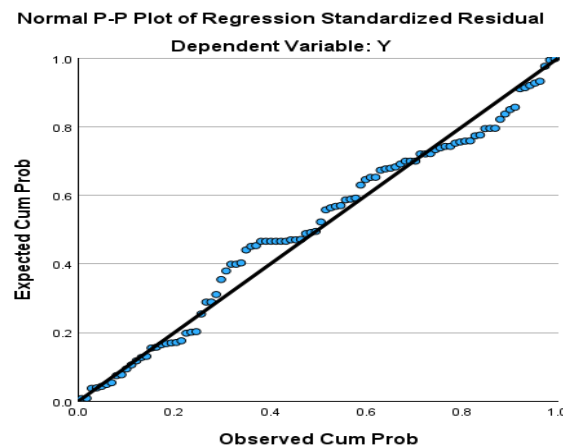
Sources: Data Processed from SPSS 29, 2024

Cronbach's Alpha value for each research variable successfully passed the reliability standard of 0.60. Thus the overall results of all variables are categorized as reliable.

### Classical Assumption Test

#### Normality Test





**Figure 1. P-Plot Normality Test**  
*Sources: Data Processed from SPSS 29, 2024*

Based on figure 1. It shows that the data points are evenly distributed and follow the direction of the P-Plot diagonal line. The pattern that forms explains that the data is distributed normally. In the end, meets the assumption of normality of the test

**Table 4. Heteroscedasticity Test**

Variable	Sig.	Critical Value	Status
Financial Literacy	.554	0.05	Heteroscedasticity Free
Financial Technology	.720	0.05	Heteroscedasticity Free
Intellectual Capital	.115	0.05	Heteroscedasticity Free

*Sources: Data Processed from SPSS 29, 2024*

Based on table 4, revealed that results of of heteroscedasticity test have significant values more than 0.05 which are clarified as heteroscedasticity free

**Table 5. Multicollinearity Test**

Variable	Tolerance	VIF	Status
Financial Literacy	.384	2.602	Multicollinearity Free
Financial Technology	.762	1.312	Multicollinearity Free
Intellectual Capital	.436	2.295	Multicollinearity Free

*Sources: Data Processed from SPSS 29, 2024*

Based on table 5 showed that value of tolerance is more than 0.10 and the value of VIF is less than 10, it can be concluded that there is no multicollinearity issue occur in this test.

### Multiple Linear Regression Analysis

**Table 6. Result of Multiple Linear Regression**

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
1 (Constant)	3.792	2.824			1.343	.183
Financial Literacy	.311	.120	.284		2.579	.012
Financial Technology	.113	.098	.091		1.161	.249
Intellectual Capital	.462	.101	.473		4.580	<.001

*Sources: Data Processed from SPSS 29, 2024*

The multiple linear regression equation in this research based on the table 6 is as follows:



$$Y = 3.792 + 0.311X_1 + 0.113X_2 + 0.462X_3 + \varepsilon$$

1. Constant (3.792) If the value of all independent variables ( $X_1$ ,  $X_2$ , and  $X_3$ ) is 0, then the mean value of the dependent variable ( $Y$ ) is 3.792.
2. The regression coefficient of financial literacy  $X_1$  (0.311). Each increment of one unit in variable  $X_1$  will cause an increase in the average of variable  $Y$  by 0.311 units, assuming the other independent variables remain. This means that the  $X_1$  variable has a positive and significant influence on the  $Y$  variable.
3. The regression coefficient of financial technology  $X_2$  (0.113). Each increment of one unit in variable  $X_2$  will cause an increase in the average of variable  $Y$  by 0.113 units, assuming the other independent variables remain. This means that  $X_2$  has a weaker influence on  $Y$ .
4. The regression coefficient of financial technology  $X_3$  (0.462). Each increment of one unit in variable  $X_3$  will cause an average increase in variable  $Y$  by 0.462 units, assuming the other independent variables remain. Variable  $X_3$  has the most positive and significant influence among the three independent variables on variable  $Y$ .

### Coefficient Determination ( $R^2$ ) Test

**Table 7. Coefficient Determination ( $R^2$ )**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.756 <sup>a</sup>	.572	.558	1.879

Sources: Data Processed from SPSS 29, 2024

Based on table 7, judging from the  $r$  square value the regression analysis results show that the developed model is able to explain about 57.2% of the variability in the dependent variables. This means that the independent variables included in the model, namely financial literacy ( $X_1$ ), financial technology ( $X_2$ ) and intellectual capital ( $X_3$ ), simultaneously make a significant contribution in explaining the change in the dependent variable MSMEs performance ( $Y$ ). However, there is still about 42.8% variability that cannot be described in this research and outside the regression analysis model.

### Hypothesis Testing

#### T-Test

**Table 8. F-test**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	433.302	3	144.434	40.925	<.001 <sup>b</sup>
Residual	324.688	92	3.529		
Total	757.990	95			

Sources: Data Processed from SPSS 29, 2024

Based on the results of table 8, it is found that the  $f$  value is 40.925 which is greater than the  $f$  table 2.31 and significance value  $0.01 < 0.05$ . Demonstrated there is no negative difference statistically. It can be concluded that all independent variables of financial literacy ( $X_1$ ), financial technology ( $X_2$ ), and intellectual capital ( $X_3$ ) simultaneously have a significant influence effect on the dependent variable MSMEs Performance ( $Y$ ).

### Discussion

#### The Impact of Financial Literacy on Micro Small, Medium Enterprises (MSMEs) Performance in Manado.

Hypothesis ( $H_1$ ) describe that there is an significant effect of Financial Literacy on the Performance of Micro, Small and Medium Enterprises (MSMEs) in Manado is accepted. In addition, this finding is in line with research conducted by Utami and Sitanggang (2022) that financial literacy has a positive effect on MSMEs performance, this is because financial literacy is an important and basic understanding for MSMEs actors so that they can take into account the long-term financial plans of their business and in the end they operate their business smoothly without any financial obstacles. The better level of financial literacy the more capable MSMEs actors are in applying their skills in financial aspects for various clever decisions in their business. Moreover, MSMEs actors with high financial literacy are able to manage resources efficiently and can plan the financial future of the business more comprehensive. The results of this research support existing theories such as Human Capital Theory which states that investment in knowledge including financial literacy can increase performance productivity, because the logic is MSMEs actors with high financial literacy are able to manage finances better, minimizing cost wastage, this contributes to increased profitability. Financial literacy allows MSMEs actors to develop more structured financial

planning as well as help anticipate challenges and capitalize on business opportunities. MSMEs actors with high financial literacy can access financing more easily supported by an understanding of credit application requirements and procedures, they are also able to develop more convincing business project. Finally, financial literacy helps MSMEs actors in analyzing the risks and potential benefits of various investment alternatives. This allows them to make more rational and profitable investment decisions for business performance and growth. By understanding financial literacy in depth MSMEs actors can manage finances effectively, choose the right funding sources, avoid debts that are not good for their business, prioritize careful fund allocation and able to make appropriate financial planning in order to MSMEs actors can set business targets optimally and accurately. Comparison these results with previous research that both indicate that there is a positive and significant influence between financial literacy on the performance of MSMEs and mostly previous research use general financial literacy. MSMEs actors with high financial literacy tend to have better business performance and bright prospects and are one of the determining factors in improving MSMEs performance. Therefore, increasing financial literacy is crucial for the development and sustainability of MSMEs and contributes to the national GDP economy and community welfare. For MSME actors who do not have a good level of financial literacy they have the potential to experience financial challenges such as being prone to fraud, indecisive in making business financial decisions, and difficulty in improving business performance and sustainability.

### **The Impact of Financial Technology on Micro Small, Medium Enterprises (MSMES) Performance in Manado.**

Hypothesis (H2) describe no significant effect of Financial Technology on Micro Small, Medium Enterprises (MSMES) Performance in Manado is rejected. In addition, this finding is differ to Hamidah et al. (2020) that financial technology has positive effect on MSMEs Performance. Due to, financial technology has an important role for the financial performance of MSMEs but based on the results of this research it can be identify that only the variable indicators of financial technology Peer to Peer Lending (P2P) and E-wallet have a slight effect on the performance of MSMEs meanwhile Equity Crowdfunding has no significant impact. Although, financial technology has the potential to improve the performance of MSMEs, factors such as low understanding of fintech lending, technology adoption, limited infrastructure and limited needs among MSMEs are the main obstacles in optimizing its impact. The results of this research are different and do not support previous research. However, this finding is in line with Sumani and Prasetya (2022) supported by theory Diffusion of Innovation Theory explains that the adoption of new technology is influenced by various factors including innovation characteristics, individuals and social environment. Although, fintech offers solutions and benefits for types of businesses such as MSMEs, the adoption of technology does not always lead to improved performance. Understanding digital literacy adequate infrastructure conditions and regulations can affect the effectiveness of adoption from fintech. Furthermore, judging from internal factors, even though MSMEs actors get access to financing through P2P fintech or equity crowdfunding, these funds may have the potential to be misused and not used to improve business performance, furthermore, MSMEs may not have adequate business managerial to manage funding effectively. External factors in the form of tight market competition play a role in the performance of MSMEs, even though they get fresh funds from fintech, they have to think about strategies to win the competition, followed by public skepticism towards fintech such as the potential for not being given funding for P2P and equity crowdfunding, lost money, threats to the security of MSMEs data, and the clarity of fintech transparency. Additionally, the comparison of this result with previous research lies in the use of the type of fintech, where previous research used a lot of digital payments for MSMEs performance with a correlation with a positive and significant effect. Meanwhile, this research focuses on the use of fintech lending such as P2P and equity crowdfunding supported by E-wallets and is a novelty of research because fintech lending is rarely used for MSMEs performance. Finally, this research has its own level of complexity due to fintech lending has complex characteristics. At this time, fintech lending has not had a positive effect on the performance of MSMEs, but in the future with the acceleration of digitalization, it is hoped that the adoption and benefits of fintech lending can be used properly.

### **The Impact of Intellectual Capital on Micro Small, Medium Enterprises (MSMES) Performance in Manado.**

Hypothesis (H3) describe that there is an significant effect of Intellectual Capital on the Performance of Micro, Small and Medium Enterprises (MSMEs) in Manado is accepted. In addition, these findings are in line with research driven by Muda et al. (2020) that intellectual capital has positive effect on MSMEs Performance and supported by the Resource-Based View Theory which describes that unique, different, difficult to imitate, and irreplaceable resources are aspects of competitive advantage for MSMEs actors. Intellectual capital is a valuable resource for MSMEs to improve performance. Moreover, the main components of intellectual capital in the form of

competent human resources, knowledge and innovation, and business networks with depth specifically in the form of, human capital is a collection of individual knowledge, skills, and abilities in a business or organization. Followed by structural capital in the form of intangible assets that are embedded in the organizational structure such as organizational culture and overall business understanding. Furthermore, relational capital is the quality of the relationship between a business and stakeholders such as customers, suppliers, and business partners. Intellectual capital play an important role in improving the performance of MSMEs. Therefore, effective intellectual capital development is needed to increase the competitiveness and sustainability of MSMEs businesses. This research assist the existing theory and proves that there is a positive and significant effect between intellectual capital on the performance of MSMEs. Intellectual capital, which includes human capital, structural capital, and relational capital, is an intangible asset that is crucial for increasing the competitiveness and growth of MSMEs. MSMEs actors need to pay close attention to the development and management of intellectual capital to achieve optimal performance.

The results of this research are generally in line with previous research from Hamidah et al. (2020). Despite the similarities, this research has some findings that differ from previous research. Firstly, this research found that the influence of relational capital on the performance of MSMEs is more dominant than structural and human capital and makes a new contribution to the literature that previously did not use many intellectual capital variables on the performance of MSMEs. These findings reinforce the results of previous research while providing a new perspective on the role of intellectual capital in improving the performance of MSMEs. Practically, the results of this research have implications for MSMEs actors, they need to focus more on human capital development through employee training and development to enrich their ability to innovate. In addition, MSMEs actors also need to pay attention to the importance of building strong relationships with customers and business partners followed by a thorough understanding of the business.

### **The Impact of Financial Literacy, Financial Technology, and Intellectual Capital on Micro Small, Medium Enterprises (MSMES) Performance in Manado.**

Hypothesis (H4) describes that there is an significant effect of Financial Literacy, Financial Technology, and Intellectual Capital on the Performance of Micro, Small and Medium Enterprises (MSMEs) in Manado is accepted. In addition, the main finding in this research is that the synergy between the three variables independent which is financial literacy, financial technology, and intellectual capital has a significant effect on the performance of MSMEs, partially only financial technology has a slight ineffect. However, it is simultaneously has significant effect. Financial literacy provides a strong foundation for MSMEs actors regarding business finance aspects, then financial technology provides ease of growth for MSMEs actors if used properly such as fintech Peer to Peer Lending (P2P) Equity crowdfunding and digital payment E-wallets. Meanwhile, intellectual capital deliver MSMEs the ability to make continuous improvement, innovate, understand the overall business process, and build a strong business network. Therefore, MSMEs that can optimize financial literacy, utilize financial technology and manage intellectual capital effectively will have a greater opportunity to improve their business performance.

## **CONCLUSION AND RECOMMENDATION**

### **Conclusion**

According to the data that has been collected and processed, the conclusion of this research is as follows:

1. Financial Literacy (X1) has a significant partial effect on the performance of MSMEs. Therefore, basically the first hypothesis is accepted and there is an influence of Financial Literacy on Micro Small, Medium Enterprises Performance (MSME) in Manado.
2. Financial Technology (X2) has no significant partial effect on the performance of MSMEs. Therefore, basically the second hypothesis is not accepted and there is no effect of Financial Technology on Micro Small, Medium Enterprises Performance (MSMES) in Manado.
3. Intellectual Capital (X3) has a significant effect partially on the performance of MSMEs. Therefore, basically the third hypothesis is accepted and there is an influence of Intellectual Capital on Micro Small, Medium Enterprises Performance (MSMES) in Manado.
4. Financial Literacy (X1), Financial Technology (X2), and Intellectual Capital (X3) simultaneously have a significant effect on the performance of MSMEs. Therefore, basically the fourth hypothesis is accepted and there is an influence of Financial Literacy, Financial Technology, and Intellectual Capital on Micro Small, Medium Enterprises Performance (MSMES) in Manado.

### **Recommendations**



Based on the main findings of this research, there are several practical suggestions aimed at MSMEs actors to increase their performance, stakeholders to improve the performance of MSMEs, and suggestions for further research on "The Impact of Financial Literacy, Financial Technology, and Intellectual Capital on Micro Small, Medium Enterprises Performance MSMEs".

1. MSMEs need to increase their understanding of financial literacy so that they can make careful financial decisions. In addition, the use of financial technology lending funding can be considered as one of the sources of funding in improving and developing MSMEs as well as optimizing E-wallet digital payments can bring MSMEs towards change. Finally, in the aspect of intellectual capital, MSMEs must observe and develop human resource capabilities, the ability to innovate, a deep understanding of business and a comprehensive business network.
2. The government and related institutions can improve superior programs in the form of education and special training for MSMEs on how to manage their businesses carefully. Collaborate with various elements of society, organizations and certain ministries in order to facilitate the progress of MSMEs in Indonesia. Lastly, the government can provide incentives for long-term innovation of MSMEs.
3. Further research can deepen the analysis by considering the use of a larger sample, examine MSMEs engaged in the creative industry, and can also combine mixed methods research to find out the specific economic and social conditions of MSMEs in order to obtain better comprehension results than previous research.

## REFERENCES

- Atkinson, A. (2017). Financial Education For Msmes And Potential Entrepreneurs. *OECD Working Papers on Finance, Insurance and Private Pensions* 43, OECD Publishing. [https://www.oecd.org/en/publications/financial-education-for-msmes-and-potential-entrepreneurs\\_bb2cd70c-en.html](https://www.oecd.org/en/publications/financial-education-for-msmes-and-potential-entrepreneurs_bb2cd70c-en.html).
- Banerjee, B. (2015). *Fundamentals Of Financial Management*. PHI Learning Pvt. Ltd.
- Brochado, A. & V. Mendes. 2021. Savings and Financial Literacy: A Review of Selected Literature. *European Review of Business Economics*, I(1), 61-72. <https://repositorio.ual.pt/entities/publication/a461fd64-3c52-4c9e-9df1-42b1d3751e88>.
- Chen, H., & Volpe, R.P. (1998) An Analysis of Personal Financial Literacy among College Students. *Financial Services Review*, 7, 107-128. <https://www.sciencedirect.com/science/article/abs/pii/S1057081099800067>.
- Dewi, V., Febrian, E., Effendi, N., & Anwar, M. (2020). Financial Literacy Among The Millennial Generation: Relationships Between Knowledge, Skills, Attitude, And Behavior. *Australasian Accounting, Business and Finance Journal*, 14(4), 24-37. [https://www.researchgate.net/publication/348750039\\_Financial\\_Literacy\\_among\\_the\\_Millennial\\_Generation\\_Relationships\\_between\\_Knowledge\\_Skills\\_Attitude\\_and\\_Behavior](https://www.researchgate.net/publication/348750039_Financial_Literacy_among_the_Millennial_Generation_Relationships_between_Knowledge_Skills_Attitude_and_Behavior).
- Fauzy, A. (2019). *Metode Sampling*. Tangerang Selatan: Universitas Terbuka.
- Gunawan, A., Jufrizen, J., & Pulungan, D. R. (2023). Improving MSME Performance Through Financial Literacy, Financial Technology, And Financial Inclusion. *International Journal of Applied Economics, Finance and Accounting*, 15(1), 39-52. <https://onlineacademicpress.com/index.php/IJAEFA/article/view/761>.
- Hamidah, N., Prihatni, R., & Ulupui, IGKA. (2020). The Effect Of Financial Literacy, Fintech (Financial Technology) and Intellectual Capital On The Performance Of MSMEs In Depok City, West Java. *Journal of Social Science*, Vol. 1, No. 4. <https://jsss.co.id/index.php/jsss/article/view/53>.
- Hasanudin, H., & Panigfat, F. (2023). Unlocking MSME Performance: The Interplay of Financial Literacy, Financial Inclusion, and Financial Technology Lending with Venture Capital Mediation. *Shirkah: Journal of Economics and Business*, 9(2), 169–180. <https://shirkah.or.id/new-ojs/index.php/home/article/view/657>.

- Heinicke, A. (2018). Performance Measurement Systems In Small And Medium-Sized Enterprises And Family Firms: A Systematic Literature Review. *Journal of Management Control: Zeitschrift für Planung und Unternehmenssteuerung*, Springer, 28(4), 457-502. <https://link.springer.com/article/10.1007/s00187-017-0254-9>.
- Muda, A., Ridhuan, M., Hamzah, N., & Saleh, N.M. (2020). Intellectual Capital and SMEs' Business Performance from an Organisational Lifecycle Perspective. *The South East Asian Journal of Management*, Vol. 14, No. 1. <https://scholarhub.ui.ac.id/seam/vol14/iss1/5/>.
- Pandey, P., & Pandey, M.M. (2015). *Research Methodology: Tools and Techniques*. Romania: Bridge Center
- Purwanza, S.W. (2022). *Metodologi Penelitian Kuantitatif, Kualitatif Dan Kombinasi*. CV. Media Sains Indonesia.
- Rapih, S., Martono, T., & Riyanto, G. (2015). Analisis Pengaruh Kompetensi Sumber Daya Manusia, Modal Sosial dan Modal Finansial terhadap Kinerja UMKM Bidang Garmen di Kabupaten Klaten. *Jurnal Pendidikan Insan Mandiri*, Vol. 1, No. 2. <https://www.neliti.com/publications/13876/analisis-pengaruh-kompetensi-sumber-daya-manusia-modal-sosial-dan-modal-finansia>.
- Sawarjuwono, T., & Kadir, A. P. (2004). Intellectual Capital: Perlakuan, Pengukuran Dan Pelaporan (Sebuah Library Research). *Jurnal Akuntansi Dan Keuangan*, 5(1), 35–57. <https://jurnalakuntansi.petra.ac.id/index.php/aku/article/view/15699>.
- Sumani, S., & Prasetya, I. B. (2022). The Effect of Financial Technology on the Performance of Micro, Small, and Medium Businesses. *Review of Management and Entrepreneurship*, 6(1), 51–72. <https://journal.uc.ac.id/index.php/rome/article/view/2442>.
- Suryanto., Rusdin., & Dai, R.M. (2020). Fintech As A Catalyst For Growth Of Micro, Small And Medium Enterprises In Indonesia. *Academy of Strategic Management Journal*, 19(5), 1-12. <https://www.abacademies.org/articles/fintech-as-a-catalyst-for-growth-of-micro-small-and-medium-enterprises-in-indonesia-9583.html>.
- Suyadi., Syahdanur., & Suryani, S. (2018). Analisis Pengembangan Usaha Mikro Kecil dan Menengah (UMKM) di Kabupaten Bengkalis-Riau. *Jurnal Ekonomi KIAT*, 29(1), 1-10. <https://journal.uir.ac.id/index.php/kiat/article/view/2736>.
- Utami, N., & Sitanggang, M.L. (2021). The Analysis of Financial Literacy and Its Impact on Investment Decisions: A Study on Generation Z In Jakarta. *Inovbiz: Jurnal Inovasi Bisnis*, Vol. 9, No. 1. <https://ejournal.polbeng.ac.id/index.php/IBP/article/view/1840>.
- Zaimovic, A., Torlakovic, A., Arnaut-Berilo, A., Zaimovic, T., Dedovic, L., & Nuhic Meskovic, M. (2023). Mapping Financial Literacy: A Systematic Literature Review of Determinants and Recent Trends. *Sustainability*, 15(12). <https://www.mdpi.com/2071-1050/15/12/9358>.