

LABOR OPTIMIZATION AND CAPITAL SUPPORT FOR INCREASING THE TURNOVER OF CASSAVA RENGGINANG HOME INDUSTRIES IN RUBARU DISTRICT, SUMENEP REGENCY

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Abstract

This study aims to analyze the effect of labor optimization and capital support on the turnover of cassava rengginang home industries in Rubaru District, Sumenep Regency. The study employed a quantitative approach using a time series method with secondary data collected from 2012–2024. The variables analyzed consisted of capital and labor as independent variables and turnover as the dependent variable. Data analysis was conducted using multiple linear regression supported by classical assumption tests. The findings indicate that capital has a positive and significant effect on turnover, with a regression coefficient of 4.68 and a probability value of 0.0000. Meanwhile, labor shows a significant negative effect on turnover, with a coefficient value of -3.68 and a probability value of 0.0460. Simultaneously, capital and labor contribute significantly to turnover improvement, with an R-squared value of 0.912, indicating that 91.2% of turnover variation can be explained by both variables. The results emphasize the importance of effective labor management, workforce productivity improvement, and adequate capital support in enhancing the performance and sustainability of cassava rengginang home industries in Rubaru District.

Keywords: Capital Support, Home Industry, Labor Optimization, Turnover, Workforce Productivity

1. INTRODUCTION

Home industries have become one of the important pillars in supporting regional economic growth, particularly in developing countries such as Indonesia (Hidayat et al., 2023). The existence of micro and small enterprises contributes significantly to employment creation, poverty reduction, and the improvement of community welfare. In rural areas, home industries not only function as income-generating activities but also serve as an economic resilience strategy for local communities. One of the home industries that continues to develop in several regions of Madura, especially in Rubaru District, Sumenep (Nurul Hidayat et al., 2025) Regency, is the cassava rengginang home industry. Cassava rengginang is a traditional food product made from cassava with distinctive local characteristics and relatively affordable prices, making it widely accepted by consumers from various social groups.

The development of cassava rengginang home industries in Rubaru District demonstrates the important role of small-scale businesses in empowering local economic potential. In addition to preserving traditional culinary products, this business sector also absorbs local labor and increases household income (Hidayat et al., 2025). The increasing market demand for traditional food products has encouraged business actors to improve production capacity and maintain product quality in order to remain competitive in the market. However, many home industry businesses still face various challenges related to capital limitations, production management, marketing expansion, and workforce productivity. These obstacles often affect the sustainability and turnover growth of the business (Hafidhah et al., 2023).

One of the main factors influencing business performance is capital support. Capital is an essential component in every business activity because it determines the ability of entrepreneurs to finance operational activities, purchase raw materials, improve production equipment, and expand business networks (Arifah et al., 2021). Adequate capital support allows business actors to increase production capacity and improve product quality. Previous research conducted by Putri et al. (2014) explained that business capital has a significant effect on business development and income improvement. Insufficient capital often causes production inefficiency, limited innovation, and low competitiveness in increasingly competitive markets. Therefore, strengthening capital support is considered an important strategy in improving the sustainability and turnover of home industries (Firdaus, Khalida, et al., 2025).

In addition to capital, labor is another important factor that determines the success of home industry businesses. From the perspective of Human Resource Management (HRM), labor is not merely viewed as a production input but also as a strategic asset that contributes to organizational productivity and performance (Nor, 2018). Effective workforce management can improve operational efficiency, product quality, and business competitiveness. Ega Dwi Maharani and Rizani (2023) stated that labor is a vital factor in the production process because it drives other production inputs to function optimally. Skilled and productive workers are able to complete production activities more efficiently and produce better-quality products that can increase consumer satisfaction and market demand.

The optimization of labor has become increasingly important in the home industry sector because business sustainability is highly dependent on workforce productivity and effectiveness. Workforce optimization can be achieved through several strategies, including skill improvement, work discipline enhancement, effective task distribution, and proper human resource management. In small-scale businesses such as cassava rengginang home industries, labor productivity greatly influences production outcomes and turnover achievement. Productive workers can improve production efficiency, minimize production errors, and support business growth sustainably (Awan & Sroufe, 2022).

However, increasing the number of workers does not always positively affect business turnover. In some cases, additional labor may reduce efficiency if it is not supported by adequate skills, experience, and workforce management. Ineffective workforce management can lead to lower productivity, operational inefficiency, and increased production costs. This condition indicates that labor quality is often more important than labor quantity in determining business performance (Firdaus, Hidayat, et al., 2025). Therefore, workforce optimization through appropriate Human Resource Management strategies is necessary to ensure that labor contributes positively to increasing turnover and business sustainability (Gerrit M. Pentury & Usmany, 2023).

The urgency of this study lies in the need to understand the relationship between labor optimization, capital support, and turnover improvement in the cassava rengginang home industry sector. Previous studies generally focused only on economic and production aspects, while research discussing the role of workforce optimization from the Human Resource Management perspective in home industries remains limited (Zulkarnain et al., 2025). Therefore, this study seeks to fill the gap by analyzing how labor optimization and capital support influence business turnover in cassava rengginang home industries in Rubaru District, Sumenep Regency.

This study aims to analyze the effect of labor optimization and capital support on increasing the turnover of cassava rengginang home industries in Rubaru District, Sumenep Regency. The findings of this study are expected to provide theoretical contributions to the development of Human Resource Management studies, particularly in the context of micro and small enterprises. Practically, this research is expected to provide insights and recommendations for business actors regarding effective workforce management and capital utilization strategies to improve productivity, competitiveness, and business sustainability.

2. RESEARCH METHOD

This study employed a quantitative research approach using a time series method to analyze the effect of labor optimization and capital support on the turnover of cassava rengginang home industries in Rubaru District, Sumenep Regency, during the 2012–2024 period. Quantitative research was selected because it is capable of measuring the relationship between variables objectively through statistical analysis (Sugiyono, 2022). The time series approach was considered appropriate because the study analyzed data changes and trends over a certain period to identify the influence of independent variables on turnover improvement.

The research was conducted in several cassava rengginang home industries located in Rubaru District, Sumenep Regency. The object of this study focused on the relationship between capital support, labor optimization, and turnover improvement in home industry businesses. The target respondents consisted of business owners and workers involved in the

production activities of cassava rengginang home industries (Mayer & Schoorman, 1998). The selection of respondents was carried out purposively by considering business actors who actively operated during the observation period and possessed complete production and financial information.

The study utilized two types of data sources, namely primary data and secondary data. Primary data were obtained directly from business owners through interviews and questionnaires regarding labor conditions, capital utilization, production activities, and turnover conditions (Ghozali, 2021). Meanwhile, secondary data were collected from annual financial reports, production reports, labor data, and supporting information obtained from related institutions such as the Department of Trade and local government reports in Sumenep Regency.

Data collection techniques in this study consisted of interviews, questionnaires, and documentation methods. Interviews were conducted to obtain in-depth information regarding labor management, capital utilization, and business constraints faced by entrepreneurs (Najiatun et al., 2025). Questionnaires were distributed to collect quantitative information related to labor conditions, workforce productivity, operational capital, and turnover achievement. Documentation techniques were used to collect supporting data, including production reports, financial records, and labor data related to cassava rengginang home industries.

The variables analyzed in this study consisted of independent and dependent variables. The independent variables included capital support ($X1$) and labor optimization ($X2$). Capital support referred to the amount of operational funds used by business actors for purchasing raw materials, improving production equipment, and supporting marketing activities. Labor optimization referred to workforce utilization, including the number of workers, work productivity, skills, and labor effectiveness in production activities. The dependent variable in this study was turnover improvement (Y), which referred to the total revenue earned from cassava rengginang sales within a certain period.

The data analysis technique used in this study was multiple linear regression analysis to determine the effect of independent variables on the dependent variable. The regression model used in this study can be formulated as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + e$$

Keterangan:

- Y = Peningkatan omzet (*turnover improvement*)
- α = Konstanta
- β_1, β_2 = Koefisien regresi
- X_1 = Dukungan modal (*capital support*)
- X_2 = Optimalisasi tenaga kerja (*labor optimization*)
- e = *Error term* atau variabel pengganggu

To ensure the validity of the regression model, classical assumption tests were conducted, including normality tests and heteroscedasticity tests. The normality test aimed to determine whether the residual data were normally distributed, while the heteroscedasticity test was used to identify whether variance inconsistencies occurred in the regression model. Data processing and statistical analysis in this study were conducted using EViews 10 software.

The results of this study are expected to provide empirical evidence regarding the importance of labor optimization and capital support in increasing the turnover of cassava rengginang home industries. Furthermore, the findings are expected to contribute to the development of Human Resource Management studies, particularly in the context of micro and small enterprises.

3. RESULTS AND DISCUSSION

3.1 Results

Multiple Linear Regression Analysis

The multiple linear regression analysis was conducted to examine the effect of capital support and labor optimization on the turnover improvement of cassava rengginang home industries in Rubaru District, Sumenep Regency. The regression analysis results are presented in Table 1.

Table 1. Multiple Linear Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Probability
Constant (C)	277.4085	1330.684	0.208471	0.8390
Capital Support (X_1)	4.679788	0.500359	9.352853	0.0000
Labor Optimization (X_2)	-3.676139	1.614040	-2.277601	0.0460

Source: Processed Data using EViews 10, 2026

Based on the regression analysis, the regression equation can be formulated as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + e$$

Description:

Y = Turnover improvement

α = Konstanta

β_1, β_2 = Regression coefficient

X_1 = Capital support

X_2 = labor optimization

e = Error term or disruptive variables

The regression results indicate that capital support has a positive and significant effect on turnover improvement. The regression coefficient value of 4.68 shows that every one-unit increase in capital support increases turnover by 4.68 units, assuming other variables

remain constant. The probability value of 0.0000 is smaller than the significance level of 0.05, indicating that capital support significantly affects turnover improvement.

Meanwhile, labor optimization shows a negative and significant effect on turnover improvement, with a regression coefficient value of -3.68 and a probability value of 0.0460. This finding indicates that an increase in labor quantity without proper workforce management and productivity improvement may reduce operational efficiency and negatively influence turnover.

The coefficient of determination (*R-square*) value of 0.911958 indicates that approximately 91.2% of the variation in turnover improvement can be explained by capital support and labor optimization variables, while the remaining 8.8% is influenced by other variables outside the research model. Furthermore, the F-statistic value of 51.79077 with a probability value of 0.000005 indicates that the regression model simultaneously has a significant effect on turnover improvement.

3.2 Classical Assumption Test

Descriptive Statistics Analysis

The descriptive statistics analysis was conducted to describe the characteristics of the research variables. The analysis results indicate that turnover improvement has a relatively high standard deviation, showing considerable variability in turnover during the observation period. Capital support data tend to be relatively stable, while labor optimization data indicate greater variation due to differences in workforce quantity and productivity among business actors.

The skewness value of the turnover variable shows a negative distribution pattern, while the capital support variable tends to be normally distributed. Meanwhile, labor optimization has a positive skewness value, indicating the presence of several dominant values and potential outliers in the data distribution.

Heteroscedasticity Test

The heteroscedasticity test was conducted using the Glejser test method. The test results are presented in Table 2.

Table 2. Heteroscedasticity Test Results

Indicator	Probability
Prob. F-statistic	0.3897
Prob. Chi-Square	0.3274
Prob. Scaled Explained SS	0.5021

Source: Processed Data using EViews 10, 2026

The results show that all probability values are greater than 0.05. Therefore, the regression model does not experience heteroscedasticity problems, indicating that the residual variance is constant and the regression model is considered reliable for further analysis.

Normality Test

The normality test was conducted using the Jarque-Bera test. The test results indicate a Jarque-Bera probability value of 0.685064, which is higher than the significance level of 0.05. Therefore, the residual data are normally distributed, indicating that the regression model fulfills the normality assumption.

The skewness value of -0.544263 indicates that the residual distribution slightly tends to the left but remains relatively symmetrical. Meanwhile, the kurtosis value of 2.539889 is close to the normal distribution value of 3, indicating that the residual distribution can be categorized as normal.

3.3 Discussion

The results of this study indicate that capital support has a positive and significant effect on the turnover improvement of cassava rengginang home industries in Rubaru District, Sumenep Regency. This finding is supported by the regression coefficient value of 4.68 with a probability value of 0.0000, which is smaller than the significance level of 0.05. Therefore, the null hypothesis stating that capital support has no effect on turnover improvement can be rejected. The positive coefficient indicates that every increase in capital support contributes directly to increasing business turnover. This result demonstrates that capital is one of the primary factors influencing the sustainability and development of home industry businesses (Hidayat, 2026).

Adequate capital support enables business owners to improve production capacity through the purchase of higher-quality raw materials, modernization of production equipment, and expansion of product marketing networks. In small-scale businesses such as cassava rengginang home industries, sufficient capital also supports operational stability and business continuity. Limited capital often becomes a major obstacle that restricts production volume, product innovation, and market competitiveness. Therefore, strengthening business capital becomes an important strategy for increasing productivity and business performance. These findings are in line with the research conducted by (Hidayat et al., 2025), which explained that business capital significantly affects business development and income growth. The findings of this study further reinforce the argument that financial capability is essential for improving operational effectiveness and increasing turnover in micro and small enterprises (Khas & Hidayat, 2025).

Besides capital support, labor optimization was also found to have a significant effect on turnover improvement. The regression analysis shows that labor optimization has a coefficient value of -3.68 with a probability value of 0.0460, indicating a statistically significant but negative relationship between labor and turnover improvement. This finding suggests that increasing the number of workers does not necessarily increase business

turnover (K et al., 2025). In some cases, the addition of labor without proper workforce management may reduce production efficiency and negatively affect business performance.

From the perspective of Human Resource Management (HRM), this condition indicates that workforce quality is more important than workforce quantity. The negative coefficient may reflect several workforce management problems, including low worker productivity, inadequate skills, lack of work discipline, ineffective task allocation, and limited training opportunities. In home industries, productive and skilled workers play an important role in maintaining product quality, accelerating production processes, and reducing operational inefficiencies. Therefore, workforce optimization should not only focus on increasing the number of employees but also on improving employee competencies, productivity, and work effectiveness (Hidayat, 2026).

The findings also indicate that ineffective labor management may lead to increased production costs and decreased operational efficiency. If additional workers are not supported by appropriate training and proper job distribution, the production process may become less efficient and reduce business profitability. Consequently, business actors need to implement more effective Human Resource Management strategies, including workforce training, performance evaluation, productivity improvement, and better coordination among workers. Human resource development programs can improve employee competencies and create a more productive work environment that supports business sustainability (Rahman et al., 2025).

Furthermore, the regression analysis results reveal that capital support and labor optimization simultaneously have a significant influence on turnover improvement. This is reflected in the coefficient of determination (*R-square*) value of 91.2%, which indicates that the combination of both variables can explain most of the variation in turnover improvement within cassava rengginang home industries. This finding demonstrates that turnover growth is strongly influenced by the interaction between financial capability and workforce management effectiveness (Yuni K et al., 2025).

The positive contribution of capital support combined with effective labor optimization can create operational synergy that enhances business productivity and competitiveness. Sufficient capital allows businesses to provide adequate production facilities and operational support, while effective workforce management ensures that production activities are carried out efficiently and productively. Therefore, both factors must be managed simultaneously to achieve sustainable business growth (Zakik et al., 2026).

The results of this study also provide practical implications for business actors and policymakers. Home industry entrepreneurs are encouraged to strengthen workforce management systems by improving employee skills, work discipline, and productivity through continuous training and development programs. In addition, business owners should optimize capital allocation to support production efficiency and business expansion. Meanwhile, local governments and related institutions are expected to provide support

programs such as capital assistance, entrepreneurship development, and workforce training programs to strengthen the competitiveness and sustainability of micro and small enterprises in rural areas.

4. CONCLUSION

Based on the results of this study, it can be concluded that capital support has a positive and significant effect on the turnover improvement of cassava rengginang home industries in Rubaru District, Sumenep Regency. Adequate capital enables business actors to improve production capacity, purchase quality raw materials, modernize production equipment, and expand marketing activities, thereby increasing business productivity and competitiveness. In addition, labor optimization also has a significant effect on turnover improvement, although the relationship is negative. This finding indicates that increasing the number of workers without proper workforce management, adequate skills, and productivity improvement may reduce operational efficiency and negatively affect business performance. Therefore, from the Human Resource Management perspective, workforce quality is considered more important than workforce quantity in supporting business sustainability and turnover growth.

Simultaneously, capital support and labor optimization significantly influence turnover improvement, indicating that business sustainability in the home industry sector is strongly affected by financial capability and effective workforce management. Adequate capital combined with productive and skilled labor can create operational synergy that improves business performance and market competitiveness. Therefore, business actors are encouraged to strengthen workforce management systems through training, productivity improvement, and effective task allocation, while also optimizing capital utilization for business development. Furthermore, local governments and related institutions are expected to support home industry sustainability through capital assistance programs, entrepreneurship development, and workforce training initiatives to improve the competitiveness of micro and small enterprises in rural areas.

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