Implications of Education for Entrepreneurial Abilities: Formal Versus Non-Formal Education

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ABSTRACT

Entrepreneurship is one of the driving factors in economic development and entrepreneurial ability requires education, both formal and non-formal, to develop individual knowledge and experience in carrying out entrepreneurial activities. This research aims to determine the implications of education for entrepreneurial abilities: formal vs non-formal education through the responses of business actors, as well as the differences in entrepreneurial abilities between individuals who have attended formal education and individuals who have attended non-formal education. This research uses a quantitative research design with case studies in Indonesia. Sample selection using purposive sampling. The data used is primary data (demographic data, attitudes, and views of business actors) and secondary data in the form of sales volume or income from business. The data collection technique used was by distributing questionnaires. Data analysis was carried out using the ANOVA test. The research results show that non-formal education has a more significant influence on entrepreneurial abilities compared to formal education. Through direct experience, practical skills, and the flexibility of non-education, it can encourage entrepreneurial abilities and offers opportunities to adapt to the dynamics of the business world which are changing rapidly in line with the needs of the business world which continues to develop. Through non-formal education, we can gain practical skills, direct experience, and readiness to face real business challenges.

Keywords
Formal and Non-Formal Education, Entrepreneurial Ability, Educational Implications

INTRODUCTION

Education is considered the key to a nation's development, not only in the context of improving the quality of human resources but also as a driver of economic progress. Education is an important factor for sustainable economic growth (Zibiri et al., 2022). Education can be seen as an investment that contributes in the long term. The concept of education as an investment has
developed rapidly and it is increasingly believed by every country that the development of the education sector is a key prerequisite for the growth of other development sectors (Widiansyah, 2017). Investing in the education sector means investing in humans as a resource to create a skilled workforce that has the potential to produce innovation and increase productivity which is expected to have a positive impact on national economic growth (Ziberi et al., 2022). However, in the era of globalization and increasingly complex job market demands, education is not only measured in terms of academics alone but also terms of entrepreneurial abilities. Entrepreneurship is a crucial aspect in facing economic challenges and building sustainable progress.

According to Thom Ruhe, CEO of NC IDEA (a private foundation committed to helping communities realize their entrepreneurial potential in North Carolina), a record number of new business applications in 2020 was 44,000, which has the potential to create new jobs by new entrepreneurs (www.route-fifty.com). Entrepreneurs who successfully open new businesses not only provide job opportunities for the community but also stimulate various economic sectors. In addition, quoted from www.businessnewsdaily.com, based on a widely cited 2019 report from the US Small Business Administration, it was found that small businesses generated 44% of all economic activity in the US. That same year, these businesses created two-thirds of all US jobs. According to the Small Business Administration (SBA), small businesses created 12.9 million new jobs in the last 25 years, accounting for approximately 66% of all jobs created in that period. In the same period, large companies added only 6.7 million jobs. This indicates that increasing the number of jobs can reduce the unemployment rate, increase per capita income, and reduce the poverty rate. Workers who find new jobs will contribute to the growth of domestic consumption, increasing demand for goods and services which in turn supports a country's long-term economic growth.

In Indonesia, Eddy Cahyono Sugiarto (Head of the Public Relations Bureau of the Ministry of State Secretariat), stated that entrepreneurial transformation in the economy through Micro, Small, and Medium Enterprises (MSMEs) has a strategic role in supporting national economic growth after being affected by the Covid-19 pandemic. This can be seen from the contribution of MSMEs to Indonesia's GDP which continues to increase to around 60% in the pre-pandemic period. Apart from that, labor absorption by MSMEs is also very high and continues to grow, reaching 96.99% - 97.22%, with the number of MSMEs reaching 62 million or around 98% of national business actors. The important role of MSMEs in the national economy reflects the
important role of MSMEs in achieving sustainable development goals (SDGs) in Indonesia. MSME-based entrepreneurship development is expected to be at the forefront of achieving the SDG’s economic pillars by creating jobs, business innovation, adapting and mitigating negative economic, social, and environmental impacts for inclusive and sustainable economic growth (www.setneg.go.id). The link between entrepreneurship and economic growth and employment becomes increasingly relevant by referring to various studies that show a positive link between entrepreneurship and economic growth. The results of Ogunlana (2018) study found that entrepreneurship can play an important role in achieving economic growth for countries to overcome the economic crisis. He emphasized that entrepreneurship can generate employment, and innovation, increase production, and diversify sources of economic income by encouraging the development of MSMEs.

Quoted from katadata.co.id, Joseph Schumpeter in The Theory of Economic Development said, entrepreneurship is one of the driving wheels of economic development. Entrepreneurship will encourage innovation, create new jobs, and increase state revenues through taxes. However, the number of entrepreneurs in Indonesia is still relatively small. Compared to other countries, Indonesia's entrepreneurship ratio is still low, namely only 3.47% of the total population. Compare this with Singapore which reached 8.76%. Meanwhile, Malaysia and Thailand are already above 4.5%. Even in developed countries, the average is 10-12%. This means that concrete steps need to be taken to encourage the growth of the entrepreneurial sector, one of which is through education. Higher education institutions should include curricula that teach entrepreneurial skills, such as business planning, risk management, and innovation. Apart from that, collaboration between education and industry needs to be strengthened to provide direct experience in the business world. Internship programs, company visits, and the involvement of business practitioners can provide insight into the realities of the business world.

Formal education, through the school and college systems, has become the main foundation in shaping the mindset and skills of the younger generation (Debarliev et al., 2022; Jiménez et al., 2015). According to Said Ahmad et al., (2023), the role of formal education in encouraging an entrepreneurial spirit in the younger generation is very important in facing challenges and rapid economic change. However, is formal education capable of producing individuals who have high entrepreneurial abilities? This is still an open question. On the other hand, non-formal education, which places greater emphasis on direct experience and involvement in practical activities, provides a different and more relevant perspective in preparing individuals to become
successful entrepreneurs. Through non-formal education, we can develop practical skills, direct experience, and readiness to face real business challenges (Jiménez et al., 2015) thus providing opportunities for everyone to develop creativity, courage to take risks, and self-confidence which is very useful in entrepreneurship (Karlsson & Moberg, 2013). Along with technological developments and changes in economic paradigms, society needs individuals who not only have academic knowledge but also strong entrepreneurial skills. The combination of academic understanding and entrepreneurial skills is the key to facing future challenges. Individuals with entrepreneurial skills can more easily innovate, adapt to change, and create new jobs, making a positive contribution to economic growth (Zibiri et al., 2022).

According to Bosma & Kelley (2018) from www.gemconsortium.org, in general, entrepreneurs in Iran have a high level of education, with 71% having at least a bachelor's degree. This high level of education can also be associated with an overall sophisticated level of business and may support a sufficient number of entrepreneurial employees specifically in Indonesia, through the independent entrepreneurship program, many young entrepreneurs are entering the business world where this program was first launched in 2022 which succeeded in attracting high interest from various groups starting from students, universities and partners from the Business and Industrial World (DUDI). The Independent Entrepreneurship Program involves 17 selected universities that have fields, institutions, or entrepreneurship and business incubators as Implementing Universities. A total of 11,716 students from 87 state universities and 366 private universities throughout Indonesia were registered as participants to take part in learning activities for one semester at the 17 implementing universities. As a program under the Merdeka Belajar Kampus Merdeka (MBKM) policy framework, the Merdeka Entrepreneurship Program is focused on providing innovative learning space outside the lecture classroom to encourage students to increase their competency so that they will be able to become superior Human Resources (HR) after graduating from college.

Various studies have been conducted on the role of education in encouraging entrepreneurial abilities (Debarliev et al., 2022; Galvão et al., 2020; Ostapenko, 2017; Said Ahmad et al., 2023; Sun et al., 2017; Umihanić et al., 2017; Yin & Wang, 2017) and education are very useful in starting a new business and are one of the factors that determine the success of a new business (Galvão et al., 2020; Hunady et al., 2018; Manić & Trajković, 2019; Ntshangase & Ezeuduji, 2020; Zafar & Khan, 2013). However, there is still little research comparing formal and non-formal education in encouraging entrepreneurial abilities. This
research seeks to determine the implications of education on entrepreneurial ability: formal versus non-formal education through the responses of business actors, as well as how differences in entrepreneurial ability exist between individuals who have attended formal education and individuals who have attended non-formal education so that this can provide understanding for developing appropriate human resources and educational programs to continue to grow individual entrepreneurial abilities. Formal education, with an emphasis on theoretical aspects and business concepts, can provide a solid foundation of knowledge, which may form the basis of business strategy and planning (McMullan & Long, 1987). On the other hand, individuals who attend non-formal education can develop practical skills, hands-on experience, and readiness to face real business challenges (Jiménez et al., 2015). Individuals who have theoretical understanding from formal education and practical skills from non-formal education tend to be more adaptive and able to overcome the complexities of the business world. So the implications of education for entrepreneurial abilities do not only lie in one form of education, but in the synergy between formal and non-formal education. This research aims to determine the implications of education on entrepreneurial abilities; formal versus non-formal education through the responses of business actors, as well as the different implications of education for entrepreneurial abilities; formal versus non-formal education. The aim of this research is based on the hypothesis that there is a significant difference in entrepreneurial abilities between individuals who have attended formal education and individuals who have attended non-formal education.

**RESEARCH METHODE**

For the objectives of this research, a quantitative research design was used with case studies in Indonesia. The population in this research are business actors in Indonesia who have experience in the world of entrepreneurship on a micro, small to medium scale business in various industrial sectors. Sample selection using purposive sampling; researchers deliberately select respondents based on certain characteristics that are considered relevant to the research objectives. The following are details of how to draw samples using purposive sampling according to the research objectives:

a. Sample Selection Criteria:

1) Experienced Business Actors: Business actors who have been operating for at least one year. This aims to ensure that respondents have real experience in managing a business and can provide in-depth insight.
2) Entrepreneurs have formal and/or non-formal educational backgrounds related to entrepreneurship. This includes individuals with business education, entrepreneurship training, or relevant non-formal programs.

3) Business actors are willing to provide information about the success of their business, such as sales levels, number of jobs generated, or business innovation. This provides a further understanding of the impact of education on business outcomes.

Determination of sample size is carried out using the following calculations:
1. Confidence Level (α): \( \alpha = 0.05 \)
2. Significance Level (β): \( \beta = 0.10 \)
3. Z scores for \( \alpha/2 \) and \( \beta \):
   - From the standard normal distribution table, \( Z_{\alpha/2} \) and \( Z_{\beta} \) can each be found.
   - For example, if \( Z_{\alpha/2} = 1.96 \) (95% confidence level) and \( Z_{\beta} = 1.28 \)
4. Estimated Population Variance (\( \sigma^2 \)):
   - For example, the estimated population variance is \( \sigma^2 = 100 \) (this value can be taken from previous research or estimates based on the literature).
5. Estimated Mean Difference (\( \mu_1 - \mu_2 \)):
   - Suppose we expect a mean difference of \( \mu_1 - \mu_2 = 5 \)
6. The formula for Sample Size (n):
   \[
   n = \frac{2(1.96 + 1.28)^2 \cdot 100}{(5)^2}
   \]
   \[
   n = \frac{2 \cdot 9,2624 \cdot 100}{25}
   \]
   \[
   n = \frac{1852,48}{25}
   \]
   \[
   n = 74,1
   \]

Based on the sample size calculation, it was obtained as many as 74 respondents in each group (formal and non-formal education) to detect significant differences at a confidence level of 95% and a significance level of 10%, assuming a population variance of 100 and a mean difference of 5.
b. Data and Data Collection Techniques
The data used in this research are primary and secondary data. Primary data is in the form of Demographic Data, Formal Education (Number of years of formal education completed, Last level of education achieved), Non-Formal Education (Participation in entrepreneurship training, Business-related courses or workshops attended, Duration and intensity of non-formal programs attended), Entrepreneurial Ability (Ability to generate new business ideas, Creativity in facing business challenges, Business planning and management skills, Courage in taking risks), Attitudes and Views of Business Actors (Perception of the impact of formal education on entrepreneurial skills, Assessment effectiveness of non-formal education in improving entrepreneurial abilities, Reaction to the differences between formal and non-formal education). Secondary data in the form of sales volume or income from business. The data collection techniques used in this research are surveys (distributing questionnaires to respondents).

c. Data analysis
This research aims to determine the implications of education on entrepreneurial abilities; formal versus non-formal education through the responses of business actors, as well as the different implications of education for entrepreneurial abilities; formal versus non-formal education. To achieve the first objective, descriptive statistical analysis was carried out, with the following steps:
1) Data Understanding: Identify variables such as formal and non-formal education levels, as well as measured entrepreneurial abilities.
2) Summary of Descriptive Statistics: R mean, median, and mode of formal and non-formal education levels. R mean, median, mode, and standard deviation of entrepreneurial ability.
3) Data Visualization: Histogram or bar diagram to show the distribution of formal and non-formal education levels.

To achieve the first objective, an Analysis of Variance (ANOVA) analysis was carried out with the following steps:
1) Understanding Variables and Groups:
   • Independent variable: Type of education (formal, non-formal).
   • Dependent variable: Entrepreneurial ability.
2) Hypothesis Formulation:
   • H0: There is no significant difference between the average entrepreneurial abilities between formal and non-formal education groups.
• H1: There is a significant difference between the average entrepreneurial abilities between formal and non-formal education groups.

3) Implementation of ANOVA: A statistical analysis of ANOVA to check whether there are significant differences in entrepreneurial abilities between formal and non-formal education groups.

4) Test Results Check: Pay attention to the p-value of the ANOVA results. If the p-value is less than the significance level (for example, 0.05), reject the null hypothesis and conclude that there is a significant difference between educational groups.

Interpretation of Results: Interpret the ANOVA results by describing whether formal or non-formal education has different implications for entrepreneurial ability. Are there significant differences between educational groups?

RESULT AND DISCUSSION

Result

Picture 1 can be seen in the average value of the differences in business actors' responses related to the implications of education for entrepreneurial abilities which are analyzed based on formal vs non-formal education pathways. As presented in Figure 1, non-formal education has a stronger influence on the entrepreneurial abilities of business actors compared to formal education. This is because non-formal education is more flexible and able to adapt to the needs of the dynamic business world. Non-formal education, such as job training, seminars, or business courses, often provides hands-on experience and involvement in real-world situations. This allows business people to develop practical skills, and understand the daily challenges of running a business so that they can support the growth of their business. This observation was confirmed by contingency analysis, as the Chi-square test and the associated contingency ratio (Phi, Cramer's V, or contingency ratio) were statistically significant in each case Table 1.
The non-parametric ANOVA results show an interesting pattern. We found that business actors have different perceptions of the implications of formal vs non-formal education on entrepreneurial ability. These differences indicate that there is a significant relationship between the variables in each section. A significant Chi-squared value indicates that the distribution of observations is significantly different if the variables are unrelated.

In Table 2 we also present pairwise comparisons (one of the elements of the Kruskal–Wallis test) between the implications of education on entrepreneurial ability that are statistically significant. The data presented in Table 2 clearly shows that B3 has a significant H value (8.020) compared to
other groups. This indicates that there are significant differences between at least one educational group. The Kruskal-Wallis results show that there are significant differences in the education variables. Therefore, we conclude that educational level contributes significantly to differences in the measured variables.

Table 2.
Non-Parametric ANOVA Results (Differences in Educational Implications for Entrepreneurial Ability between Formal vs Non-Formal Education)

<table>
<thead>
<tr>
<th>Test Statistics a, b</th>
<th>B1</th>
<th>B2</th>
<th>B3</th>
<th>B4</th>
<th>B5</th>
<th>B6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kruskal-Wallis H</td>
<td>1,250</td>
<td>.027</td>
<td>8,020</td>
<td>.030</td>
<td>.495</td>
<td>.112</td>
</tr>
<tr>
<td>Df</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Asymp. Sig.</td>
<td>.264</td>
<td>.870</td>
<td>.005</td>
<td>.861</td>
<td>.482</td>
<td>.738</td>
</tr>
<tr>
<td>a. Kruskal Wallis Test</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Grouping Variable: EDUCATION</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Data that has been processed in 2024

A study of the average scores of the Kruskal-Wallis test, presented in Table 3, shows that in several blocks, there are significant differences in the average ranking related to business owners’ responses regarding the implications of education for entrepreneurial abilities between formal and non-formal groups.

Table 3.
Average Value of the Kruskal-Wallis Test

<table>
<thead>
<tr>
<th>Ranks</th>
<th>Education</th>
<th>N</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Formal</td>
<td>74</td>
<td>77.91</td>
</tr>
<tr>
<td></td>
<td>Non-formal</td>
<td>74</td>
<td>71.09</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>148</td>
<td></td>
</tr>
<tr>
<td>B2</td>
<td>Formal</td>
<td>74</td>
<td>74.99</td>
</tr>
<tr>
<td></td>
<td>Non-formal</td>
<td>74</td>
<td>74.01</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>148</td>
<td></td>
</tr>
<tr>
<td>B3</td>
<td>Formal</td>
<td>74</td>
<td>82.50</td>
</tr>
<tr>
<td></td>
<td>Non-formal</td>
<td>74</td>
<td>66.50</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>148</td>
<td></td>
</tr>
<tr>
<td>B4</td>
<td>Formal</td>
<td>74</td>
<td>74.98</td>
</tr>
<tr>
<td></td>
<td>Non-formal</td>
<td>74</td>
<td>74.02</td>
</tr>
</tbody>
</table>
We also observed that in the average ranking of the Kruskal-Wallis test in blocks (B1, B3, and B5), there was a significant difference in the average ranking related to business owners' responses about the implications of education on entrepreneurial abilities between formal and non-formal groups. Then blocks B2, B4, and B6 showed no significant differences between the formal and non-formal groups. Overall, there are variations in business owners' responses regarding the influence of formal and non-formal education on entrepreneurial abilities.

**Discussion**

According to Sun et al., (2017), education has a very important role in shaping individual entrepreneurial abilities by focusing on developing entrepreneurial knowledge, capacity, skills, and entrepreneurial intentions to meet economic needs. Through education, individuals can gain the knowledge, skills, and insight needed to understand and develop entrepreneurial potential. Not only through formal education, entrepreneurial skills can also be obtained through non-formal education. Based on the results of data processing in Figure 1 which highlights differences in business actors' responses regarding the implications of education for entrepreneurial abilities, it appears that non-formal education has a more significant impact on business actors' entrepreneurial abilities. Apart from that, based on the results of the ANOVA test, it can also be seen that non-formal education has a significant influence on the entrepreneurial abilities of business actors compared to formal education. This is in line with research (Bugarsić, 2023; Debarliev et al., 2022; Umihanić et al., 2017).

One of the main reasons underlying this finding is the flexibility that non-formal education has. Non-formal education, such as job training, seminars, or business courses, offers the opportunity to adapt quickly to the changing dynamics of the business world and encourage entrepreneurial abilities (Pigozne et al., 2019). Job training, seminars, or business courses that fall into the non-formal education category also tend to be designed with a focus on direct skills that are in line with market demands, providing practical
understanding to business people. Business people can also learn from concrete experiences to overcome daily business challenges. This emphasizes the importance of collaboration with other entrepreneurs in organizing educational activities, and field trips as well as the need for internships, projects, and meetings with entrepreneurs to learn from their experiences (Pigozne et al., 2019) so that business actors do not only gain theoretical insight. Through non-formal education which focuses on providing practical skills, business actors can directly apply these skills in running a business, helping business actors develop essential managerial, financial, and marketing skills. This allows business actors to acquire knowledge and skills relevant to market needs more effectively than formal education which may be bound by a more rigid curriculum.

The importance of direct experience and involvement in real business situations is also a key factor that makes non-formal education have a more significant influence on entrepreneurial abilities. Job training or business courses often provide opportunities for entrepreneurs to be directly involved in running a business. Thus, they can have a deep understanding of operational aspects that are relevant to the growth of their business. These results indicate that non-formal education has a vital role in providing more effective support for the development of business actors’ entrepreneurial abilities. Through non-formal education, we can gain practical skills, direct experience, and readiness to face real business challenges (Jiménez et al., 2015). This provides opportunities for each individual to explore creativity, increase courage in taking risks, and develop self-confidence which are crucial aspects of entrepreneurship (Karlsson & Moberg, 2013). With a combination of flexibility, direct experience, and the provision of practical skills, non-formal education can provide a more direct and measurable impact on the entrepreneurial abilities of business actors, in line with the needs and dynamics of continuously developing businesses. In this way, business people have the opportunity to hone their practical skills and understand the daily challenges of managing a business.

CONCLUSION

Education is one of the things that is needed to form entrepreneurial abilities which focuses on developing individual knowledge and experience in carrying out entrepreneurial activities. Entrepreneurship is one of the driving factors in economic development because it can encourage innovation, create new jobs, and increase state revenues through taxes. The implications of education for entrepreneurial abilities have a significant influence, especially
non-formal education. This shows that non-formal education is one of the most important things in developing entrepreneurial abilities. Through the flexibility of non-formal education, direct experience, and the provision of practical skills, non-formal education, such as job training, internships, or business courses, can have a more significant impact on the entrepreneurial abilities of business actors, as well as offering opportunities to adapt quickly towards the dynamics of the dynamic business world in line with the needs of the continuously developing business world.

REFERENCES


Manić, A., & Trajković, S. (2019). The Role and Importance of Formal


