Strengthening of MSMEs and Poverty Reduction in Makassar City

Sapriyadi[1], Muhammad Syaiful[2], Ummul Mujahida[3]

[1,2,3]Development Economics Study Program, Faculty of Social Science and Economics, Universitas Sembilan Belas November Kolaka, South East Sulawesi, Indonesia

Email: sapriyadi.ansar@gmail.com

Abstract: *Makassar City, one of Indonesia's big cities, still faces poverty. The poverty data published by the Central Statistics Agency (BPS) shows that over the last decade (2010-2023), the average percentage of poverty decreased very small, only around 0.06%, and the number decreased by only about 124 people. This research aims to find out how the strengthening of MSMEs is carried out by the Makassar City government, as well as how it impacts poverty alleviation. The respondents in this study were 102 MSME actors registered with the Cooperatives and SMEs Office. The analysis method uses a quantitative descriptive and explanatory approach with a binary logistic regression model. The results of the descriptive analysis show that MSME actors who have per capita expenditure above the poverty line are more than those who have per capita expenditure below the poverty line. Efforts to strengthen MSMEs are carried out through collaboration between local governments and state-owned banks, startups, and marketplaces through several trainings, including marketing and digital financial management. The variables of training and Labor have a significant effect on poverty alleviation, while the variables of business credit do not affect poverty alleviation. MSME actors who participated in more than one training 17 times had a per capita income above the poverty line compared to MSME actors who did not participate in training. MSME actors who use Labor 9 times have a per capita income above the poverty line compared to MSME actors who do not use Labor.*

Keywords: MSMEs; Training; Business Credit; Labor; Poverty

INTRODUCTION

Poverty is a phenomenon found in almost every developing country, including Indonesia. As a developing country, Indonesia is strongly committed to achieving the Sustainable Development Goals (SDGs). Of the 17 goals of the SDGs, poverty alleviation is the first sustainable development goal, as well as the main focus of the government and other stakeholders. Makassar City is one of the areas that still faces poverty problems. Poverty data published by the Central Statistics Agency (BPS) of Makassar City shows an increase from 4.82% in 2021 to 5.07% in 2023. Over the past decade (2010-2023), the average percentage of poverty has decreased by a minimal, only around 0.06%, and the number has decreased by only about 124 people. The average value of the poverty depth index in Makassar City is also still relatively high at 0.71. This figure indicates that the average expenditure of the poor is still far from the poverty line.

Strengthening micro, small, and medium enterprises (MSMEs) is a strategic step to alleviate poverty. Several previous findings strongly correlate with how MSMEs contribute to poverty alleviation. Results (M. D. Hussain et al., 2017) found that strong collaboration between governments to develop MSMEs will stimulate job creation which in turn will reduce poverty. MSMEs must be strengthened to create more jobs to contribute significantly to poverty alleviation (Lal Verma et al., 2020).

Micro and small businesses mostly dominate the portrait of entrepreneurship in Makassar City. Based on data from the Makassar City Cooperatives and MSMEs Office in 2020, there are 13,277 MSME units, of which around 9,958 are micro and small business units or around 75.01%. MSMEs still face several obstacles in their business management and competitiveness. According to (AL-Maamari et al., 2023), MSMEs are essential for the economy because they often provide jobs, but MSMEs also usually face challenges such as capital constraints (Amadasun & Mutezo, 2022; Chitsimran et al., 2020), Knowledge Challenge (Prakash et al., 2021), and limited human resources (Arifin et al., 2021). On the other hand, the low level of labor absorption and business capital acquisition is caused by ineffective local government support (Gamo & Gollagari, 2020). To realize sustainability and business development, it is necessary to strengthen MSMEs, including easy access to capital (Bakhtiar et al., 2022), relaxation and restructuring of micro and small business loans, as well as providing training to MSME actors (Affandi et al., 2020).

Strengthening micro, small, and medium enterprises (MSMEs) is essential to alleviate poverty. This policy includes expanding production capacity and improving the capabilities of human resources through training and capital assistance. Previous studies have shown a strong correlation between strengthening MSMEs and poverty alleviation. Findings (Sutrisno et al., 2023) show that education and training have a vital role in developing the skills and competitiveness of MSMEs. Developing MSME actors' competencies significantly influences poverty alleviation (Lateh et al., 2017). Access to formal credit has a direct and significant effect on the performance of MSMEs (Elshahawany & Elazhary, 2024), and tends to show better performance (M. Widyastuti et al., 2023). Providing credit and access to financial markets efficiently reduces poverty (Mutsonziwa & Fanta, 2021). On the contrary, the lack of credit facilities is the main factor that affects the operation of MSMEs for poverty alleviation (Geremewe, 2018).

This research is of high urgency because the majority of micro-business owners are poor people. Meanwhile, in small and medium enterprises, people experiencing poverty tend to be laborers rather than owners. Strengthening MSMEs is urgently needed through the support of fiscal policy and government monetary policy. Fiscal policy in the form of government spending on education and training and other public expenditures is essential for developing MSMEs. This helps increase the knowledge and skills needed by MSME actors so that their productivity will increase. Monetary policy in the form of business credit helps people experiencing poverty to develop their businesses. MSMEs must be strengthened to create more jobs so that they can contribute significantly to poverty alleviation.

This research aims to find out how the strengthening of MSMEs is carried out by the Makassar City government, as well as how it impacts poverty alleviation. Most previous studies have used quantitative methods with a *linear regression approach (ordinary least square)* to see the relationship between MSMEs and poverty alleviation (S. Hussain et al., 2021; Wardana et al., 2023). The novelty of this research is using a quantitative model with *a non-linear regression* technique, namely a binary logistic *regression model*. This method is rarely used to predict the impact of strengthening MSMEs on poverty alleviation. In addition, this study uses microdata at the household level to predict the effect of training, business credit, and labor use on poverty alleviation. This is also a differentiator from previous studies that used much macro data to determine macroeconomic variables towards poverty alleviation (Idris & Agbim, 2015; Sapriyadi, 2022; Singh et al., 2023).

METHODOLOGY

Types and Data of Research

This study uses a quantitative descriptive and explanatory approach to determine the impact of strengthening MSMEs on poverty alleviation. This research was conducted in Makassar City, South Sulawesi. The sampling technique in this study uses a purposive sampling approach, which is sample selection based on the researcher's assessment (Firmansyah & Dede, 2022). The respondents were selected based on the criteria determined by the researcher; namely, MSME actors registered with the Makassar City Cooperatives and MSMEs Office. This study uses secondary data and primary data. Secondary data was obtained from the Makassar City Cooperatives and MSMEs Office. Secondary data is needed for a list of MSMEs in Makassar City. The primary data was obtained from the results of filling out a questionnaire conducted by the researcher to the respondents. The questionnaire contains a list of questions about the identity of the respondents, including the number of family members. Then, the characteristics of the respondents' businesses and the training that the government and private institutions have attended consist of digital payment training, digital marketing, financial management, and product management. Then, access to business credit, labor utilization, average income, and monthly expenditure of respondents.

Variables

The study used response variables and predictor variables. The response variable used is the poverty line of MSME actors seen from the average per capita expenditure per month using the following formula:

$$y = \frac{p}{q} \qquad (1)$$

Where p is the expenditure of MSME actors for a month, and q is the number of household members. If the average per capita monthly expenditure of MSME actors is below the poverty line, they are categorized as poor residents. The poverty line set by the Central Statistics Agency (BPS) of Makassar City in 2024 is IDR 592,753

per person per month. The response variable uses a nominal scale with two categories (binary): 1 = per capita expenditure per month of MSMEs above the poverty line, and 0 = per capita expenditure per month of MSMEs below the poverty line. This study uses three predictor variables, each using a nominal scale of categories. Training (1 = have participated in the training, 0 = other), business credit (1 = accessing business credit, 0 = other), and Labor (1 = using Labor, 0 = other).

Data Analysis

The analysis technique used in this study is logistic regression to determine whether the predictor variable can predict the chance of a response variable. A minimum of 50 samples is required in logistic regression analysis if the sample is large (Thoriq et al., 2018). The model used binary logistic regression analysis for dichotomous response variables with a nominal scale of two categories. According to (Agresti, 2013), The variable probability function of the Y response on logistic regression is shown in the following equation:

$$f(y_i) = \pi_i^{y_i} = (1 - \pi_i)^{1-y_i} \qquad (2)$$

Where π_i Chance of occurrence to-i, and y_i Random variable to-i, which consists of 0 dan 1. The model of the binary logistic regression equation with three predictor variables is as follows:

$$\pi(x) = \frac{\exp{(\beta_0 + \beta_1 x_1 + \beta_1 x_2 + \beta_1 x_3)}}{1 + \exp{(\beta_0 + \beta_1 x_1 + \beta_1 x_2 + \beta_1 x_3)}} \qquad (3)$$

where $\pi(x)$ is the chance of an incident occurring Y =1 with a probability value $0 \leq \pi(x) \leq 1$. Equation (3) Logit transformation is carried out to make it easier to estimate the parameters as follows:

$$g(x) = \ln \left[\frac{\pi(x)}{1 - \pi(x)} \right] = \beta_0 + \beta_1 x_1 + \beta_1 x_2 + \beta_1 x_3 \qquad (4)$$

The ***goodness of fit*** test aims to see the resulting model according to the data. The hypothesis used in this test is H_0: model according to the data (there is no difference between the observation results and the prediction results from the model) and H_1: The model does not match the data (there is a difference between the observation results and the prediction results from the model). The statistical tests used are as follows:

$$\hat{C} = \sum_{k=1}^{g} \frac{(O_k - n_k \bar{\pi}_k)^2}{n_k \bar{\pi}_k (1 - \bar{\pi}_k)} \qquad (5)$$

Null hypothesis (H₀) Rejected if $\hat{C} > X^2_{(a,g-2)}$ or *p-value < a*.

Simultaneous tests are used to determine the contribution of the predictor variables to the response variables. The hypothesis used is H_0: $\beta_1 = \beta_2 = \beta_k = 0$, dan H_1: $\beta_k \neq 0; k = 1,2 \dots, k$ Simultaneous tests were carried out using *the likelihood* ratio test. The statistical tests used are:

$$G = -2ln \left[\frac{(\frac{n_1}{n})^{n_1}(\frac{n_0}{n})^{n_0}}{\prod_{i=1}^{n} \hat{\pi}_i^{y_i}(1-\hat{\pi}_i)^{1-y_i}} \right] \qquad (6)$$

Null hypothesis (H_0) Rejected if $G > X^2_{(db,a)}$ or *p-value < a.*

A partial test is used to determine the contribution of each predictor variable to the response variable. The hypothesis used is H_0: $\beta_i = 0, i = 1,2 \dots k$, dan H_1: $\beta_i \neq 0, i = 1,2 \dots k$. Partial tests are performed using *the Wald* test. The statistical tests used are:

$$W = \frac{\widehat{\beta_j}}{SE(\widehat{\beta_j})} SE(\widehat{\beta_j}) = [var(\hat{\beta}_j)]^{1/2} \qquad (7)$$

Null hypothesis (H_0) Rejected if $W > Z_{a/2}$ or *p-value < a*.

A statistical computer application is used to make it easier to calculate parameter estimates.

RESULTS

Efforts to Strengthen MSMEs

Based on the criteria set previously, the number of MSME actors selected as respondents was 102, most of whom were registered at the Makassar City SME Center Incubator. The Incubator Center is a Makassar City Cooperatives and SMEs Office program, a forum for MSMEs to be competitive and upgrade. This program aims to strengthen MSMEs by developing quality and competitive products. MSMEs that enter the incubator center go through three stages of incubation: pre-incubation, incubation, and acceleration. The pre-incubation phase focuses on increasing the interest and potential of MSMEs in general through training and *events*. At this stage, human resource capacity

is also increased through strengthening the essential mindset related to digitalization. The incubation phase focuses on improving MSME actors' capabilities through intensive coaching and ensuring various standardization of business operating systems. At this stage, MSME actors are given training related to product management, such as product value and attractive product packaging. Then, in the acceleration phase, it is focused on *scaling up* MSMEs with various access to *marketplaces*, funding, and reaching the national market. At this stage, MSMEs have implemented digital marketing and financial digitalization by bringing them together with local and national marketplaces, banking, and non-banking to facilitate access to financing and digital payments.

The integration and synergy of various elements of the digital MSME ecosystem are urgently needed to ensure the sustainable development of MSMEs in the future. Digital MSME ecosystem actors consist of governments, digital entrepreneurs, telecommunication operators, business incubators, research institutions, digital communities, and banks (Dhewanto et al., 2022; Purbasari et al., 2021; D. A. R. Widyastuti et al., 2023). The Makassar City Government has built a collaboration system between female MSEs and *startups* using four collaboration models, namely, knowledge sharing, resource sharing, marketing innovation, and product or service innovation models. Financial digitalization implemented by MSME actors, especially those in the tourist corridor of Makassar City, significantly affects income changes. MSME actors who have used financial digitalization have a smaller opportunity for declining and stagnant income and have a more excellent opportunity for increased income compared to MSME actors who have not used financial digitalization (Sapriyadi et al., 2023).

Descriptive Data

The results of filling out the questionnaire of 102 MSME respondents showed that there were three business criteria:
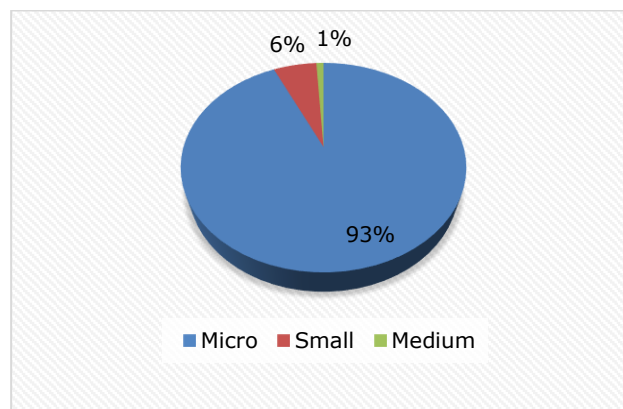

Figure 1. MSME Business Criteria
Source: Primary Data (2024)

The business criteria of MSME respondents in Makassar City were dominated by micro-businesses with as many as 95 people or 93%, followed by small businesses with as many as six people and medium companies with only one person. The determination of this criterion is based on the number of assets and business turnover owned. Most respondents have business assets below 50 million per year, and many of these businesses are run from home and do not have a permanent place of sale, such as a store.
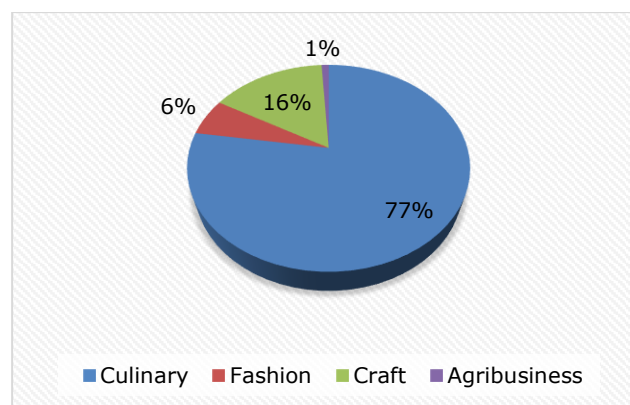

Figure 2. Types of MSME Businesses
Source: Primary Data (2024)

MSME respondents run four types of businesses: culinary, fashion, handicrafts, and agribusiness. Culinary business is mainly run by 79 respondents, or 77%, followed by handicraft businesses, as many as 16 people. Fashion businesses have as many as six people, and agribusiness has as many as one person. Culinary products include snacks such as crispy beans, banana chips, and onion chips. Various traditional cakes and breads, as well

as regional culinary such as empek-empek, yellow rice, frozen meatballs, and presto milkfish. Handicraft products include knitted accessories such as bags, clutches, and dolls. Fashion products include sewing houses for official, party, and wear clothes. Then, *resellers* of clothes such as robes, hijabs, and children's clothing. Agribusiness products are in the form of oyster mushroom cultivation and processed crispy mushrooms, mushroom nuggets, and mushroom burgers.

The Makassar City Government, through the Cooperatives and SMEs Office, supports the digitization of MSMEs, the development of production, processing, marketing, and human resources through training in digital financial management systems, the use of *e-commerce*, and product management for MSMEs.
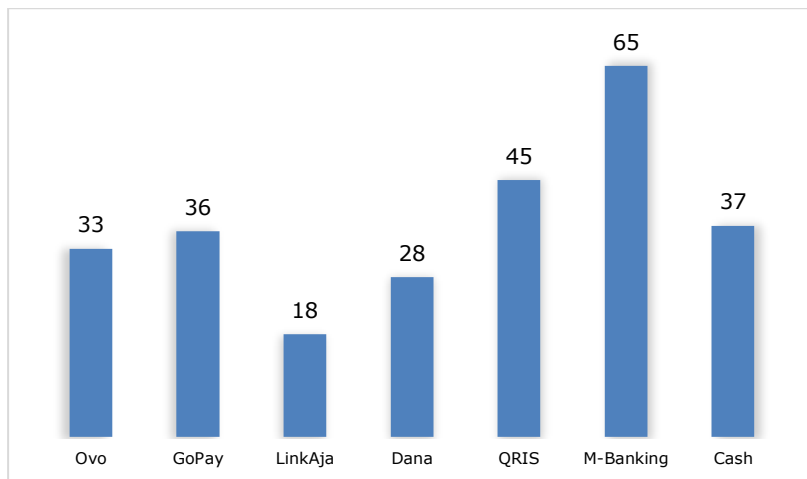

Figure 3. Use of MSME Digital Payment
Source: Primary Data (2024)

The Makassar City government conducted training on digital payment for MSME respondents in collaboration with state-owned houses. This training is in the form of digital financial management, including the use of digital payment applications. Most of the respondents who have participated in the training and implemented the use of digital *payment applications* include the use of the M-Banking application as many as 65 people, the use of QRIS 65 people, the use of the GoPay application 36 people, the use of the Ovo application 33 people, the use of the Dana application 28 people, and the use of the LinkAja application 18 people. MSME respondents widely use the M-Banking application for long-distance transactions outside Makassar. The GoPay and Linkaja applications are used to transact in the *marketplace*. QRIS, Ovo, and Dana are used to transact when there are events from the local government, such as Expos, Exhibitions, and MSME Camps. A small number of respondents, or as many as 37 people, still use the cash system to transact within the scope of the tourist corridor area.
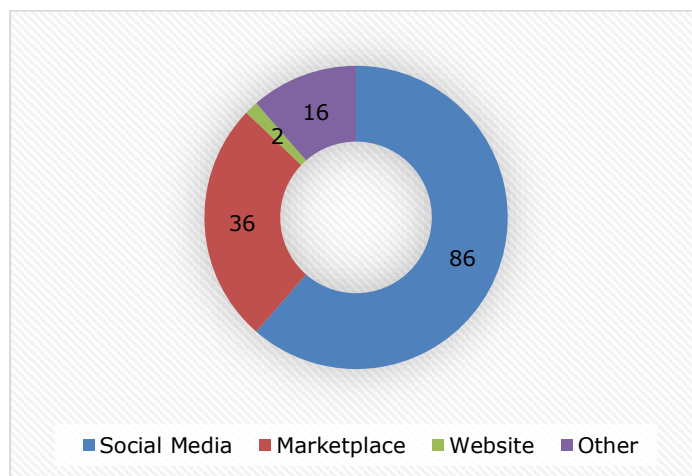

Figure 4. Digital Use of MSME Marketing
Source: Primary Data (2024)

Marketing digitalization training is conducted using a collaboration model between the Makassar city government through the Cooperatives and SMEs Office and the Makassar City Communication and Information Service with SOEs and several *e-commerce marketplaces*. Most of the respondents who took part in the digital marketing training used social media for marketing 86 people used the marketplace, around 36 people, and those who used the website two people. Digital marketing training starts from taking excellent and correct product images, then the application's editing process, determining marketing channels, managing attractive social media, and using marketplaces. Some respondents have not used *the market* because of difficulties in using *hardware* and *software*. A small number of respondents, or as many as 16 people, have not implemented digital marketing on social
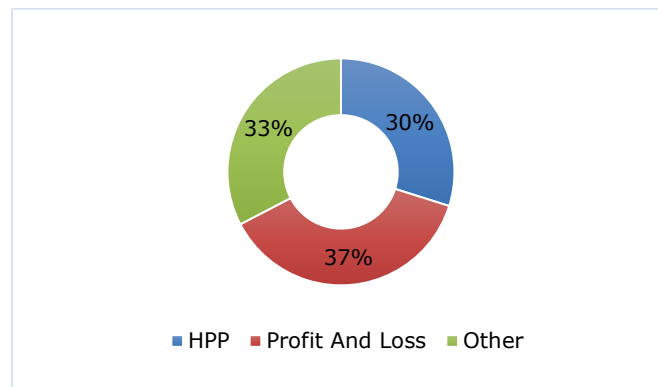
media or *marketplaces*.

Figure 5. MSME Financial Manager
Source: Primary Data (2024)

Financial management training for MSMEs conducted by the Makassar City government in collaboration with business registration startups. Financial management training in the form of income and expense management using applications. Respondents who participated in the training and used the application to calculate and make business profit and loss reports were 57 people or 37%. Then, the respondents who followed and used the application to calculate the HPP were 43 people (33%). Meanwhile, respondents who have not yet used the manual method in the form of manual bookkeeping to calculate HPP and make profit and loss statements are 47 people or 30%. Some obstacles are due to the unavailability of hardware, such as laptops, and difficulties in running smartphone application*s*.
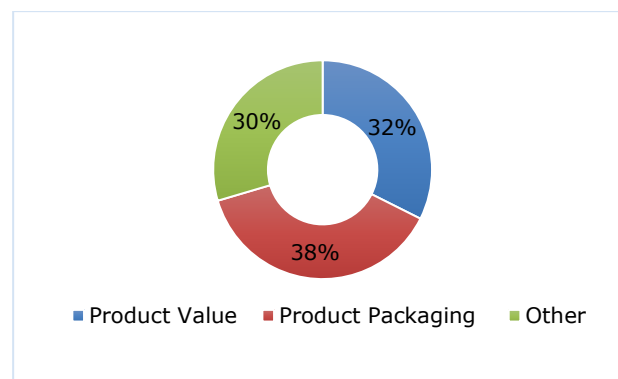

Figure 6. MSME Product Manager
Source: Primary Data (2024)

The government carries out product management training in collaboration with *e-commerce marketplaces*. Product management training is needed to determine the value or uniqueness of the product and attractive product packaging. Most respondents who participated in the training and implemented attractive product packaging were 54 people or 38%, and as many as 46 people determined the product value determination. Meanwhile, some respondents who have participated but have not implemented packaging and determination of product uniqueness are 42 people or 30%. The obstacles faced are limitations in hardware, such as laptops, and limitations in the use of editing applications.

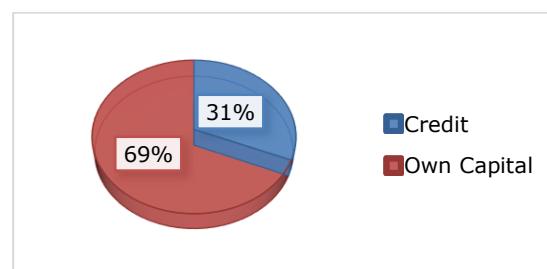Figure 7. Source of MSME Capital
Source: Primary data (2024)

Most respondents, or as many as 69% or 70, use their capital to develop their businesses. Meanwhile, of respondents who access business credit at banking and non-bank institutions, 31% or 32 people. Most respondents who have not accessed business credit try to avoid the risk of default if their business encounters obstacles at any time.
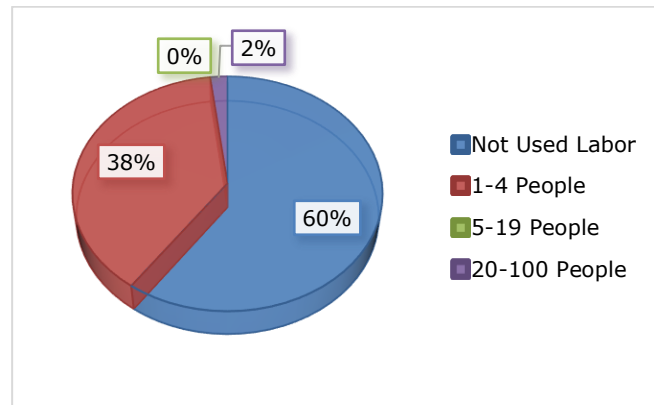
Figure 8. MSME Labor
Source: Primary Data (2024)

Local governments conduct HR training in collaboration with HR startups. The training was carried out as Jobdesk ordering, making KPIs and SOPs for employees. Respondents who use 1-4 people are 38%, and those who use 20-100 people are 2%. Respondents who use Labor in production activities have markets outside Makassar City spread across Central Sulawesi, West Sulawesi, and Papua. The high demand encourages respondents to use Labor to increase production capacity. In addition, the respondents employ around 20 workers because its business has several branches spread across Makassar City; of the respondents who do not or have not used Labor, 60%. Respondents who do not use Labor have limited production and only meet consumer demand within the scope of Makassar City and even specifically around their residences.
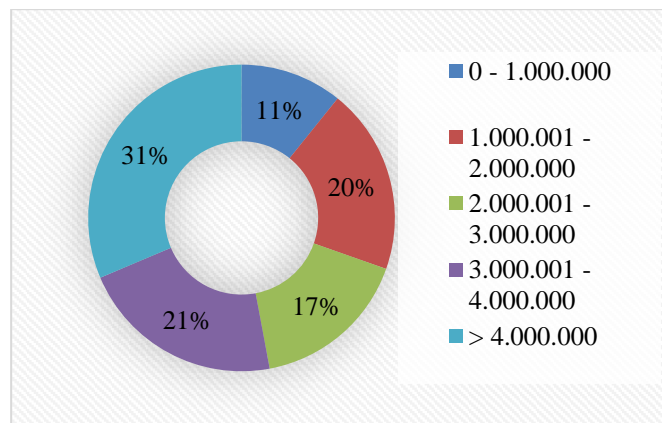

Figure 9. Expenditure Per Capita of MSMEs
Source: Primary Data (2024)

Respondents' per capita expenditure is obtained by dividing household expenditure by their net business income. The amount of per capita expenditure is highly determined by the net income of the business and the number of family members. Respondents who have a per capita expenditure between 0 to 1,000,000, as much as 11%; respondents who have a per capita expenditure between 1,000,001 to 2,000,000, as much as 20%; respondents who have per capita expenditure between 2,000,001 to 3,000,000 as much as 17%, respondents who have per capita expenditure between 3,000,001 to 4,000,000 as much as 21%, and respondents who have per capita expenditure between 4,000,000 and 31%.

Results of Descriptive Data Analysis

This study uses binary logistic regression analysis to determine whether the variables predicting training, business credit, and Labor can predict the likelihood of the poverty response variable. The results of the binary logistic regression analysis are presented in the following tables:

Table 1. Output Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	102	100.0
	Missing Cases	0	.0
	Total	102	100.0
Unselected Cases		0	.0
Total		102	100.0

Source: Primary Data Processing (2024)

Table 1 shows that the entire sample, which numbered 102, was dead and included in the analysis. Thus, there

52

are no missing or unobserved samples.

Table 2. Dependent Variable Encoding

Original Value	Internal Value
Expenditure Per Capita Below the Poverty Line	0
Expenditure Per Capita Above the Poverty Line	1

Source: Primary Data Processing (2024)

Table 2 shows the results of the input process used on the poverty response variables, namely, per capita expenditure below the poverty line code 0 and spending per capita above the poverty line code 1.

Table 3 shows the coding process used for the variables predictors of training, business credit, and Labor, as these variables are categorical. Code 1 indicates the categories of concern: participating in > 1 training, accessing business credit, and using Labor.

Table 3. Categorical Variables Codings

		Frequency	Parameter Coding (1)
Training	Participating in > 1 Training	69	1
	Other	33	0
Business Credit	Accessing Business Credit	32	1
	Other	70	0
Labor	Using Labor	40	1
	Other	62	0

Source: Primary Data Processing (2024)

Goodness of Fit Test Results

The *goodness of fit* test aims to see the resulting model according to the data. The hypothesis used in this test is H0: the model matches the data. The results of the model match test used are *the Hosmer and Lemeshow Test*, which can be seen in the following table.

Tabel 4. Hosmer and Lemeshow Test

Hosmer and Lemeshow Test			
Step	Chi-square	df	Sig.
1	4.362	4	.359

Source: Primary Data Processing (2024)

Table 4 shows the *Chi-square value* of 4,362 and value *sig.* 0.359 is greater than the α value *of* 0.05. This means that H0 fails to be rejected. Thus, the model follows the data; there is no difference between the observation and prediction results of the formed model. Therefore, the binary logistic regression model is feasible for the subsequent analysis stage.

Testing *the goodness of fit* in binary logistic regression analysis can also be done using a classification table. Table 5 shows that the *overall percentage* model in classifying observations is 85.3%. This means that out of 102 observations, there are 87 observations whose correct classification is expressed by the logistic regression model. The exact number of observations of its classification lies in the main diagonal.

Table 5. Classification Table

			Predicted		
			Poverty		
			Expenditure Per Capita Below the Poverty Line	Expenditure Per Capita Above the Poverty Line	Percentage Correct
	Observed				
Step 1	Poverty	Expenditure Per Capita Below the Poverty Line	26	10	72.2
		Expenditure Per Capita Above the Poverty Line	5	61	92.4
	Overall Percentage				85.3

Source: Primary Data Processing (2024)

Simultaneous Test Results

Simultaneous tests are used to determine the contribution of the predictor variables to the response variables. The hypothesis used is *H₀: $\beta_1 = \beta_2 = \beta_k = 0$,* dan *H₁: $\beta_k \neq 0; k = 1,2 \dots, k$* Simultaneous tests were carried out using *the likelihood ratio test*. The results of the simultaneous tests can be seen in the omnibus *tests of model*

coefficients table in the following table.

		Chi-square	df	Sig.
Step 1	Step	64.791	3	.000
	Block	64.791	3	.000
	Model	64.791	3	.000

Table 6. Omnibus Tests of Model Coefficients

Source: Primary Data Processing (2024)

Table 6 shows that the value of sig. A model of 0.000 is smaller than an α value of 0.05. This means that H0 is rejected; thus, at least one predictor variable affects the response variable.

Simultaneous testing can also use *a summary model* to see the contribution of predictor variables to response variables.

Table 7. Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	67.656ᵃ	.470	.647

Source: Primary Data Processing (2024)

Table 7 shows that the value of *Nagelkerke's R Square* is 0.647. This means that the ability of the variables predictors of training, business credit, and Labor to explain the variables of poverty response is 64.7%, and other variables outside the model explain the rest.

Partial Test Results

A partial test is used to determine the contribution of each predictor variable to the response variable. The hypothesis used is $H_0: \beta_i = 0, i = 1,2 \ldots k$, dan $H_1: \beta_i \neq 0, i = 1,2 \ldots k$. Partial tests are performed using *the Wald test*.

Table 8. Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
Step 1ᵃ	Training	2.851	.695	16.834	1	.000	17.309	4.433	67.576
	Business Credit	.996	.887	1.260	1	.262	2.707	.476	15.401
	Labor	2.199	.868	6.415	1	.011	9.015	1.644	49.429
	Constant	-1.946	.519	14.043	1	.000	.143		

Source: Primary Data Processing (2024)

Table 8 shows that the predictor variables that affect the response variables are training and workforce—the value of sig. The Wald test of the training variable is 0.000, smaller than the value of α 0.05. The value of sig. The Walde test of the labor variable is 0.011 less than the value of α 0.05; thus, H0 is rejected, which means both variables affect poverty alleviation—the value of sig. The variable Wald test of business credit is 0.262, more significant than the value of α 0.05; thus, H0 fails to be rejected, which means that business credit does not affect poverty alleviation. We can form a binary logistic regression model based on a predictor variable that affects the response variable:

$$\pi_i = \frac{\exp(\beta_0+\beta_1 x_1+\beta_3 x_3)}{1+\exp(\beta_0+\beta_1 x_1+\beta_3 x_3)} = \frac{e^{\beta_0+\beta_1 x_1+\beta_3 x_3}}{1+e^{\beta_0+\beta_1 x_1+\beta_3 x_3}} \tag{8}$$

$$\pi_i = \frac{\exp(-1{,}946+2{,}851 x_1+2{,}199 x_3)}{1+\exp(-1{,}946+2{,}851 x_1+2{,}199 x_3)} = \frac{e^{-1{,}946+2{,}851 x_1+2{,}199 x_3}}{1+e^{-1{,}946+2{,}851 x_1+2{,}199 x_3}}$$

The odds ratio value can be seen in the table of variables in the equation in the Exp(B) column. The value of the odds ratio of the training variable was 17.309, which means that MSME respondents who participated in more than one training had per capita expenditure above the poverty line 17 times greater than MSME respondents who only attended training once or did not participate in training at all. The odds ratio value of the labor variable is 9.015, meaning that MSME respondents who use Labor in their business have per capita expenditure above the poverty line, 9 times greater than MSME respondents who do not or have not used Labor.

DISCUSSION

The Influence of Training on Poverty Reduction

The results of binary logistic regression analysis show that training affects poverty alleviation. MSME respondents who take part in the training are proven to be able to increase their income and, in turn, will increase per capita

expenditure above the poverty line. The results of this study are in line with the hypothesis that training has an impact on poverty reduction. The training itself is an informal education that can improve the practical skills possessed by MSME actors. (Todaro, 2015) revealed that poverty reduction can be achieved by providing educational services as a strong foundation for long-term progress. Education contributes to poverty reduction through increasing the knowledge and skills possessed by a person so that it has an impact on increasing productivity and income that he has. The entrepreneurship training conducted shows a significant increase in revenue for MSMEs through improving skills and increasing motivation to face challenges in developing their businesses (Kwartawaty et al., 2023). Entrepreneurship education for MSMEs is essential in encouraging success for MSMEs and reducing poverty (Valle et al., 2022).

The Makassar City government initiated the MSME training through the Cooperative Office and the Makassar City Communication and Informatics Office in collaboration with various *stakeholders* such as startups, SOEs, and also *marketplaces* that play an essential role in increasing productivity and income for MSMEs. The integration and synergy of multiple elements of the MSME ecosystem are urgently needed to ensure the sustainable development of MSMEs in the future (Dhewanto et al., 2022; D. A. R. Widyastuti et al., 2023). One of the integrated training programs carried out by the local government is the existence of the MSME Center incubator. This forum carries a vision of improving the welfare and sustainability of business for every MSME in Makassar City. Each MSME that enters the incubator center is given training on product quality improvement, financial management, business and canvas models, human resource management, digital marketing, and customer service. According to (Huda & Rejito, 2020), the business incubator model is carried out through four stages: *preparation*, stages to carry out the strategic development process such as market needs, organizational design and governance, *staffing*, and network development. *Pre-incubation* is the stage to prepare prospective *female MSE tenants*, which consists of determining entry and exit criteria and the selection process. *Incubation*, this stage is a core part of the process and services provided to *tenants* by considering the digitalization needs of female MSEs. Some of the services offered introduce the environment, resources, and own networks and provide basic knowledge about digitalization, including administrative digitalization, marketing digitalization, financial digitalization, and service digitalization. *After the incubation*, the stages carried out after *female MSE* tenants *were declared graduated from the business incubator, which consisted of evaluating the performance of the* tenants *in running their businesses independently and fostering the alumni community to expand the network of both fellow alumni and between alumni and tenants* who are undergoing the incubation process.

The Influence of Labor on Poverty Reduction

Another variable that affects poverty alleviation is Labor. MSME respondents who use Labor in their business activities have been proven to be able to increase their income and, in turn, their per capita expenditure. This finding aligns with (Nursini, 2020), which reveals that the relationship between MSMEs and poverty alleviation can be analyzed through the economy, growth trends, and labor absorption. MSMEs can contribute to poverty alleviation through job openings. The relationship between Labor and poverty is very close and strong. At the macro level, poverty occurs due to the low level of labor productivity in producing output. This implies real wages from the acquisition of Labor. At the micro level, this is caused by the low productivity of a working household member, low human capital, and a significant burden of household dependents. Thus, if the workforce can produce high work productivity, they may experience wage increases, reducing poverty. (Marcus Garvey ORJI et al., 2022) revealed that MSMEs contribute to human resource development and are a strategy for poverty alleviation because they create jobs for the community and improve their living standards. In addition, MSMEs contribute to increasing the community's income level around their business.

Most of the MSME respondents in Makassar City who use Labor in production activities have markets outside Makassar City. The high demand encourages respondents to use Labor to increase production capacity. The recruited workforce empowers relatives and neighbors, especially women.

CONCLUSION

This study's findings are that the Makassar City government's efforts to strengthen MSMEs are carried out by providing integrated training in collaboration with state-owned banks, startups, and *marketplaces*. Training affects poverty alleviation; MSME respondents who take more than one training course have a more significant per capita expenditure above the poverty line than MSME respondents who only follow one type or do not take training. Labor affects poverty alleviation; MSME respondents who use Labor in their business have a more significant per capita expenditure above the poverty line than MSME respondents who do not or have not used it in their business. These findings indicate the critical role of local governments in strengthening MSMEs so that they are sustainable in the future. Therefore, it is expected to expand access for MSMEs to participate in every program, including the SME center incubator.

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