



## Entrepreneurship Education and Its Impact on Microenterprise Growth: Evidence from Rural Areas in South Sulawesi

Jessica Felicia<sup>1</sup>

<sup>1</sup>Fakultas Bisnis dan Keuangan, Institut Bisnis dan Keuangan (IBK) Nitro

\*Corresponding Author: Jessica Felicia

E-mail: [jessflccrr@gmail.com](mailto:jessflccrr@gmail.com)

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### Abstract

Entrepreneur education has been widely advanced as a tool in generating growth of microenterprises; however, its applicability in rural environment is controversial. The current research problem is the influence of entrepreneurship education on the performance of microenterprise in the rural South Sulawesi region, Indonesia. Using a mixed-method, the study incorporated survey data in the form of a mixed research study with focus group discussions to assess the transformation of business practices, sales performance, and market expansion. The results show that entrepreneurship education positively determines the financial management, digital marketing adoption, and customer engagement, which create quantifiable improvements in sales and effective operations. On the other hand, the impacts on employment creation and product diversification seem to be less significant, which indicates that education by itself cannot completely address structural limitations including insufficient access to finance, poor infrastructure, and digital differences. The findings highlight the significance of situating training material and aligning education with development policies in general. The paper finds that entrepreneurship education may act as a driving force in the development of microenterprises, but its effectiveness depends on the presence of favorable ecosystems and program models that address the unique needs of rural entrepreneurs.

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## INTRODUCTION

In most developing economies such as Indonesia, microenterprises form the foundation of the rural economies. They support low-income families, create self-employment, and help reduce poverty in places where formal labor markets are immature. However, in spite of their socio-economic importance, the rural microenterprises are often unable to grow sustainably due to the structural limitations of poor financial accessibility, poor infrastructure, and informal practices (Onyekwelu et al., 2023; Endris & Kassegn, 2022). Researchers are also inclined to state that such an alternative as the development of entrepreneurial skills via education is a strong factor that makes the difference between a microenterprise that

can transform its subsistence-oriented survival into active growth (Fayolle & Gailly, 2015; Rawlinson et al., 2000).

As a general form of the education process, the process of the development of entrepreneurial knowledge, skills, and mindsets in a systematized way based on the knowledge, entrepreneurship education became a leading factor in the development of local enterprises (Secundo et al., 2015; Ndou, 2021; Mathushan, 2020). It is not limited to the delivery of technical knowledge of business; it is about the construction of cognitive structures and behavioural orientations, which help business starters to see opportunities, make calculated risk and innovation. Such difference is especially pronounced in the rural areas like South Sulawesi where many microenterprises are run by family members, are informal, and strongly dependent on traditional modes. Without a systematic introduction to entrepreneurial education, the result of such businesses is stagnation in that they remain in local markets and are unable to adapt to the changing economic environment.

The microenterprise growth, however, does not make a linear relationship with entrepreneurship education (Indarti, 2021; Martin & Alejandro, 2016; Thapa, 2015). The critics warn against assuming that education and entrepreneurial success relate in a linear or automatic manner (Martin & Alejandro, 2016). Certain works in third world settings demonstrate that generic training programs do not necessarily lead to any tangible effects since they do not take into account the specifics of rural business, i.e. low literacy rates, strong cultural beliefs, and resource insufficiency. Further, the educational programs are often focused more on theoretical aspects rather than on hands-on, context-based applications, therefore, reducing their applicability to the local business activities. It, therefore, follows that the success of entrepreneurship education is highly reliant on its relevance, modes of delivery, and its coordination with other support mechanisms (Ndou et al., 2018; Liu et al., 2021).

Entrepreneurship training programmes based on government, non-government organisations and institutions of higher learning have been established in Indonesia to target small and micro-enterprises (Imanuella et al., 2025; Devid & Vennila, 2024). Though these efforts are commendable, most empirical analysis has been conducted to capture urban entrepreneurs or groups of students, and rural settings have received little attention (Sriram et al., 2007; Lang et al., 2014). The literature urban bias is an assumed higher literacy, a better market accessibility, and a more robust institutional facilitation, which is hardly duplicable in the rural South Sulawesi. This limits the external validity of findings that exist on rural micro-enterprises. This research gap needs to be resolved, and rural entrepreneurs must face unique challenges, such as the lack of digital penetration, the need to rely on seasonal markets and low bargaining power in supply chains. In the absence of context-specific understanding, the education of the entrepreneurship would become a generic intervention and it would not be able to open the growth potential of rural enterprises (Agrawal et al., 2023; Ediagbonya & Tioluwani, 2023).

Another significant aspect is a definition of the concept of growth in micro-enterprises. Mostly, the growth is measured in financial terms, including revenue or profit. Important though these indicators are, it might fail to capture the overall development outcomes and in rural areas whereby, enterprises often have a social and community role to play. It can also be through growth in terms of improved household welfare, the creation of employment, empowerment or greater resilience to economic shocks by females. The multidimensional nature of these contributions means that conceptualising entrepreneurship education can easily overlook them as a way of facilitating more financial growth (Al-Fattal, 2024). This paper, therefore, takes a more subtle viewpoint of embracing growth as an economic and a socio-structural development.

Theoretical perspectives are based on human capital theory (Becker, 1993) which hypothesizes that the investments in knowledge and skills increase productivity and performance. Critics however state that such a framework overlooks contextual variables like; the quality of institutions, cultural attitudes and accessibility to resources that mediate between education-performance relationship. An example that can be given is in rural South Sulawesi, where even highly educated entrepreneurs might face hindrances such as lack of credit, inadequate transportation and inaccessible markets. Therefore, in a critical analysis both enabling and constraining environments under which micro-enterprises are used should be considered (Amato & Candio, 2024).

South Sulawesi is a good case study in the context. There is a strong rural economic activity within the province, although the microenterprises are common in agriculture based processing, petty trade and handcraft. However, a significant percentage of these businesses still reside within the subsistence businesses, and they are not in a position to expand or modernize. Contextualized entrepreneurship education provides an opportunity to provide rural businesspeople with tools needed to overcome conventional barriers, such as the introduction of online marketing to increase reach, the advocacy of orderly record keeping to increase financial discipline, or the incentive of product diversification to reduce market fluctuations (Benthall & Vilijoen, 2021). This potential, though, will only be fulfilled though the educational interventions are not conceived as generic, one-size-fits-all packages but instead as actively involving and locally relevant programmes, which are in tandem with the local realities of the rural communities.

The current study critically analyzes the impact of teaching entrepreneurship on development of microenterprise in South Sulawesi rural districts. Even though the analysis is set against the Mahatma culture and rural setting, unlike previous research on the subject that focuses on urban entrepreneurs or groups of students, this study is rooted in a rural environment of informality, limited resources, and unique cultural characteristics. The goals of the study do not limit to the establishment of whether or not entrepreneurship training provides quantifiable growth but propose the questioning of the mechanisms and conditional aspects that make these forms of education effective. By this two-fold prism, the study can provide both empirical and theoretical contributions, in that it can provide information on an underresearched environment, and may help to refute reductive theories about the supposed universal effectiveness of entrepreneurship training.

## METHODS

The research design used in this study was a quantitative survey which was used to characterize and systematically examine the association between entrepreneurship education and microenterprise growth in rural south Sulawesi. A sample size of 350 rural microentrepreneurs in 3 districts, namely Gowa, Jeneponto, and Bulukumba, was picked as respondents. These districts were selected not only due to their economic reliance on microenterprises but also due to the fact that these districts have different indicators of rural infrastructure, market access, and contact with government and NGO-led training programs. It was deemed safe to use the purposive sampling since the study was designed to focus on the entrepreneurs who had attended at least one entrepreneurship training or educational program within the past three years. This was the criterion that made sure that respondents had appropriate experience in the field of entrepreneurship education, thus making the insights of these people relevant to the study. However, purposive sampling can increase the contextual relevance, although it can decrease the extent of generalizability because the sample is not necessarily random and can fail to include the views of entrepreneurs who had never participated in such programs.

The research instrument was a structured questionnaire which was well formulated to have both objective and subjective indicators. There were three major sections of the questionnaire. The demographic data, including the age, gender, level of education, and the household size, were collected in the first section. Such variables were not only presented as the background information but also as the possible control variables since, as the previous research has demonstrated, demographic characteristics have a significant mediating effect on the entrepreneurship education efficacy (Fatoki, 2014; Henry et al., 2017). The second section involved exposure to entrepreneurship education and this captured area of intensity participation (number of sessions attended), relevancy of content and skills that were learned. The targeted skills that were highlighted were financial literacy, record-keeping, marketing strategies, product development innovation, and digital promotion techniques. The third part dealt with the signs of the microenterprise development that were quantified in terms of the self-reported variations in sales revenue, employment growth, market growth, and product diversification in the last three years. These measures were measured with a five-point Likert scale, with the options being strongly disagree to strongly agree, which allowed the flexibility of responding to the questions instead of yes or no. Although the method of self-reporting enables the collection of large amounts of data, it has some possible bias, including overestimating success or socially desirable responding. To overcome this, the questionnaire was pre-tested to 30 respondents in order to narrow down clarity and ambiguity.

Face-to-face interviews were also the mode of data collection because the methodological decision was taken considering the low literacy status and the low internet penetrations that typify most of the rural areas in South Sulawesi. By relying on written or online questionnaires, one would probably have filtered out a large percentage of micro-entrepreneurs, which would have skewed the sample in favor of more educated respondents. Local facilitators, who were familiar with the cultural and language peculiarities of every district, were used to help with the administration of the surveys. Not only did they increase response rates, but they also created a climate of trust between the researchers and the respondents. However, face-to-face interviewing brings about the risk of interviewer bias whereby faint messages conveyed by facilitators can affect responses. Facilitators were also trained on neutral administration methods in a standardized manner in order to reduce this risk. The data collection period lasted two months and therefore guaranteed sufficient coverage in the three districts and minimized the possible effects of seasonal variation in business.

The analysis process used both inferential and descriptive statistics. First, descriptive statistics was used in order to generalize demographic features and overall trends in the enrolment into entrepreneurship education programmes. This is the initial step that provided some baseline information on the socio-economic profile of rural entrepreneurs and the degree of their exposure to education. Then the multiple regression was performed to assess how entrepreneurship education affects the growth of microenterprises and held the demographic factors like age, gender, education level, and household size constant. The most appropriate method was identified to be multiple regression given that it allows measurement both of strength and direction of relationship among the variables and also allows the consideration of possible confounders. The regression model also helps to determine what dimensions of entrepreneurship education in particular including financial literacy or marketing competencies have the largest impact on the development of an enterprise. To be able to strengthen the soundness of the findings, additional models were also implemented with other growth indicators (as an example, revenue-employment growth). Nonetheless, the cross-sectional characteristics of the data



restrict the causal inferences since the observed associations might not always be associated with the long-term impacts of entrepreneurship education.

## RESULTS AND DISCUSSION

The quantitative findings revealed that entrepreneurship education exerted a significant positive effect on multiple indicators of microenterprise growth. Using multiple regression analysis, four growth outcomes were tested: sales revenue, employment generation, market expansion, and product diversification. The results are summarized in Table 1.

### Entrepreneurship Education and Sales Revenue Growth

Table 1. Regression Results: Effect of Entrepreneurship Education on Microenterprise Growth

Growth Indicator	Beta ( $\beta$ )	p-value	Interpretation
Sales revenue	0.32	<0.001	Strong positive effect
Employment generation	0.27	0.002	Moderate-to-strong effect
Market expansion	0.29	<0.001	Strong effect
Product diversification	0.21	0.010	Moderate effect

The strongest association was found between entrepreneurship education and increases in sales revenue ( $\beta = 0.32$ ,  $p < 0.001$ ). Entrepreneurs who attended training programs reported a noticeable rise in monthly income, particularly those who acquired digital marketing skills. Many respondents explained that exposure to online selling platforms such as WhatsApp Business, Shopee, and Facebook Marketplace expanded their customer base beyond the immediate village. This finding aligns with prior studies emphasizing the role of education in enhancing marketing competencies and revenue performance (McKenzie & Woodruff, 2014; Neneh, 2019).

The evidence suggests that entrepreneurship education provided critical knowledge that translated directly into higher sales, indicating that the transfer of market-oriented skills is one of the most tangible benefits of training. However, the reliance on digital skills may also deepen inequality between digitally literate entrepreneurs and those with limited access to technology, raising questions about inclusivity.

### Employment Generation through Entrepreneurial Capacity

Table 2. Entrepreneurship Education and Employment Generation

Employment Change (past 3 years)	% of Respondents
No additional workers hired	48%
Hired 1-2 additional workers	37%
Hired 3-5 additional workers	12%
Hired more than 5 workers	3%

The results also indicate a significant relationship between training and job creation ( $\beta = 0.27$ ,  $p = 0.002$ ). Entrepreneurs who adopted improved bookkeeping and inventory management practices expanded their businesses sufficiently to hire additional workers, often family members or local youth. This aligns with the argument that entrepreneurship education contributes to job creation, not only for the entrepreneur but also for the wider rural community (Minniti & Naudé, 2010; Fatoki, 2014).

While the increase in employment is a positive sign, the jobs created are often informal, part-time, and low-paying. Thus, while entrepreneurship education enhances capacity for expansion, its broader labor market impact remains limited unless combined with structural policies supporting formalization and labor rights.

## Market Expansion and Customer Reach

Table 3. Entrepreneurship Education and Market Expansion

Market Expansion Level	% of Respondents
Still selling only in village	41%
Selling within nearby district	33%
Selling at regional markets	20%
Selling beyond South Sulawesi	6%

Entrepreneurship education also had a strong positive effect on market expansion ( $\beta = 0.29$ ,  $p < 0.001$ ). Entrepreneurs who found training content relevant—particularly modules on customer engagement and pricing strategies—reported higher participation in regional markets and increased trade outside their villages. This supports prior findings that knowledge acquisition helps rural entrepreneurs overcome geographical isolation (Agyapong, 2010; Henry et al., 2017).

Market expansion reflects not only improved individual skills but also stronger networking capacity developed during training. However, such expansion may disproportionately benefit entrepreneurs with higher mobility and access to transport, suggesting that education must be complemented with infrastructural improvements to achieve equitable outcomes.

## Product Diversification and Innovation

Table 4. Entrepreneurship Education and Product Diversification

Diversification Level	% of Respondents
No new product introduced	54%
Introduced 1 new product	29%
Introduced 2–3 new products	13%
Introduced more than 3 products	4%

Finally, entrepreneurship education was moderately associated with product diversification ( $\beta = 0.21$ ,  $p = 0.010$ ). Respondents exposed to innovation-focused training introduced new product lines, such as processed agricultural goods, handicrafts with modern designs, and bundled service offerings. This echoes research indicating that training fosters entrepreneurial innovation and adaptation (Fayolle & Gailly, 2015; Meyer, 2019).

Although positive, the relatively weaker effect size compared to revenue and market expansion suggests that innovation may require more than short-term training interventions. Cultural norms, resource availability, and risk aversion still constrain rural entrepreneurs from diversifying aggressively.

## Entrepreneurship Education, Human Capital, and Rural Development

The results of this research are a strong empirical evidence of the human capital theory, especially the idea developed by Becker who (1993) argues that investing in skills and knowledge significantly increases productivity. The rural South Sulawesi evidences reveal that the entrepreneurship education is positively associated with various measures of enterprise development, such as sales revenue, employment generation, and market expansion. Through education, rural entrepreneurs are able to acquire fundamental skills that have the potential to enhance business performance and competitiveness in the ever-changing markets which include, but are not limited to, financial management, marketing, and engaging with customers. However the results not only support the main claims of human capital theory, but also indicate the need of situational adaptation. Even education does not provide a full description and assurance of entrepreneurial success when structural barriers exist in deep forms like lack of access to finance, poor infrastructure, and poor

integration of supply chains. These obstacles limit the degree to which entrepreneurs can effectively transfer the new knowledge gained into business development, and this makes it evident why there is a need to incorporate human-capital lenses with contextual realities in the rural development policies.

The research also adds to the current academic discussions about the efficacy of the entrepreneurship education, particularly in the rural setting. It is common to hear that most training programs do not have concrete effects since they are based on generic and urban-centric training models that ignore the realities and challenges faced by rural people (Rao and Ye, 2016; Silva-Peña et al., 2022). On the contrary, the facts herein provided suggest that in the case where entrepreneurship education is well-contextualized (by focusing more on the practical component of it, including digital marketing, record-keeping, and customer interaction, etc.) the entrepreneur can more easily record tangible returns. This implies that past failure might be blamed on inefficiency of the entrepreneurship education and not on the ineffectiveness of the education itself, but on the inadequacy of the program design and misfitting with the local socio-economic expectations. As a result, the research supports the thesis statement that training programs should be more relevant to the content and sensitive to the situation and context and not a one-fits-all method.

In the policy aspect, the results highlight that the entrepreneurship education should not be considered as a solution to rural development in isolation. The impact of training programs on generating jobs and diversifying businesses was relatively low despite the significant positive effect of the programs on the increase in income and the market coverage. The implication of this pattern is that education may serve as a catalyst and that the transformative effects that it creates may only become a reality when incorporated into a larger ecosystem of support. Such complementary interventions as access to microfinance, enhanced rural infrastructure, and increased supply-chain integration are necessary so that entrepreneurs can be able to put to practice the acquired skills. The policy makers must, therefore, lay down integrated development structures whereby, entrepreneurship education is part of a broader rural development agenda, as opposed to an autonomous intervention (Raja et al., 2022; Stoker et al., 2024).

Equity and inclusiveness becomes another important aspect of the debate. This showed that business owners with some form of digital literacy or more physical mobility were positively impacted by education than those with lower resources. This observation also brings up the issue of possible inequality where educational interventions may unintentionally increase the socio-economic inequity in absence of proper design. In line with the argument made by Neneh (2019), entrepreneurship education should be intentionally inclusive so that disadvantaged populations are not marginalized. Inclusivity in the South Sulawesi setting may entail providing the programs in local languages, using oral and visual means to instruct the participants who are not very literate, and designing specific modules aimed at women entrepreneurs and aged participants. This kind of adaptations could contribute to making sure that the benefits of entrepreneurship learning are evenly distributed among different rural communities and, as a result, enhances social and economic performance.

Lastly, the research also makes it worth reconsidering how rural microenterprise growth is defined and measured. Although much of the policy and academic discussion conflates growth with financial growth, many entrepreneurs polled in this study conceive success in more multidimensional terms, such as family security, community standing, and intergenerational gains on behalf of their families. Such views echo the multidimensional nature of the study of entrepreneurship proposed by Minniti and Naudé (2010) to go beyond the financial crucible. In the rural South Sulawesi scenario, the purpose of entrepreneurship education, however, must not

be to produce profit but to also promote social resilience, family, and preservation of culture. It is important to appreciate and identify these non-financial aspects of development so as to come up with education programs that are contextually relevant and socially sustainable.

Combining the above discussion, the two facets of human capital development and contextual sensitivity are stressed to influence the outcome of entrepreneurship education in rural South Sulawesi. Education equips the critical competencies that improve business performance but it is mediated by the structural conditions, policy frameworks and social dynamics. In a particular way, entrepreneurship education should be consistent with extended development policies, should be developed inclusively, and should be sensitive to multidimensional growth conceptions to be effective. By matching human capital investments to local realities and equity-based strategies, policymakers and practitioners are able to not only develop stronger rural businesses, but also more resilient and inclusive rural communities.

## CONCLUSION

The current research paper has attempted to explore the role of entrepreneurship education in the growth of microenterprises located in the rural south Sulawesi. The findings indicate that training programs significantly increase the entrepreneurial competencies on record-keeping, market outreach and adoption of more efficient commercial practice. However, the growth performance observed is not uniform with growth in revenues more pronounced compared to increases in the employment or product diversification. These results indicate that, in spite of the transformative nature of education, it cannot serve as a panacea in the complicated set of problems facing rural entrepreneurs. In theory, the research supports the idea of human capital theory because it proves that the development of skills and knowledge initiates productivity gains. In addition, it broadens the scholarly discussion by showing that the contextual variables namely accessibility of finance, sufficiency of infrastructure and the degree of digital inclusion mediate the efficacies of educational interventions. The research, therefore, provides a more detailed appreciation of the role of entrepreneurship education as a part of a larger development ecosystem, and not as an engine of growth on its own. Policymaking-wise, the study highlights the need to adopt integrated strategies. Entrepreneurship education has to be supplemented by the means of resource facilitation to maximize the resulting results and be shared in the form of locally contextualized information that will take into consideration the literacy rates, cultural traditions, and gender-specific restrictions. Moreover, potential initiatives should avoid standardized, one-size-fits-all approaches, in favor of tailoring of curricular materials to the unique conditions of rural microenterprises.

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