Escalate: Economics and Business Journal
https://journal.takaza.id/index.php/escalate

Vol. 1 , No. 1 , 2023 , pp. 77-84
E-ISSN: 3025-4213

E-mail: escalate@takaza.id

Determinants of Labor Absorption in Micro, Small, and Medium Enterprises (MSMEs) in Jambi City

Muhammad Zhahran Shiddik[1], Heriberta[2], Hardiani[3]
[1]Program Studi Ekonomi Pembangunan, Fakultas Ekonomi dan Bisnis, Universitas Jambi
[2]Dosen Program Studi Ekonomi Pembangunan, Fakultas Ekonomi dan Bisnis, Universitas Jambi
[3]Dosen Program Studi Ekonomi Pembangunan, Fakultas Ekonomi dan Bisnis, Universitas Jambi

Corresponding Author e-mail : mzhahran2004@gmail.com

Article History:
Received: 29-08-2023
Revised: 02-09-2023
Accepted: 05-09-2023

Keywords: *Capital_Access, Education_Level, Labor_Absorption, MSMEs*

Abstract: *Micro, Small, and Medium Enterprises (MSMEs), particularly in the culinary sector, play a vital role in labor absorption amid Indonesia's economic challenges, yet factors influencing this remain underexplored in Jambi City. This study aims to analyze the effects of capital access, education level, business duration, and technology utilization on labor absorption in culinary MSMEs there. It employs a quantitative survey method on a population of 14,583 registered culinary MSME actors, yielding 154 respondents via Slovin formula (5% error margin) and purposive sampling. Data from questionnaires were analyzed using SPSS 27 for classical assumption tests and multiple linear regression. Results reveal that all variables simultaneously affect labor absorption significantly ($F=51.811$, $p=0.001$; $R^2=0.582$), but partially, only education level ($t=2.140$, $p=0.034$) and technology utilization ($t=-14.348$, $p=0.001$) show significant effects. Capital Access, Business Duration, Education Level, Labor Absorption, Technology Utilization.*

How to Cite: Muhammad Zhahran Shiddik, Heriberta, Hardiani (2026). *Determinants of Labor Absorption in Micro, Small, and Medium Enterprises (MSMEs) in Jambi City*. *1*(1). pp.77-84 https://doi.org/10.61536/escalate.v1i1.471

https://doi.org/10.61536/escalate.v1i1.471

Introduction

Labor absorption is one of the main indicators in assessing the economic performance of a region, as it reflects the ability of the economic system to create productive and sustainable employment opportunities. In this context, the Micro, Small, and Medium Enterprises (MSMEs) sector plays a strategic role as a provider of employment, especially for workers with relatively limited levels of education and skills. The flexible characteristics of MSMEs make this sector an important alternative in absorbing labor that is not accommodated in the formal sector (Iryani & Anwar, 2019).

However, the capacity of MSMEs to absorb labor cannot be separated from the quality of human resources they possess. The low level of education among MSME workers often becomes an obstacle in increasing productivity as well as the ability to adapt to technological developments and modern business management systems (Marsella Rahma Auliah & M. Elfan Kaukab, 2019)). In the era of economic digitalization, the utilization of technology has become increasingly crucial in encouraging operational efficiency, market expansion, and production capacity improvement. Proper implementation of technology not only enhances business performance but also has the potential to increase labor absorption, both quantitatively and qualitatively (Salam Syamsuri et al., 2024).

On the other hand, MSME development is also strongly influenced by access to economic resources, particularly capital. Limited access to financing remains one of the main challenges faced by MSME actors, especially women entrepreneurs who often encounter structural barriers such as limited collateral and gender bias in formal financial systems (Heriberta et al., 2021). This condition ultimately affects business capacity and influences the ability of MSMEs to absorb labor.

At the regional level, MSMEs contribute significantly to the local economy, including in Jambi City. Therefore, it is important to examine the factors influencing MSMEs' ability to absorb labor, such as access to capital, education level, business duration, and technology utilization. Increasing productivity through strengthening business capacity and innovation is believed to enhance the role of MSMEs in creating new job opportunities (Lestari & Bambang Susanto, 2024).

Among various MSME sectors, the culinary sector holds a strategic position due to its direct relation to consumer needs, relatively low entry barriers, and broad market opportunities. In addition, this sector tends to be more inclusive in encouraging women's participation in economic activities. Based on data from the Jambi City Cooperative and MSME Office, there are 14,853 active culinary business units operating in Jambi City (Lestari et al., 2025). This indicates that the culinary sector has great potential in supporting labor absorption while strengthening the local economy.

However, empirical studies that specifically analyze the influence of capital access, education level, business duration, and technology utilization on labor absorption in culinary MSMEs in Jambi City are still limited. Therefore, this study is important to fill this gap while contributing to the development of more targeted policies in enhancing the role of MSMEs as job creators.

Research Methods

This study employs a quantitative approach using survey and questionnaire techniques (Mukoffi et al., 2025). The population consists of 14,583 culinary MSME actors registered with the Jambi City Cooperative and MSME Office as of the latest data, specifically targeting active business units in the culinary sector with 14,853 units noted in related reports (Lestari et al., 2025). Using the Slovin formula at a 5% margin of error ($n = N / (1 + N e^2)$, where N=14,583 and e=0.05), a sample size of 154 respondents was determined, selected via purposive sampling from culinary MSME owners or managers in Jambi City who met criteria of active operations and willingness to participate. Data were collected using questionnaires for efficient, cost-effective, and anonymous structured responses, followed by classical assumption tests and multiple linear regression analysis via SPSS 27..

Result and Discussion

Normality Test

The results of the data normality test according to the Kolmogorov-Smirnov test are presented in Table 1, namely

https://doi.org/10.61536/escalate.v1i1.471

Tabel 1. Normaliy Table Test
One-Sample Kolmogorov-Smirnov Test

			Unstandardized Residual
N			154
Normal Parameters[a,b]	Mean		.0000000
	Std. Deviation		2.68961929
Most Extreme Differences	Absolute		.066
	Positive		.066
	Negative		-.064
Test Statistic			.066
Asymp. Sig. (2-tailed)[c]			.099
Monte Carlo Sig. (2-tailed)[d]	Sig.		.102
	99% Confidence Interval	Lower Bound	.094
		Upper Bound	.110

Based on the results of the One-Sample Kolmogorov-Smirnov test on unstandardized residuals, the sample size (N) is 154 with an Asymp. Sig. (2-tailed) value of 0.099. This value is greater than the significance level of 0.05, indicating that the residuals in the regression model are normally distributed..

Multicollinearity Test

The multicollinearity test is conducted to determine whether there is a high correlation among independent variables in the model. A good regression model should not contain multicollinearity. The absence of multicollinearity is indicated by correlation values among independent variables below 0.80 or a Variance Inflation Factor (VIF) of less than 10.

Table 2. Multicollinearity Test

Based on Table 2, there is no indication of multicollinearity among the independent variables,

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	.201	2.363		.085	.932		
	AP	8.764E-10	.000	.044	.528	.598	.969	1.032
	TPP	.038	.164	.021	.231	.818	.810	1.234
	LU	.031	.052	.052	.587	.558	.835	1.197
	PT	.736	.720	.086	1.022	.309	.944	1.059

a. Dependent Variable: PTK

as all variables have tolerance values greater than 0.10 and VIF values less than 10. The highest VIF value is found in the education level variable (TPP) at 1.234, which is still far below the maximum threshold of 10.

https://doi.org/10.61536/escalate.v1i1.471

Heteroscedasticity Test

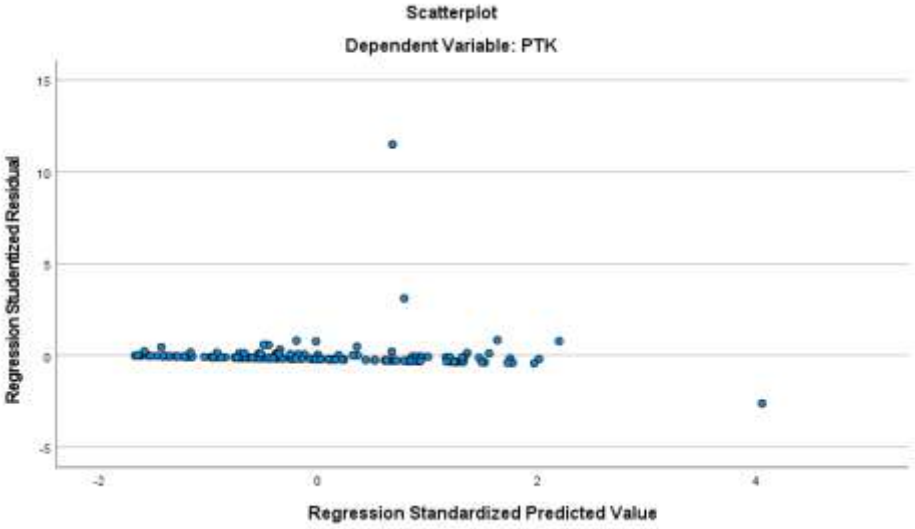

Figure 1 Scatterplot

Based on the scatterplot (Figure 1), which illustrates the relationship between standardized predicted values and studentized residuals, the residual points are randomly distributed above and below zero on the Y-axis and do not form any specific pattern, such as a funnel shape, widening, or wave-like pattern. This indicates that there is no heteroscedasticity in the regression model.

Multiple Linear Regression Analysis

Multiple linear regression is an analytical method used to determine the effect of two or more independent variables on a dependent variable. This method aims to explain the causal relationship between independent and dependent variables and to determine the direction and magnitude of each independent variable's effect.

In this study, multiple linear regression analysis is used to examine the effect of capital access (X1), education level (X2), business duration (X3), and technology utilization (X4) on labor absorption (Y).

Tabel 3. Multiple Linear Regression Analysis
Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	2.263	1.508		1.501	.136
	AP	6.895E-10	.000	.034	.639	.524
	TPP	.225	.105	.125	2.140	.034
	LU	.004	.034	.006	.107	.915
	PT	-1.388	.097	-.768	-14.348	.001

a. Dependent Variable: PTK

Based on the estimation results, the multiple linear regression equation can be formulated as follows:

$$PTK = 2{,}263 + 6{,}895E^{-10}AP + 0{,}225TPP + 0{,}004LU - 1{,}388PT$$

Based on the regression analysis, the dependent variable (Y) increases by 2.263 under constant conditions. The coefficient of the education level variable (TPP) of 0.225 indicates that an increase of 10 years in education level will increase labor absorption by approximately 2 workers. The coefficient

https://doi.org/10.61536/escalate.v1i1.471

of technology utilization (PT) of -1.388 indicates that a one-unit increase in technology utilization will reduce labor absorption by approximately 1 worker.

Overall, the results indicate that two variables significantly affect labor absorption in MSMEs, namely education level and technology utilization, while capital access and business duration do not have a significant effect.

F-Test (Simultaneous Test)

Table 4. F-Test Results

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1539.450	4	384.862	51.811	.001[b]
	Residual	1106.810	149	7.428		
	Total	2646.260	153			

a. Dependent Variable: PTK

b. Predictors: (Constant), PT, AP, LU, TPP

The calculated F-value is 51.811 ≥ 2.43 with a significance value of 0.001 ≤ 0.05. Therefore, it can be concluded that capital access (AP), education level (TPP), business duration (LU), and technology utilization (PT) simultaneously have a significant effect on labor absorption (PTK).

t-Test (Partial Test)

Table 5. t-test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.263	1.508		1.501	.136
	AP	6.895E-10	.000	.034	.639	.524
	TPP	.225	.105	.125	2.140	.034
	LU	.004	.034	.006	.107	.915
	PT	-1.388	.097	-.768	-14.348	.001

a. Dependent Variable: PTK

The t-test results show that the calculated t-value for the education level variable is 2.140 > 1.976, with a significance value of 0.034 < 0.05. Therefore, it can be concluded that education level has a significant effect on labor absorption.

Meanwhile, the calculated t-value for the technology utilization variable is -14.348 < -1.976, with a significance value of 0.001 < 0.05. Thus, technology utilization also has a significant effect on labor absorption.

Coefficient of Determination (R^2)

The coefficient of determination (R^2) is used to measure how well the independent variables explain the variation in the dependent variable. The value of R^2 ranges from 0 to 1, where a value closer to 1 indicates stronger explanatory power of the model.

https://doi.org/10.61536/escalate.v1i1.471

Table 6. Coefficient of Determination (R^2)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.763[a]	.582	.571	2.725	.582	51.811	4	149	.001

a. Predictors: (Constant), PT, AP, LU, TPP

b. Dependent Variable: PTK

The test results show an R Square value of 0.582. This indicates that 58.2% of the variation in labor absorption (Y) can be explained by the variables of capital access (X1), education level (X2), business duration (X3), and technology utilization (X4), while the remaining 41.8% is explained by other variables outside the model.

Discussion

The Effect of Capital Access on Labor Absorption in MSMEs

Based on the regression analysis results, the capital access variable does not have a significant effect on labor absorption in MSMEs in Jambi City. This indicates that, in this study, the level of financial access possessed by MSME actors does not directly determine the number of workers employed.

Theoretically, capital is one of the main production factors that plays a role in determining output capacity and business expansion. An increase in capital should enable business actors to expand production scale, add working equipment, and increase business volume, which ultimately leads to a higher demand for labor. However, the findings of this study show that this relationship is not statistically significant.

This condition can be explained by the characteristics of MSMEs in Jambi City, which are mostly still at the micro scale and labor-intensive. The additional capital obtained is more likely used to maintain business stability, increase raw material inventory, or improve product quality, rather than for expansion that requires additional labor.

These findings differ from most previous studies such as (Suhada & Ridwan, 2024) (Hierdawati, 2022), (Iryani & Anwar, 2019), and (Andri Susanto, 2014), which state that capital has a positive and significant effect on labor absorption. However, this study indicates that in certain contexts, particularly for small-scale MSMEs with relatively limited market demand, access to capital does not necessarily increase employment unless it is accompanied by market expansion.

Thus, in this study, capital access is not the main determinant in increasing labor absorption in MSMEs in Jambi City.

The Effect of Education Level on Labor Absorption in MSMEs

Based on the regression analysis, the education level variable has a positive and significant effect on labor absorption in MSMEs in Jambi City. This indicates that the higher the education level of MSME actors, the greater their ability to absorb labor.

Theoretically, education is part of human capital that plays a role in improving productivity, managerial ability, and effectiveness in business decision-making. Business actors with higher education levels tend to have better capabilities in business planning, financial management, marketing strategies, and adaptation to market changes. These conditions encourage business growth, which ultimately increases labor demand.

This finding is consistent with research by (Amelia Putri et al., 2022), which found that education level has a positive and significant effect on labor absorption in the bakery MSME sector. Similarly, (Inegbedion et al., 2024) show that education level and business competitiveness significantly contribute to job creation. In addition, (Reeg, 2015) states that education and training play an important role in creating decent jobs in the MSME sector.

https://doi.org/10.61536/escalate.v1i1.471

Although this finding differs from (Suhada & Ridwan, 2024), who found no significant effect of education, this study indicates that in the context of MSMEs in Jambi City, the quality of human resources in the form of formal education plays an important role in driving business expansion and increasing employment.

Therefore, education level can be considered one of the key factors in enhancing the capacity of MSMEs to absorb labor in Jambi City.

The Effect of Business Duration on Labor Absorption in MSMEs

Based on the regression analysis, the business duration variable does not have a significant effect on labor absorption in MSMEs. This indicates that the length of time a business has been operating does not directly determine the number of workers employed.

Theoretically, businesses that have been operating for a longer period are assumed to have more mature experience, broader market networks, and stronger business stability. In the firm life cycle theory, businesses that survive longer tend to experience growth in production capacity, which eventually increases labor demand.

However, the results of this study show that business duration does not significantly affect labor absorption. This can be explained by the characteristics of MSMEs, which tend to remain small-scale and stagnant. Many MSMEs have been operating for a long time but remain at the micro level without significant expansion. Thus, business age is not always synonymous with business growth.

These findings differ from (Aga et al., 2015), which state that business age significantly affects job creation. (Hyatt, 2022) also emphasizes the importance of financing access for new businesses in creating employment. These differences indicate that regional context, economic structure, and market access strongly influence the relationship between business age and labor absorption.

On the contrary, this study indicates that the more determining factor in increasing employment is the ability of the business to grow, which is more closely related to capital access rather than the length of operation.

Thus, in the context of this study, business duration is not a primary determinant of labor absorption. Businesses that have been operating longer do not necessarily have a greater capacity to absorb labor unless accompanied by expansion and increased production scale.

The Effect of Technology Utilization on Labor Absorption in MSMEs

Based on the regression analysis, the technology utilization variable has a positive and significant effect on labor absorption in MSMEs. This indicates that the higher the level of technology utilization in business activities, the greater the ability of MSMEs to absorb labor.

Theoretically, technology utilization can improve production efficiency, expand market reach, and enhance business competitiveness. In the context of MSMEs, technology does not necessarily refer to large-scale automated machinery but also includes the use of social media, marketplaces, digital payment systems, and more modern production tools.

The use of technology enables business actors to increase production volume and expand markets, which ultimately increases labor demand to meet higher levels of demand. In other words, in the MSME context, technology functions more as a facilitator of business expansion rather than a substitute for labor.

These findings are consistent with (Anak Agung Yuli Harsinta Dewi & A.A.I.N Marhaeni, 2016), which found that technology has a positive and significant effect on labor absorption in the textile industry. Additionally, (Inegbedion et al., 2024) show that innovation and competitiveness contribute to job creation in the MSME sector.

However, the effect of technology in this study is relatively smaller compared to education level. This suggests that although technology plays a role in increasing labor absorption, its effectiveness still depends on overall business capacity. Without adequate educational support, technology utilization may not be optimal in driving business expansion.

https://doi.org/10.61536/escalate.v1i1.471

Thus, in this study, technology utilization acts as a supporting factor in increasing labor absorption, especially when combined with an adequate level of education.

Conclusion and Recommendation

This study concludes that internal business factors play an important role in influencing labor absorption in culinary MSMEs in Jambi City. Simultaneously, capital access, education level, business duration, and technology utilization significantly affect labor absorption. However, partially, only education level and technology utilization show a positive and significant effect, while capital access and business duration are not significant. This indicates that labor absorption is more influenced by the ability of MSME actors to develop their businesses productively rather than merely by capital availability or business age. The model explains 58.2 persen of the variation in labor absorption, while the remaining is influenced by other factors. Therefore, future research is recommended to include additional variables such as business scale, revenue, business location, and government policy support to provide a more comprehensive analysis.

References

Aga, G., Francis, D. C., & Meza, J. R. (2015). *SMEs, Age, and Jobs A Review of the Literature, Metrics, and Evidence*. http://econ.worldbank.org.

Amelia Putri, M., Nefri, J., & Setiawan, R. (2022). Faktor-Faktor Yang Mempengaruhi Penyerapan Tenaga Kerja Pada UMKM Industri Roti di Kota Payakumbuh. *Jurnal Cahaya Mandalika*, *3*(1). http://ojs.cahayamandalika.com/index.php/JCM

Anak Agung Yuli Harsinta Dewi, & A.A.I.N Marhaeni. (2016). *Pengaruh Modal, Tingkat Upah, dan Teknologi Terhadap Penyerapan Tenaga Kerja dan Output Pada Industri Tekstil di Kabupaten Badung*.

Andri Susanto. (2014). *Analisis Penyerapan Tenaga Kerja UMKM Sentra Industri Mebel Kayu Jati di Kabupaten Bojonegoro*.

Heriberta, Hardiani, & Pertiwi Utari Indah. (2021). Pengaruh Ketimpangan Gender Terhadap Pertumbuhan Ekonomi di Provinsi Jambi. *Jurnal Ekonomi Aktual*, *1*(2), 69–76. https://doi.org/10.53867/jea.v1i2.17

Hierdawati, T. (2022). *Analisis Penyerapan Tenaga Kerja UMKM di Provinsi Jambi*.

Hyatt, H. R. (2022). Firm Age and Job Creation in the US New Busineses are Essential to Keep Unemployement Low, but Start Ups Need Loans in Order to Create Jobs. *IZA World of Labor*. https://doi.org/10.15185/izawol.501

Inegbedion, H. E., Thikan, P. R., David, J. O., Ajani, J. O., & Peter, F. O. (2024). Small and medium enterprise (SME) competitiveness and employment creation: the mediating role of SME growth. *Humanities and Social Sciences Communications*, *11*(1). https://doi.org/10.1057/s41599-023-02434-y

Iryani, N. I., & Anwar, S. (2019). Analisis Penyerapan Tenaga Kerja (Studi Pada Ukm Kerupuk Sanjai Di Kabupaten 50 Kota). *LUMBUNG*, *18*(2), 74–86. https://doi.org/10.32530/lumbung.v18i2.99

Lestari, & Bambang Susanto. (2024). *Peranan Usaha Mikro Kecil Menengah (UMKM) dalam Penyerapan Tenaga Kerja di Kabupaten Seluma, Provinsi Bengkulu.* (Vol. 2, Number 2).

Lestari, K., Salmah, E., & Agustiani, E. (2025). *Analisis Faktor-Faktor Yang Mempengaruhi Penyerapan Tenaga Kerja Pada Usaha Makanan Dan Minuman Di Kecamatan Tanjung Kabupaten Lombok Utara*.

Marsella Rahma Auliah, & M. Elfan Kaukab. (2019). *Pengaruh Tingkat Pendidikan, Pemahaman Akutansi, dan Pelatihan Penyusunan Laporan Keuangan Terhadap Pelaporan Keuangan UMKM Berdasarkan SAK ETAP (Studi Kasus Pada UMKM DI kabupaten Wonosobo)*.

Reeg, Caroline. (2015). *Micro and small enterprises as drivers for job creation and decent work*. Deutsches Institut für Entwicklungspolitik.

Salam Syamsuri, A., Ikbal, M., Wahyuni Mustafa, S., & Muhammadiyah Palopo, U. (2024). *Pengaruh UMKM Berbasis Digital Terhadap Penyerapan Tenaga Kerja Di Kecamatan Masamba Kab. Luwu Utara*. *8*(2).

Suhada, U., & Ridwan, M. (2024). *Pengaruh Jumlah UMKM Informal dan Faktor-Faktor Lainnya Terhadap Penyerapan Tenaga Kerja di Indonesia*. *8*(3).

https://doi.org/10.61536/escalate.v1i1.471