



## Empowering Rural Economies: The Impact of MSME Development on Welfare in Binjeita Village, Indonesia

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### Abstract

This study investigates the influence of Micro, Small, and Medium Enterprise (MSME) development on community welfare in Binjeita Village, North Sulawesi, Indonesia, a rural area with 132 active MSMEs. The research addresses the gap between government support for MSMEs and actual welfare outcomes, aiming to empirically assess whether MSME performance translates into tangible improvements in income, education, and health. Using a quantitative, positivist approach and a simple causal design, data were collected from 33 randomly selected MSME actors. Instruments measuring MSME development and community welfare were validated and found to be highly reliable (Cronbach's alpha > 0.90). Descriptive and inferential statistics, including simple linear regression, were employed to test the hypothesis. Results indicate that MSME development is rated as "very good," particularly in the financial aspect, while community welfare also scored "very good," with education emerging as the strongest component. The regression analysis yielded a positive and statistically significant coefficient ( $b = 0.821$ ;  $t = 6.588$ ;  $p < 0.001$ ), confirming that improved MSME performance correlates with increased welfare. The model explains 58.3% of welfare variation, highlighting the substantial role of MSMEs in local development. These findings suggest that policies aiming to empower MSMEs—through finance, training, and market access—can effectively improve rural welfare. The study contributes to local development literature by offering empirical evidence of the MSME-welfare nexus in an under-researched Indonesian village context.

**Keywords:** MSME Development, Community Welfare, Rural Development, Income Generation, Education, Local Economy.

## Introduction

Community welfare remains a primary objective of national development agendas, especially in developing countries where disparities in income, access to education, and health care remain pressing concerns. In the context of Indonesia, community welfare is not only understood through the lens of material well-being but also as an integrated condition that encompasses economic, social, educational, and health dimensions (Todaro & Smith, 2006). A commonly adopted metric of community welfare includes indicators such as household income, educational attainment, access to health services, and employment levels. Within this framework, micro, small, and medium enterprises (MSMEs) are increasingly acknowledged as pivotal engines of inclusive economic growth, contributing substantially to employment absorption, poverty alleviation, and local economic resilience (Kementerian Koperasi dan UKM, n.d.).

The strategic importance of MSMEs in Indonesia is underscored by their macroeconomic footprint. Nationally, MSMEs contribute over 60% to Gross Domestic Product and employ more than 97% of the labour force, making them indispensable to both economic and social stability (Kementerian Koperasi dan UKM, n.d.). Beyond their economic roles, MSMEs also serve as cultural custodians by preserving and promoting local wisdom through handicrafts, traditional foods, and creative industries rooted in regional identity (Fadilah et al., 2021). In rural communities, particularly, MSMEs play a critical role in diversifying income sources, supporting self-reliance, and fostering community cohesion. As such, enhancing the performance and sustainability of MSMEs is often viewed as a direct means of improving the welfare of local populations, especially in underdeveloped or semi-urban regions.

Despite the implementation of numerous government programmes aimed at MSME empowerment including access to capital, entrepreneurial training, and digitalisation initiatives the translation of such interventions into tangible welfare improvements for communities remains unclear. In many rural areas, such as Binjeita Village in East Bolangitang District, North Sulawesi, MSME actors continue to face persistent challenges. These include limited working capital, insufficient market access, poor adoption of digital technologies, and low levels of formal education and managerial skills. Although 132 MSME units operate in the village across diverse sectors like trade, automotive repair, tailoring, carpentry, and food services, most of them are micro-enterprises with annual turnovers below IDR 50 million. This suggests a critical need to evaluate whether existing MSME activities in Binjeita substantively contribute to raising community welfare.

The problem that this research addresses is a widely observed yet under-evaluated phenomenon: the apparent gap between the strategic potential of MSMEs to drive development and their actual impact on household-level welfare outcomes. Government support exists, but many MSMEs remain stagnant, and welfare indicators among community members show only modest improvements. The

central research question emerges: To what extent does MSME development influence community welfare in Binjeita Village? The study aims to bridge this evaluative gap by empirically measuring the association between MSME development and community welfare, identifying barriers, and providing data-driven insights for policymakers.

Existing literature on MSME development has outlined broad solutions to enhance their economic contribution. Key strategies include improving access to capital, facilitating financial literacy, encouraging digital adoption, and fostering business incubation models (Widya Utari, 2024). Financial interventions have shown to directly increase enterprise capacity and expand product diversity, while digital marketing tools open new consumer markets and reduce reliance on physical outlets. Similarly, training programmes aimed at improving business administration and marketing strategies have been effective in enhancing competitiveness and resilience, especially in post-pandemic recovery contexts (Riniati et al., 2023).

In addition to these general solutions, targeted interventions at the community level have proven beneficial in specific case studies. For instance, funding support in Pintadia Village was found to significantly influence community welfare, with each one-unit increase in funding correlating with a 0.478-unit increase in welfare scores (Bilale et al., 2023). In Alok District, MSME development was linked to improved access to food, education, and health care, as well as job creation (Wisang et al., 2023). In Pasuruan, enterprise growth across diverse sectors enhanced household income and entrepreneurial capabilities, demonstrating that MSMEs can function as agents of upward mobility (Ariska Dwicahyani Haryani, 2022).

A range of empirical studies thus supports the notion that MSME development can significantly impact community welfare, especially when interventions are context-sensitive and inclusive. However, these studies also reveal a common limitation: the tendency to generalise findings across varied socio-economic settings without considering unique local conditions. Few studies have systematically analysed the causal relationship between MSME development and welfare in remote or underserved areas like Binjeita Village. This omission represents a critical research gap, particularly given that these areas often exhibit distinct economic structures, resource limitations, and cultural dynamics.

In addressing this gap, the present study draws from welfare theory and empirical development models that posit welfare as a multidimensional outcome influenced by economic, social, and institutional factors. Welfare indicators such as income, education, and health are adopted as the dependent variable, while MSME development encompassing financial performance, production capacity, marketing reach, and human resource capabilities serves as the independent variable. The study employs a quantitative approach using validated and reliable instruments to capture the perceptions of 33 MSME actors selected via simple random sampling from the village's 132 active units. Data analysis utilises a simple linear regression

model to test the hypothesis that MSME development has a positive and statistically significant effect on community welfare.

The aim of this study is twofold: first, to empirically test the extent to which MSME development influences community welfare in Binjeita Village; and second, to provide contextually relevant insights that can inform policy and programme design at the local and national levels. By situating the research within a rural Indonesian setting, the study offers novel contributions to the discourse on local economic development, highlighting the mechanisms through which MSMEs can serve as levers of welfare improvement. The hypothesis posits a positive and significant correlation between MSME performance and household welfare outcomes. The findings are expected to extend the current understanding of MSME efficacy and offer actionable recommendations for stakeholders involved in rural development planning, entrepreneurship education, and community-based economic interventions.

## **Methodology**

This study used a quantitative, positivist approach to evaluate the influence of MSME development on community welfare in Binjeita Village, North Sulawesi. The research, conducted over four months in early 2025, employed a simple causal design and surveyed 33 randomly selected MSME actors from a total of 132. Data collection combined direct observation, structured questionnaires, interviews, and secondary documentation to capture enterprise performance and welfare conditions.

MSME development (X) and community welfare (Y) were measured using validated and reliable instruments. All 20 items for each variable met content validity thresholds ( $r > 0.514$ ), with Cronbach's alpha values of 0.920 and 0.937, respectively. Variables were defined according to Indonesian Law No. 20 of 2008 and national welfare standards (BPS, 2007).

Data analysis was conducted using IBM SPSS. Descriptive statistics assessed the distribution of responses, while the Kolmogorov–Smirnov test confirmed the normality of residuals. The regression model  $\hat{Y} = 13.369 + 0.821X$  showed a strong, positive, and statistically significant relationship between MSME development and welfare ( $t = 6.588$ ,  $p < 0.001$ ), with  $R^2 = 0.583$ . The results indicate that MSMEs significantly enhance income, education, and health in rural households. Remaining variance (41.7%) suggests other influencing factors, such as household demographics and external support, merit further study.

## **RESULTS**

### **Instrument Testing**

Prior to hypothesis testing, the study evaluated the measurement quality of the research instrument to ensure that the indicators of MSME development (X) and community welfare (Y) were both valid and reliable. In quantitative research, instruments must demonstrate validity and reliability so that the resulting statistical inferences are trustworthy (Sugiyono, 2015). A pilot test was conducted with 15 MSME respondents who possessed similar characteristics to the main sample. For each variable, 20 items were tested using Pearson product moment correlations at a 5 percent significance level. With degrees of freedom  $df = 13$ , the critical value from the r-table was 0.514, and any item with r-count greater than this threshold was considered valid (Sugiyono, 2017). For the MSME development scale, item-total correlation coefficients ranged from 0.547 to 0.854, all exceeding the required benchmark. Similarly, for the community welfare scale, coefficients ranged from 0.534 to 0.873, indicating that all 20 items for Y also met the validity criterion. These results confirm that each item was a meaningful indicator of its respective construct.

Reliability was examined using Cronbach's alpha, a standard measure of internal consistency, where alpha values above 0.60 indicate acceptable reliability, above 0.70 indicate high reliability, and above 0.90 represent very strong consistency (Payadnya & Gutsi, 2018; Sugiyono, 2017). The MSME development instrument produced  $\alpha = 0.920$ , while the community welfare instrument produced  $\alpha = 0.937$ . These values demonstrate very high reliability, meaning that respondents interpreted items consistently and that the instrument was stable for capturing perceptions of MSME development and welfare in Binjeita Village.

### **Descriptive Scaling and Categorisation**

Descriptive interpretation of survey responses followed the Likert-scale procedure commonly used in social science research to capture degrees of agreement or perceived condition (Sugiyono, 2015). Respondents rated each statement from 1 (strongly disagree) to 5 (strongly agree). To interpret mean scores meaningfully, the class interval width was calculated using the formula (maximum score – minimum score) divided by the number of categories, which yields  $(5 - 1)/5 = 0.80$  (Sudjana, 2016). This procedure produced five interpretive categories: 1.00–1.80 (not good), 1.81–2.60 (less good), 2.61–3.40 (fairly good), 3.41–4.20 (good), and 4.21–5.00 (very good). These ranges were used throughout the results to contextualise average indicator scores for both variables. The categorisation system helped translate numerical patterns into welfare-and development-relevant meanings, consistent with the multidimensional welfare framework emphasising income, education, and health (Fahrudin, 2014; Todaro & Smith, 2006).

### **Descriptive Results for MSME Development (X)**

The descriptive analysis indicates that MSME development in Binjeita Village is perceived positively across all measured dimensions. MSME development was operationalised through financial, production, marketing, human resources, and community-welfare-related business outcomes, reflecting the multidimensional performance framework proposed in prior studies (Daniyati et al., 2023). Overall, the composite mean for the MSME development variable was 4.22, which falls within the “very good” category. This suggests that respondents generally perceive their enterprises as stable and improving, even though the village context is dominated by micro-scale businesses.

The financial dimension, represented by five items, recorded the strongest results. Item means ranged between 4.33 and 4.75, with a financial aspect average of 4.50 (“very good”). This implies that most MSME actors reported adequate capital circulation, relatively effective cash management, and acceptable profitability. In a development perspective, improved financial capacity is fundamental to small-enterprise vitality because it enables inventory acquisition, operational continuity, and gradual expansion (Widya Utari, 2024). These findings resonate with the theoretical view that access to resources and financial management are early drivers of enterprise resilience and welfare contribution.

The production dimension was captured by a single item assessing production capacity and readiness to meet demand. The mean score was 4.17, categorised as “good.” While still positive, this dimension scored slightly lower than finance, indicating that some MSMEs may face constraints in technology, equipment, supplier reliability, or scale. This gap is consistent with observations that micro enterprises in rural areas often rely on limited tools and household-level production methods, which can restrict output growth despite adequate working capital.

Marketing performance was assessed through five items related to pricing, promotion, distribution, and customer reach. Each marketing item recorded a mean of 4.00, producing a marketing aspect average of 4.00 (“good”). This indicates that respondents viewed their marketing activities as generally effective but not yet maximally competitive. Within the MSME literature, marketing remains a key lever for growth because expanded market access increases sales volume and profitability, reinforcing the enterprise-to-welfare pathway (Prasetyo, 2008; Al Farisi et al., 2022). The “good” rather than “very good” result suggests that marketing remains an area with room for improvement, particularly in digital adoption and penetration beyond local markets.

The human resource dimension, also evaluated through five items, similarly produced item means of 4.00 and an average of 4.00 (“good”). These items described skills, experience, work discipline, task division, and managerial capability. The results suggest that MSME owners and workers believe their competencies are adequate for current operational needs, yet further capacity building could support more innovation and strategic scaling. This aligns with evidence that entrepreneurship training and empowerment are associated with higher enterprise performance and welfare outcomes (Riniati et al., 2023).

Finally, items reflecting MSME contributions to community welfare within the enterprise variable scored means between 4.00 and 4.61, yielding a “good” average. The presence of this subdimension is conceptually grounded in the idea that MSMEs not only generate income but also shape social welfare through employment creation and local economic circulation (Daniyati et al., 2023; Widya Utari, 2024). In short, the descriptive profile shows a strong MSME development condition in Binjeita, with finance as the most prominent strength and production, marketing, and human resources as solid yet improvable domains.

Complementing the Likert-based interpretation, the composite descriptive statistics for MSME development further confirmed score concentration in the high range. With  $N = 33$ , the mean composite score was 89.06, the median was 89, and the mode was 97. The minimum observed score was 79 and the maximum was 100, with a standard deviation of 6.656. These values indicate relatively low dispersion and suggest that most respondents perceived MSME development at similarly high levels.

### **Descriptive Results for Community Welfare (Y)**

Community welfare, as defined by the national statistical framework, reflects the extent to which households fulfil physical and spiritual needs according to prevailing living standards (Badan Pusat Statistik, 2007). The welfare variable was operationalised through three indicators: income, education, and health quality, consistent with development theory that treats these dimensions as core welfare signals (Todaro & Smith, 2006; Fahrudin, 2014). The overall composite mean for welfare was 4.32, categorised as “very good,” indicating that respondents perceived meaningful improvements in their household living conditions.

The income dimension, measured through seven items, recorded means ranging from 4.12 to 4.42, with an average of 4.32 (“very good”). This indicates that MSME actors generally felt their enterprise participation had strengthened household earnings and purchasing power. Such a result is in line with the welfare mechanism described in MSME theory, where small businesses absorb labour, raise family income, and reduce vulnerability by diversifying livelihood sources (Prasetyo, 2008; Al Farisi et al., 2022).

The education dimension was the strongest of the three welfare indicators. Seven education-related items ranged from 4.27 to 4.45, producing an average of 4.36 (“very good”). Respondents indicated that increased enterprise income facilitated tuition payment, school access, and educational investment for children. These patterns correspond to welfare literature suggesting that as household income improves, families allocate more resources to education, reinforcing long-term human capital and upward mobility (Fahrudin, 2014).

Health quality, measured through six items, obtained means between 4.06 and 4.52, with an average of 4.28 (“very good”). This suggests that respondents perceived improved capacity to access health services and maintain healthier family

conditions. In welfare theory, health and education jointly articulate non-material welfare advances that accompany economic gains (Todaro & Smith, 2006). The strong health scores support the argument that MSME-driven income enhancement translates into broader quality-of-life improvements.

Composite descriptive statistics for welfare further validate the high overall evaluation. With  $N = 33$ , the mean welfare score was 86.48, the median was 86, and the mode was 80. The minimum observed score was 75 and the maximum 100, with a standard deviation of 7.155. The relatively modest dispersion indicates that welfare perceptions across MSME actors were generally consistent and clustered in the high category.

### **Normality Testing**

Before estimating and interpreting regression coefficients, the study tested the normality assumption of regression residuals. Normal distribution of residuals is a central prerequisite for parametric inference in linear regression (Sugiyono, 2017). The Kolmogorov–Smirnov one-sample test was applied to residuals derived from the preliminary regression model, using  $N = 33$ . The residual mean was approximately 0.0000000 with a standard deviation of 4.6186. The Kolmogorov–Smirnov statistic was 0.115, and the Asymp. Sig. (two-tailed) value reached 0.200. Since this probability exceeded  $\alpha = 0.05$ , residuals were concluded to be normally distributed. Thus, the data satisfied the normality requirement and supported the use of simple linear regression to test the causal hypothesis.

### **Regression Results**

The primary inferential analysis employed simple linear regression to model the effect of MSME development on community welfare, following the form  $\hat{Y} = a + bX$  (Sugiyono, 2017). The estimated regression equation was  $\hat{Y} = 13.369 + 0.821X$ . The constant  $a = 13.369$  represents the predicted welfare score when MSME development is hypothetically zero, functioning as a baseline intercept for the model. The slope  $b = 0.821$  indicates that for every one-unit increase in MSME development, community welfare is predicted to increase by 0.821 units. The coefficient is positive, demonstrating that higher enterprise performance is associated with higher household welfare outcomes.

This result is substantively consistent with the conceptual pathway in which finance, production, marketing, and human resource improvements expand enterprise output and profitability, thereby raising income, strengthening purchasing power, and facilitating investments in education and health (Daniyati et al., 2023; Prasetyo, 2008). In other words, the regression line supports the proposition that MSME development functions as a significant driver of multidimensional welfare in Binjeita Village.



### Hypothesis Testing (t-test)

Hypothesis testing was conducted using a t-test on the regression coefficient to evaluate whether the observed association was statistically significant. With  $n = 33$  observations and  $k = 2$  parameters (intercept and slope), the degrees of freedom were  $df = n - k = 31$ . At a 5 percent significance level, the critical t-table value for a two-tailed test was 1.696. The regression coefficient for MSME development yielded  $t\text{-count} = 6.588$  and a significance probability  $p = 0.000$ . Because  $t\text{-count}$  far exceeded  $t\text{-table}$  and  $p$  was below 0.05, the null hypothesis ( $H_0$ ) stating that MSME development does not affect welfare was rejected. The alternative hypothesis ( $H_1$ ) was accepted, confirming a positive and statistically significant influence of MSME development on community welfare.

The magnitude and significance of this t-test are aligned with previous empirical findings in other Indonesian contexts. Studies in Jember and Pasuruan, for example, reported that MSME empowerment and micro-enterprise growth significantly improved entrepreneurial welfare and community living standards (Riniati et al., 2023; Ariska Dwicahyani Haryani, 2022). The Binjeita result reinforces these patterns and extends them to a rural North Sulawesi setting.

#### 3.8 Coefficient of Determination

To assess explanatory strength, the study examined the coefficient of determination. The model summary produced a correlation coefficient  $R = 0.764$ , indicating a strong positive relationship between MSME development and community welfare. The R Square value was 0.583, while the Adjusted R Square was 0.570, and the standard error of estimate was 4.693. The R Square of 0.583 implies that 58.3 percent of the variance in welfare scores among Binjeita respondents is explained by variation in MSME development. This represents substantive explanatory power for a single-predictor rural welfare model.

At the same time, 41.7 percent of welfare variation remains attributable to other factors not captured in this regression. Welfare scholarship emphasises that household welfare is shaped by both internal determinants such as family size, asset ownership, education level, and occupational diversity, and external determinants including access to finance, government programmes, and local infrastructure (Iskandar, 2015). Therefore, while MSME development is confirmed as a major contributor, welfare is also shaped by broader socio-economic conditions that warrant attention in policy and future research.

### Summary of Empirical Findings

Taken together, the empirical results provide a coherent narrative in support of the study's hypothesis. The instruments used were demonstrated to be valid and highly reliable, ensuring strong measurement quality. Descriptive findings show that MSME development in Binjeita is generally very good, with financial

performance emerging as a key strength and production, marketing, and human resources evaluated as good and supportive of ongoing enterprise stability. Community welfare perceptions were likewise very good, especially in education, followed by income and health, reflecting multidimensional welfare improvements consistent with development theory (Todaro & Smith, 2006; Fahrudin, 2014).

Assumption testing confirmed that regression residuals were normally distributed, legitimising subsequent parametric inference. The regression model yielded a positive slope of 0.821, indicating a meaningful welfare gain associated with enterprise development. Hypothesis testing using the t-statistic established that this relationship is statistically significant at the 5 percent level. The coefficient of determination further showed that MSME development explains over half of observed welfare variation, highlighting MSMEs as a central lever for rural welfare advancement.

Overall, these results substantiate the argument that strengthening MSME performance across financial, production, marketing and human resource dimensions contributes directly to higher household welfare through increased income, expanded educational opportunities, and improved health access. The empirical patterns align with previous studies demonstrating welfare-enhancing effects of MSMEs across Indonesian regions (Bilale et al., 2023; Wisang et al., 2023; Riniati et al., 2023), while also illustrating the specific magnitude and character of these effects within the Binjeita Village context.

## **DISCUSSION**

### **Overview of the Study**

This study set out to examine whether MSME development influences community welfare in Binjeita Village, a rural community in North Sulawesi where micro-scale enterprises constitute a key livelihood source. Using a quantitative, positivist design and simple linear regression, the research tested a single causal pathway from MSME development (X) to community welfare (Y), consistent with established methodological guidance on causal modelling in quantitative social research (Sugiyono, 2019; Sugiyono, 2017). The findings provide empirical confirmation of the hypothesis that MSME development has a positive and statistically significant effect on welfare, reinforcing the idea that productive local enterprises can be a strategic lever of rural development.

### **Sample Profile and Variable Construction**

The sampling strategy ensured that the analysis reflected the internal structure of Binjeita's MSME economy. From a village population of 132 MSMEs, 33 respondents were selected through simple random sampling, a technique that grants equal selection probability for all population units and supports unbiased estimation (Sugiyono, 2017). The proportional distribution across Binjeita Induk,

Binjeita I, and Binjeita II provided representativeness for variations in sectoral activity and settlement location. Variables were operationalised using widely accepted frameworks: MSME development was measured through finance, production, marketing, human resources, and MSME-linked welfare contributions, while community welfare was built from income, education, and health dimensions (Daniyati et al., 2023; Fahrudin, 2014). The strong validity and reliability of both instruments indicate that the constructs were measured consistently and appropriately for the Binjeita context (Payadnya & Gutsi, 2018; Sugiyono, 2017).

### **Descriptive Interpretation of MSME Development (X)**

Descriptively, MSME development in Binjeita was assessed as “very good” overall. This result is notable given that most enterprises are micro-scale with low annual turnover, suggesting that perceptions of development may be shaped by incremental improvements in stability rather than rapid expansion. The financial dimension was the most prominent strength, aligning with literature emphasising finance as a foundational pillar of MSME performance and resilience (Daniyati et al., 2023; Widya Utari, 2024). Adequate working capital and improved cash management allow enterprises to maintain inventories, absorb shocks, and gradually expand productive activity. However, production, marketing, and human resource indicators remained in the “good” category rather than “very good,” implying that financial adequacy has not been fully converted into higher productivity or diversified market reach. This pattern is consistent with rural MSME challenges where capital access may improve faster than technological upgrading, skills accumulation, or digital market penetration.

### **Descriptive Interpretation of Community Welfare (Y)**

Community welfare was likewise perceived as “very good,” with education emerging as the strongest welfare indicator, followed closely by income and health. This ordering resonates with welfare theory that conceptualises welfare as multidimensional and mutually reinforcing across economic and social domains (Todaro & Smith, 2006; Fahrudin, 2014). In Binjeita, improved enterprise income appears to enable households to prioritise school participation, tuition payments, and investment in children’s education, which signals not just short-term consumption gains but long-term capability building. The strong health results reflect the welfare pathway described by Prasetyo (2008) and Al Farisi et al. (2022), where higher household income strengthens purchasing power and access to services, including healthcare. The convergence of high income, education, and health scores indicates that MSMEs contribute to welfare through both material and non-material improvements.

### **Normality Assumption and Model Adequacy**

The Kolmogorov–Smirnov test confirmed that regression residuals were normally distributed, enabling valid parametric inference (Sugiyono, 2017). This supports the overall adequacy of the regression model, suggesting that the estimated effect of MSME development on welfare is not distorted by major distributional violations. In a rural, microenterprise-dominated population, normality is not always guaranteed due to heterogeneity in business scale and household conditions. Therefore, meeting this assumption strengthens confidence that the observed relationship is not an artefact of outliers or non-linear residual patterns.

### **Regression Relationship Between MSMEs and Welfare**

The regression equation  $\hat{Y} = 13.369 + 0.821X$  indicates a strong positive welfare gain associated with improvement in MSME development. The positive coefficient supports the theoretical argument that better MSME performance increases output, sales, and employment, thereby raising household income and enabling broader welfare gains (Daniyati et al., 2023; Prasetyo, 2008). The magnitude of the coefficient in Binjeita is larger than those reported in some other village contexts, suggesting that incremental improvements in small-scale enterprises may have particularly strong marginal welfare effects where alternative income sources are scarce. In practical terms, any enhancement in MSME finance, production, marketing, or human resource capability likely translates into visible changes in daily living standards.

### **Hypothesis Testing and Statistical Significance**

The t-test confirmed that the MSME development coefficient is statistically significant ( $t = 6.588$ ,  $p < 0.001$ ), leading to rejection of the null hypothesis and acceptance of the alternative hypothesis. This finding parallels prior empirical studies in Indonesia showing positive MSME–welfare linkages. Riniati et al. (2023) demonstrated that empowerment and performance significantly raise welfare among women MSME actors in Jember, while Ariska Dwicahyani Haryani (2022) found that microenterprise growth improves income and entrepreneurial experience in Pasuruan. The Binjeita evidence reinforces these regional results and extends them to a North Sulawesi setting, supporting claims that MSME development is broadly welfare-enhancing across diverse Indonesian socio-economic contexts.

### **Coefficient of Determination and Other Influences**

The coefficient of determination ( $R^2 = 0.583$ ) indicates that MSME development explains 58.3% of welfare variation, a substantial value for a single-predictor rural welfare model. This confirms MSMEs as a dominant welfare driver in Binjeita. Yet, the remaining 41.7% highlights the importance of other welfare

determinants, consistent with Iskandar's (2015) framework that welfare is shaped by internal household resources (education, assets, family size, occupational diversity) and external supports (government assistance, access to finance, and spatial location). In Binjeita, such factors could include remittances, agricultural side income, infrastructure quality, or differential access to public services. The model therefore captures a core pathway but not the full welfare ecology, suggesting the need for multi-variable extensions in future research.

### **Interpretation of MSME Development Dimensions**

Interpretation of the indicator pattern suggests that finance acts as the entry point of MSME development, while production, marketing, and human resources operate as conversion mechanisms that translate capital into sustained welfare impact. Financial capacity supports inventory and operational stability, which is essential for income generation and job creation (Widya Utari, 2024). Production adequacy determines whether enterprises can meet market demand and compete on quality, a requirement for maintaining revenue streams. Marketing performance broadens market reach and stabilises sales, reinforcing welfare through higher profits and employment (Al Farisi et al., 2022). Human resource capability underpins innovation, responsiveness, and administrative efficiency, which are necessary for MSME sustainability (Daniyati et al., 2023). The finding that these latter dimensions remain only "good" implies a bottleneck: welfare gains may be increased further if capital is coupled with skill upgrading and marketing digitalisation.

### **Alignment with Theory and Previous Studies**

Overall, the Binjeita findings align closely with welfare and MSME development theories. Welfare theory predicts that improved income distribution, education access, and health quality together signify higher living standards (Fahrudin, 2014; Todaro & Smith, 2006). The empirical results demonstrate that MSME development contributes to all three dimensions simultaneously, validating the multidimensional welfare mechanism. The results also corroborate earlier village-level studies. Bilale et al. (2023) documented the positive welfare effects of MSME funding support in Pintadia Village, while Wisang et al. (2023) showed MSME contributions to welfare through job creation and income increases in Alok District. The stronger explanatory contribution in Binjeita suggests that in communities where MSMEs serve as the economic backbone, enterprise development can yield particularly pronounced welfare outcomes.

In sum, the discussion highlights that MSME development in Binjeita is not merely a local economic feature but a statistically verified welfare determinant. The study provides evidence that strengthening enterprises across financial, production,

marketing, and human resource domains can accelerate welfare improvement in rural Indonesia. At the same time, the partial explanatory nature of the model points to complementary policy needs in education, infrastructure, and public services to sustain a broader welfare ecosystem.

## Conclusion

This study concludes that Micro, Small, and Medium Enterprise (MSME) development in Binjeita Village has a statistically significant and positive impact on community welfare. The empirical evidence reveals that MSME development—particularly in finance, production, marketing, and human resource dimensions—has supported improvements in household income, educational attainment, and health conditions. The strongest contributions were found in the financial and educational dimensions, while production and marketing remained effective yet improvable. The study also confirms that 58.3% of the variation in welfare levels can be attributed to MSME development, establishing these enterprises as a central mechanism for enhancing rural well-being.

The findings contribute meaningfully to the body of knowledge on local economic development and multidimensional welfare. Unlike generalised national analyses, this research provides a granular, village-level understanding of how enterprise performance affects household-level welfare indicators. This offers strong implications for policymakers, educators, and development practitioners to prioritise MSME strengthening as a welfare-improvement strategy, especially in rural contexts. Furthermore, the study validates the application of simple linear regression in modeling welfare outcomes and confirms the reliability of quantitative measurements using validated scales.

However, the remaining 41.7% of welfare variation unexplained by MSME development suggests the need for future research to incorporate other potential predictors such as access to infrastructure, family demographics, or external support mechanisms. Overall, enhancing MSME capabilities—when paired with complementary public services—offers a sustainable pathway for poverty alleviation and equitable development.

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