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## THE ROLE OF MSMES IN SUPPORTING THE INDEPENDENCE OF ISLAMIC BOARDING SCHOOLS



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### Abstract

This study aims to analyze the factors influencing the success of Islamic Boarding School-based MSMEs and their impact on the economic independence of Islamic boarding schools. The research employs Structural Equation Modeling (SEM) to examine the relationships between the independent variables—human resources, leadership, technology utilization, access to capital, and networks/partnerships—and the dependent variable, MSME success, which is further analyzed for its effect on pesantren independence. Data were collected through a survey of 472 respondents consisting of MSME actors within Islamic Boarding School environments. The analysis reveals that human resources, access to capital, and networks/partnerships significantly influence MSME success, while leadership and technology utilization show no significant impact. Furthermore, MSME success contributes positively and significantly to enhancing the economic independence of Islamic Boarding Schools. This study provides theoretical contributions by enriching the literature on the role of MSMEs in supporting the economic independence of Islamic Boarding Schools. It also offers practical recommendations for effective management strategies to improve competitiveness and institutional self-reliance.

**Keywords:** Islamic Boarding School, MSME, Structural Equation Modeling

## INTRODUCTION

Islamic Boarding School or known as Pesantren is not only a religious educational institution, but also a center for economic development that can have a positive impact on the surrounding community. With a strong community foundation and solid religious values, pesantren is able to encourage entrepreneurial spirit and develop various types of businesses that drive the local economy. Pesantren has an important role in empowering the economy of the community in Indonesia. Institutions play an important role in fostering entrepreneurship, agricultural development, financial literacy, and economic sustainability. Islamic boarding schools can contribute to economic empowerment by carrying out economic activities that are beneficial to schools and the community (Alhifni, Ahwarumi, & Huda, 2019; Zaki & Aziz, 2023). Furthermore, Islamic boarding schools play an important role in entrepreneurship, providing new jobs and poverty alleviation, as well as contributing to the country's economic development (Naimah et al. 2020).

Indonesia is recorded as having 30,495 Islamic boarding schools spread throughout the country, with 4.3 million students and 474 thousand teachers (Databoks 2021). The results of mapping by the Center for Research and Development of Religious and Religious Education in 2020 and 2021 showed that 90.48% of 11,868 Islamic boarding schools had business units. (Basri 2021). This shows that only a small portion of pesantren (9.52%) do not have a business unit. In addition, 2.58% of pesantren have 3 to 5 types of businesses.

One successful example of utilizing MSMEs in pesantren is Hebitren. The Hebitren program contributes to the development of the halal value chain in Indonesia by integrating halal products across various sectors, including food, services, and fashion, while ensuring quality and compliance with halal standards (Tobing, Harahap, and Daulay 2024; Rahmawati and Walyoto 2022; Saputro et al. 2022). This empowers pesantren to enhance their business units, leading to improved halal certification and increased product sales. In addition, this program also encourages collaboration among members and external partners, thereby fostering a stronger halal economy. Successful MSMEs not only contribute to the independence of the pesantren but also create jobs, improve the welfare of the surrounding community, and strengthen the economic competitiveness of the pesantren in a competitive market.

According to several previous studies, factors that influence the success of MSMEs include various dimensions such as human resources (HR), leadership, technology utilization, access to capital, as well as networks and partnerships. According to Adam et al. (2024), HR competencies, which encompass skills, knowledge, and work attitudes, greatly contribute to business performance because they can enhance productivity and efficiency. Effective leadership, as explained by Attar (2023) and Eko et al. (2023), playing a key role in motivating and inspiring the team to achieve business goals optimally. In addition, the utilization of technology, as outlined by Syihabudin and Gumelar (2019), enables MSMEs to improve operational efficiency and expand market access, which directly impacts business sustainability. According to **Junaidi, Lubis, and Effendi (2023)**, networking plays a very important role in the sustainability and growth of MSMEs. Furthermore, access to capital is a crucial element in the development of Micro, Small, and Medium Enterprises (MSMEs) because capital serves as the main foundation for starting, developing, and sustaining business continuity (Hamida et al., 2023; Adam et al. 2024).

The success of this MSME has a significant impact on the independence of the Islamic boarding school. As an economic entity managed by the pesantren, successful MSMEs are able to provide stable financial contributions that support the operational needs of the pesantren without relying on external assistance. A study by Malesios et al. (2018) shows that the success of SMEs in generating profits, increasing workforce capacity, and surviving in a competitive market directly strengthens the sustainability of the institution. The profits generated not only meet operational needs but also support the educational and social activities of the pesantren, thereby strengthening its position as an independent institution. This research aims to measure the influence of variables such as Human Resources, Leadership, Technology Utilization, Access to Capital, Networks, and Partnerships on the success of Modern Islamic Boarding School SMEs, as well as to measure the influence of the success of Modern Islamic Boarding School SMEs on the independence of Modern Islamic Boarding Schools. This research is important to provide practical insights to pesantren MSME managers on how to manage resources and seize opportunities to achieve success. In addition, the results of this research can also serve as a reference for policymakers and supporting institutions in designing more effective programs to support pesantren as centers of economic empowerment.

## REVIEW OF LITERATURE

### MSMEs in Indonesia

Micro, small, and medium enterprises (MSMEs) in Indonesia are an important component of the national economy, providing significant contributions to employment and GDP. Micro, Small, and Medium Enterprises (MSMEs) are an important sector in the Indonesian economy, functioning as a pillar that supports more than 90% of the national economy and contributes significantly to the Gross Domestic Product (GDP) by around 60% (Wibawa, 2023; Utomo, 2024). According to Law No. 20 of 2008 on Micro, Small, and Medium Enterprises, Micro Enterprises are productive businesses owned by individuals and/or individual business entities that meet the Micro Enterprise criteria as regulated in the Law. Additionally, Small Enterprises are productive economic activities that stand alone, carried out by individuals or business entities that are not subsidiaries or branches of companies owned, controlled, or part of, either directly or indirectly, Medium Enterprises or Large Enterprises, which meet the criteria for Small Enterprises as defined in this Law. Medium Enterprises are productive economic activities that stand alone, conducted by individuals or business entities that are not subsidiaries or branches of companies owned, controlled, or part of, either directly or indirectly, Small Enterprises or Large Enterprises, with net worth or annual sales as regulated by the Law.

(1) The criteria for Micro Enterprises are as follows:

- a. has a net worth of no more than Rp50,000,000.00 (fifty million rupiah) excluding land and buildings used for the business; or
- b. having annual sales results of no more than Rp300,000,000.00 (three hundred million rupiah).

(2) The criteria for Small Enterprises are as follows:

- a. have a net worth of more than Rp50,000,000.00 (fifty million rupiah) up to a maximum of Rp500,000,000.00 (five hundred million rupiah) excluding land and buildings used for business; or

- b. having annual sales results of more than Rp300,000,000.00 (three hundred million rupiah) up to a maximum of Rp2,500,000,000.00 (two billion five hundred million rupiah).
- (3) The criteria for Medium Enterprises are as follows:
- a. having net assets of more than Rp500,000,000.00 (five hundred million rupiah) up to a maximum of Rp10,000,000,000.00 (ten billion rupiah) excluding land and buildings used for business; or
  - b. having annual sales results of more than Rp2,500,000,000.00 (two billion five hundred million rupiah) up to a maximum of Rp50,000,000,000.00 (fifty billion rupiah).

### ***Islamic Boarding Schools Independence***

Modern Islamic boarding schools (pesantren) have increasingly positioned themselves not only as centers of Islamic education but also as catalysts for **economic independence**. This independence reflects their ability to generate self-sustaining economic activities, reduce reliance on external funding, and empower both students and the surrounding community through entrepreneurship and productive ventures.

A key element of this economic independence is the **development of an entrepreneurial culture** among students. Many pesantren have implemented entrepreneurship education programs that equip students with the mindset, skills, and tools to build and manage their own businesses (Aulia Arsyah, Azizah, & Suwandi, 2021; Mulyati & Suahtati, 2023). This initiative contributes not only to the self-sufficiency of the pesantren but also provides students with livelihood opportunities upon graduation, fostering a generation of economically independent Muslims.

Moreover, pesantren are increasingly becoming **hubs of the Islamic economy**, with productive units ranging from agriculture, culinary businesses, fashion, to halal products and services (Imani & Putri, 2023). These business units serve dual purposes: fulfilling the internal needs of the pesantren and marketing surplus to the broader community (Abroza and Mas'ud, 2024). The income generated contributes to the operational sustainability of the institution, while also creating jobs and increasing the economic welfare of surrounding residents.

In promoting economic independence, Islamic boarding schools often adopt a **community-based economic model** by involving local residents in training, cooperative enterprises, and market linkages. These efforts help strengthen the pesantren's economic base while simultaneously uplifting the local economy. Through such inclusive strategies, pesantren act as **agents of socio-economic transformation**, demonstrating that religious education institutions can thrive without total dependence on charity or government aid (Arsyah, Azizah, & Suwandi, 2021).

### **Factors Affecting the Success of MSMEs and Independence of Islamic Boarding Schools**

Indicators of the success of MSMEs can be seen from various aspects that include financial performance, business growth, customer satisfaction, competitiveness, operational efficiency, as well as social and environmental contributions (Hvolby and Thorstenson 2001; Malesios et al. 2018). From the financial performance perspective, the success of SMEs is reflected in the increase in revenue and profit, cash flow stability, and healthy financial ratios such as liquidity and profitability ratios. Business growth is also an important indicator, evident from increased sales, market expansion into new areas or segments, and the growth

of company assets. The success of SMEs operating in the environment of Islamic boarding schools is influenced by various factors, including leadership, human resources, technology utilization, access to capital, and partnership networks.

#### 1. Human Resources

The aspect of human resources (HR) plays a vital role in the development strategy of MSMEs (Dinku, Singh, and Singh 2024; Irawanto and Novianti 2024; Kim and Jin 2024), because the success of a business highly depends on the competence of its workforce. Moreover, planned and sustainable human resource development can enhance productivity, innovation, and the competitiveness of SMEs in the market. This is a strategy in the development of MSMEs.

Hypothesis 1: Human Resources affect the Success of MSMEs in Islamic Boarding Schools

#### 2. Leadership

Leadership in MSMEs is a determining factor for the success of MSMEs, influencing innovation, employee engagement, and overall business performance (Fiernaningsih et al. 2024). Transformational leadership, in particular, has been identified as a key driver of SME success. This leadership style is characterized by the ability to provide support, inspire and motivate employees, encouraging them to exceed their usual performance levels and embrace change (Abdul-Azeez et al., 2024; Attar, 2023; Eko et al., 2023).

Hypothesis 2: Leadership affects the Success of MSMEs in Islamic Boarding Schools

#### 3. Utilization of Technology

The utilization of technology is one of the strategic aspects in the development of MSMEs, as it can enhance operational efficiency, expand markets, and strengthen competitiveness (Kim and Jin 2024). Digital technology, such as e-commerce platforms, social media, and business management applications, allows MSMEs to reach consumers more broadly and quickly without geographical limitations (Syihabudin & Gumelar, 2019). By adopting technology, MSMEs can also automate production and administrative processes, thereby reducing operational costs and increasing productivity (Attar 2023).

Hypothesis 3: The Utilization of Technology Affects the Success of Islamic Boarding School MSMEs

#### Access to Capital

The aspect of access to capital is very important in the development of MSMEs because capital is the foundation for starting, developing, and maintaining business operations. For MSMEs, the main challenge often lies in the limited access to affordable and flexible financing sources (Nur Hamida et al., 2023; Adam et al., 2024). The availability of sufficient capital is one of the fundamental factors that influence the sustainability of a business. In the pesantren environment, capital can be obtained through various sources, including internal pesantren funds, sharia financial institutions, or external investors. Good capital management will help SMEs to expand operations, update equipment, and face financial challenges.

Hypothesis 4: Access to Capital affects the Success of Islamic Boarding School MSMEs

#### 4. Networks and Partnerships

Networks and partnerships play a strategic role in supporting the success of MSMEs based on modern Islamic boarding schools. By building extensive networks, pesantren can expand access to markets, technology, and other resources. Partnerships with external parties,

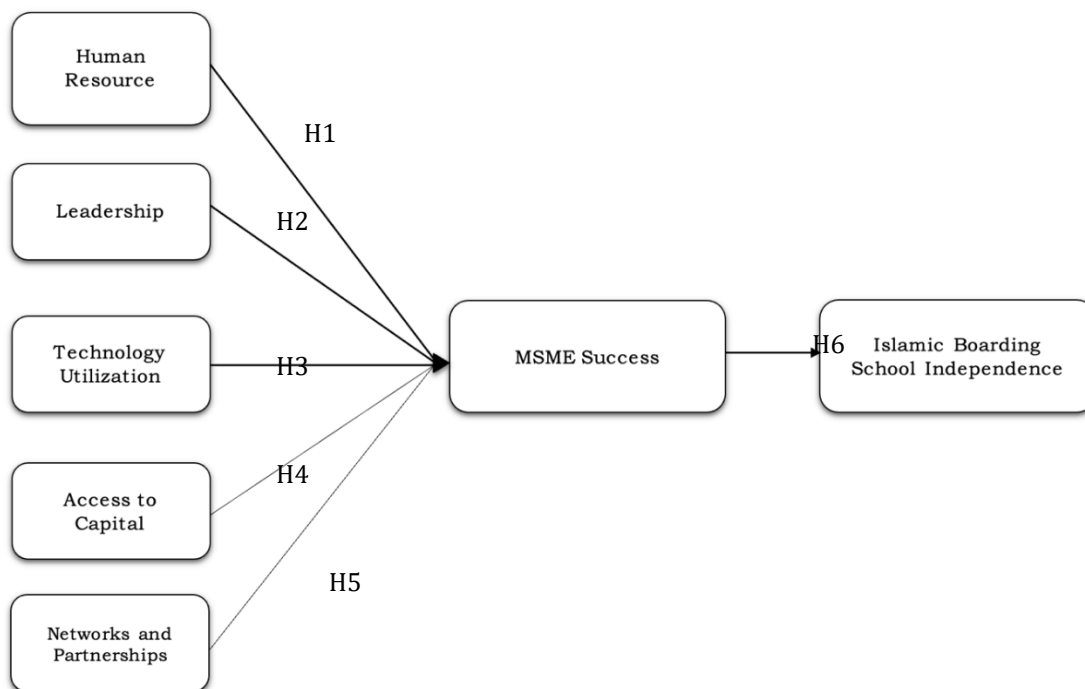
such as the government, financial institutions, private companies, and local communities, enable pesantren SMEs to receive support in the form of funding, training, and greater market access. The network directly impacts the performance of SMEs by facilitating partnership programs that ultimately enhance their performance. These programs act as mediators, leveraging social relationships to improve business outcomes (Junaidi, Lubis, and Effendi 2023). Furthermore, effective partnerships can enhance market access and economic growth, as demonstrated by Krisna Souvenir Center, which utilizes local networks to improve product quality and market reach (Alamsyah, Sudarmiati, and Wardana 2024). Additionally, networking with pesantren alumni or Islamic-based business associations can strengthen the business ecosystem that supports business sustainability. Good relationships with the local community also encourage customer loyalty and social support, which are important factors in maintaining business continuity. For example, the economic community of Pesantren Al-Ittifaq provides an example of how cooperation and social capital can enhance competitiveness and counter market capitalism, demonstrating the importance of community-based partnerships (Umar et al. 2019). Thus, networks and partnerships not only expand business opportunities but also strengthen the competitiveness of pesantren SMEs amidst increasingly fierce competition.

Hypothesis 5: Networks and Partnerships influence the Success of Pesantren SMEs

#### 5. The success of MSMEs in Islamic boarding schools

The success of MSMEs in Islamic boarding schools has a significant impact on the independence of the schools. Successful SMEs are capable of generating revenue growth, which can be used to support the operational needs of the pesantren, such as facility maintenance, the organization of educational activities, and the development of social programs (Kusuma, Uyun, & Malia, 2020). The success of MSMEs is also marked by customer satisfaction (Cahyana & Sukaatmadja, 2017). Moreover, the success of MSMEs also allows pesantren to avoid relying on external aid, thereby creating better financial resilience (Mukhlisin 2024; Tariaranie W and Wishnu 2023). With good management, the profits from MSMEs can be reinvested into the business units or used to support various pesantren independence initiatives that enhance the quality of education and the lives of the students. Furthermore, the success of MSMEs also strengthens the role of pesantren as a center for economic empowerment in the community. Independent pesantren not only manage to finance their own needs but also become a model of success for the surrounding community. By integrating economic and religious values, pesantren can make a broader contribution to social and economic development, while also strengthening its position as a relevant institution amidst the dynamics of the times. Therefore, the success of MSMEs is a key element in supporting the pesantren's mission to achieve sustainable independence.

Hypothesis 6: The success of MSMEs in Islamic boarding schools affects the independence of Islamic boarding schools.



**Figure 1.**  
**SEM Model**  
Source: Author

## RESEARCH METHOD

### Types and Sources of Data

This research uses a quantitative approach with primary and secondary data types. Primary data was obtained directly from respondents through the distribution of questionnaires designed to measure the research variables, namely Human Resources, Leadership, Technology Utilization, Access to Capital, Networks and Partnerships, the Success of Modern Islamic Boarding School SMEs, and the Independence of Modern Islamic Boarding Schools. Next, Secondary Data was obtained from documents, reports, publications, or literature related to Modern Islamic Boarding School SMEs, such as financial reports, statistical data from relevant agencies, and previous relevant research.

The sample size in this study is determined using the minimum sample size required for Smart-PLS analysis, which is 100 (Hair et al., 2017; Molwus, Erdogan, & Ogunlana 2013). This research uses a non-probability sampling method, specifically purposive sampling, to select a sample of at least 100 MSME actors from Islamic boarding schools. The respondents in this study are the managing administrators or owners, administrators, and alumni of the Islamic boarding school.

### Data Collection Techniques

The data collection techniques in this research include the Distribution of Questionnaires and Documentation Studies. The questionnaire instrument is used to collect primary data from respondents. The questionnaire consists of closed-ended questions with a Likert scale to measure respondents' perceptions of the variables being studied.

Documentation Study is the collection of secondary data through the examination of documents, reports, and literature relevant to the research.

**Data Analysis Techniques**

This research uses data analysis tailored to the research method and the variables being studied. The model applied is a causal model, and to test the hypothesis, the PLS (Partial Least Squares) SEM (Structural Equation Modeling) analysis technique is used. SEM is a multivariate statistical technique that combines factor analysis and regression (correlation), with the aim of testing the relationships between variables in the model, whether it is the relationship between indicators and constructs, or between constructs (Santoso, 2007). SEM can be described as a combination of factor analysis and regression. Additionally, SEM shows the pattern of relationships between latent constructs and their manifest variables. Hair et al. (2022) explain that SEM combines exploratory factor analysis and structural path analysis. Combining these two approaches allows for the simultaneous assessment of the measurement model and the structural model. In this study, the SEM method is used to determine the relationships between research variables that cannot be directly identified and to maximize the explained variance in the dependent variable (Hair, Black, Babin, & Anderson, 2019; Hair et al., 2022). The SEM method includes two main stages of inferential analysis, namely

- i. Evaluation of the Measurement Model (Outer Model): This stage aims to examine the validity and reliability of the research instrument through the analysis of the relationship between latent variables and their indicators.
- ii. Structural Model Evaluation (Inner Model): This stage is used to analyze the relationships between latent variables in the research model to determine the influence of independent variables on dependent variables.

**Table 1.**  
**Operational Variables**

Variable	Indicator	Questionnaire Statement
Human Resources (Aljazeera & Hamdan, 2023; Dinku et al., 2024; Irawanto & Novianti, 2024).	<ul style="list-style-type: none"> <li>• Workforce competencies (knowledge, skills, and attitudes).</li> <li>• Training and development of human resources.</li> <li>• Productivity and innovation of the workforce.</li> </ul>	<ul style="list-style-type: none"> <li>• MSME Islamic Boarding School employees have the appropriate knowledge to support business activities.</li> <li>• MSME Islamic Boarding School employees possess adequate technical skills in carrying out their tasks.</li> <li>• The majority of MSME Islamic Boarding School employees have a good attitude in carrying out their duties.</li> </ul>
		<ul style="list-style-type: none"> <li>• The training program conducted regularly helps improve the competencies of Islamic Boarding School MSME employees.</li> <li>• Employees of Islamic Boarding School MSMEs actively participate in the training program.</li> <li>• The training provided is relevant to job needs and helps MSME Islamic Boarding School employees improve productivity.</li> </ul>

		<ul style="list-style-type: none"> <li>• MSME Islamic Boarding School employees are able to complete their tasks efficiently and on time.</li> <li>• Employees of MSME Islamic Boarding School have a positive work attitude towards innovation and change.</li> <li>• The productivity of MSME Islamic Boarding School employees boosts business growth.</li> </ul>
Leadership (Attar, 2023; Abdul-Azeez et al., 2024; Eko, Notosudjono, & Tukiran, 2023)	<ul style="list-style-type: none"> <li>• Leader's Support for Employees</li> <li>• The Leader's Ability to Inspire and Motivate</li> <li>• Encouraging to exceed performance levels</li> </ul>	<ul style="list-style-type: none"> <li>• The leader of the Islamic boarding school provides full support to the employees of the Islamic boarding school's MSMEs in completing their work.</li> <li>• The leader of the Islamic boarding school helps employees face the challenges they encounter in their work.</li> <li>• The leader of the Islamic boarding school is open to feedback and complaints from the employees of the Islamic boarding school's MSMEs.</li> </ul>
		<ul style="list-style-type: none"> <li>• The leader of the Islamic boarding school inspires the employees of the Islamic boarding school's MSMEs to work more creatively and innovatively.</li> <li>• The leader of the Islamic boarding school motivates employees to continuously develop their skills and knowledge.</li> <li>• The leaders of the Islamic boarding school create a work environment that supports team spirit.</li> </ul>
		<ul style="list-style-type: none"> <li>• The leaders of the Islamic boarding school encourage the employees of the Islamic boarding school's MSMEs to achieve higher targets.</li> <li>• The leaders of the Islamic boarding school give awards for the performance of the Islamic boarding school's MSME employees who exceed targets.</li> <li>• The leaders of the Islamic boarding school set clear expectations to improve work quality.</li> </ul>
Utilization of Technology (Attar 2023) (Syihabudin & Gumelar, 2019).	<ul style="list-style-type: none"> <li>• Utilization/Use of Digital Technology</li> <li>• Operational efficiency and management with technology</li> </ul>	<ul style="list-style-type: none"> <li>• MSME Islamic Boarding School uses digital technology to manage data and information more effectively.</li> <li>• Digital technology facilitates communication between business units and customers of MSME Islamic Boarding School.</li> <li>• Digital technology is used to develop marketing strategies for the products or services of Islamic Boarding School SMEs.</li> </ul>

	<ul style="list-style-type: none"> <li>• The use of technology expands markets and competitiveness</li> </ul>	<ul style="list-style-type: none"> <li>• Technology helps Islamic Boarding School SMEs automate administrative processes to improve efficiency.</li> <li>• The use of technology reduces operational costs without sacrificing the quality of services provided by MSME Pondok Pesantren.</li> <li>• Technology is used to monitor and optimize the production process or services of Islamic Boarding School MSMEs.</li> </ul>
<p>Access to Capital (Adam et al. 2024; Afrifa and Tingbani 2018)</p>	<ul style="list-style-type: none"> <li>• Access/Availability of Capital Sources</li> <li>• Flexibility of Financing Sources</li> <li>• Capital Management</li> </ul>	<ul style="list-style-type: none"> <li>• MSME Islamic Boarding School has easy access to various sources of financing.</li> <li>• The available capital is sufficient to support the development of Islamic Boarding School MSMEs.</li> <li>• MSMEs Islamic Boarding School has a good network with financial institutions to meet its capital needs.</li> </ul>
		<ul style="list-style-type: none"> <li>• MSMEs Islamic Boarding School can access financing with flexible terms according to business needs.</li> <li>• Islamic Boarding School MSMEs have financing options that align with their repayment capabilities.</li> <li>• Collaboration with Sharia financial institutions provides flexibility in meeting the funding needs of Islamic Boarding School MSMEs.</li> </ul>
<p>Network and Partnerships</p>		<ul style="list-style-type: none"> <li>• The available capital is managed efficiently to support the operations and development of Islamic Boarding School SMEs.</li> <li>• MSME Islamic Boarding School regularly evaluates the use of capital.</li> <li>• The allocation of capital for Islamic Boarding School MSMEs is carried out by considering the priority of business needs.</li> </ul>
		<ul style="list-style-type: none"> <li>• MSME Islamic Boarding School has a partnership with government agencies</li> </ul>

<p>(Alamsyah, Sudarmiatin, &amp; Wardana, 2024; (Junaidi, Lubis, and Effendi 2023)</p>	<ul style="list-style-type: none"> <li>• Collaboration with External Parties</li> <li>• Market Access Through Networks</li> <li>• Network Support for Resources</li> </ul>	<ul style="list-style-type: none"> <li>• MSME Islamic Boarding School partners with non-governmental organizations</li> <li>• Relationships with external partners support the sustainability of MSME businesses in Islamic boarding schools</li> </ul> <hr/> <ul style="list-style-type: none"> <li>• Business units leverage networks to expand market access for Islamic Boarding School MSMEs.</li> <li>• The partnership network of Islamic Boarding School SMEs helps improve the distribution of products or services.</li> <li>• Partnership networks increase the sales of products or services from Islamic Boarding School MSMEs.</li> </ul> <hr/> <ul style="list-style-type: none"> <li>• The partnership network provides training or consultation for the development of Islamic Boarding School MSMEs.</li> <li>• The partnership network helps Islamic Boarding School MSMEs acquire new technology or tools.</li> <li>• Assistance from other networks facilitates access to capital for Islamic Boarding School MSMEs.</li> </ul>
<p>MSMEs Success of (Cahyana &amp; Sukaatmadja, 2017; (Kusuma, Uyun, &amp; Malia, 2020)</p>	<ul style="list-style-type: none"> <li>• Revenue Growth</li> <li>• Customer Satisfaction</li> <li>• Operational Sustainability</li> </ul>	<ul style="list-style-type: none"> <li>• The revenue of Islamic Boarding School MSMEs has increased in the past 12 months.</li> <li>• MSME Islamic Boarding School can meet the established revenue targets.</li> <li>• The marketing program conducted by the Islamic Boarding School MSMEs consistently increases revenue.</li> </ul> <hr/> <ul style="list-style-type: none"> <li>• Customers are satisfied with the quality of products or services offered by MSME Islamic Boarding School.</li> <li>• Customers are willing to recommend the products or services of MSME Islamic Boarding School to others.</li> <li>• MSME Islamic Boarding School regularly collects feedback from customers to improve product quality.</li> </ul> <hr/> <ul style="list-style-type: none"> <li>• MSME in Islamic Boarding School have an adequate system to maintain production continuity.</li> <li>• MSME Islamic Boarding School have the ability to face market challenges and remain resilient.</li> </ul>

		<ul style="list-style-type: none"> <li>MSME Islamic Boarding School has a long-term strategic plan for the sustainability of its business.</li> </ul>
Independence of Islamic Boarding Schools (Mukhlishin 2024; Tariaranie W and Wishnu 2023; Kusuma, Uyun, and Malia 2020; Solihin and Azro 2024)	<ul style="list-style-type: none"> <li>Financial Sustainability</li> <li>Investment in Education and Social Programs</li> <li>Economic Empowerment of Communities</li> </ul>	<ul style="list-style-type: none"> <li>Islamic Boarding School has sufficient income to support its operational activities.</li> <li>Islamic Boarding School can carry out activities without relying on external assistance.</li> <li>Islamic Boarding School has transparent and well-organized financial records.</li> </ul>
		<ul style="list-style-type: none"> <li>MSME profits are used to support educational programs at Islamic Boarding Schools.</li> <li>The Islamic Boarding Schools allocates funds for social activities that benefit the surrounding community.</li> <li>Islamic Boarding Schools provides job skills training for students through business units.</li> </ul>
		<ul style="list-style-type: none"> <li>Islamic Boarding School empowers the surrounding community through economic activities.</li> <li>Islamic Boarding School prioritizes sourcing raw materials from local businesses or suppliers.</li> <li>Islamic Boarding School becomes a model of an independent economy that can be emulated by other communities.</li> </ul>

## RESULTS AND DISCUSSION

### Data Description

This research involves 472 respondents from various pesantren in Indonesia. In this context, a single pesantren can manage more than one type of micro, small, and medium enterprise (MSME), reflecting the strategic role of pesantren in promoting economic independence. Based on gender, the majority of respondents are male, totaling 302 people (64%), while females number 170 people (36%). From the age perspective, the majority of respondents fall within the productive age range, specifically 20–30 years old with 236 people, followed by 31–40 years old with 123 people, 41–50 years old with 70 people, under 20 years old with 18 people, and over 50 years old with 22 people.

The distribution of respondents' residences shows that most live in DKI Jakarta (234 people) and West Java (206 people), with the remainder spread across Banten, Central Java, East Java, and DIY. Based on their positions in the pesantren, the respondents consisted of 234 foundation staff/administrators/owners, 231 pesantren managers such as mudir, ustad/ustadzah, musrif/musrifah, 5 pesantren alumni, and 2 others.

In terms of the highest level of education, the majority of respondents have pursued higher education, with details as follows: Diploma/Bachelor's degree (D3/S1) 225 people, high

school/equivalent 166 people, postgraduate (S2/S3) 42 people, and junior high school/equivalent 39 people. Meanwhile, the Islamic boarding schools that serve as the respondents' places of residence have varying lengths of establishment, but are predominantly those that have been established for more than 16 years, totaling 417 schools. Pesantren that have been established for 11–15 years are recorded as 35, then 6–10 years as 14, and less than 5 years as 6.

The locations of the pesantren are spread across various provinces, with the highest concentration in DKI Jakarta (288 pesantren), followed by West Java (170), Central Java (3), East Java (4), Banten (2), DIY (1), and others (4). The types of businesses managed by the Islamic boarding schools are very diverse, reflecting the potential and creativity in the development of Islamic Boarding School-based SMEs. Islamic Boarding School has more than one business. The most managed businesses are in the culinary field with 392 units, services such as laundry with 364 units, and trade such as mini markets and other stores with 369 units. In addition, there are also cooperative businesses (344 units), agriculture/livestock (323 units), manufacturing (248 units), handicrafts (16 units), and other types of businesses totaling 24 units.

**Table 2.**  
**Research Respondent Data**

<b>Gender</b>		<b>The Age of the Pesantren</b>	
Male	302	< 5 years	6
Female	170	6-10 years	14
		11-15 years	35
		> 16 years	417
<b>Age</b>		<b>Location of the Islamic Boarding School (Province)</b>	
< 20 years	18		
20-30 years	236		
31-40 years	123	DKI Jakarta	288
41-50 years	70	Banten	2
> 50 years	22	West Java	170
		Central Java	3
		East Java	4
<b>Domicile</b>			
DKI Jakarta	234	DIY	1
Banten	7	Others	4
West Java	206		
Central Java	9	<b>Type of Business Managed</b>	
East Java	4	Manufacturing (Large Producer)	248
DIY	1	Food & Beverages	392
Others	11	Crafts	16
		Agriculture/Livestock	323
<b>Position in Islamic Boarding School</b>			
		Services	364

Foundation Employee/Manager/Owner	234	Cooperation	344
Management (Mudir, Ustad/Ustadzah, Musrif/Musrifah)	231	Trade	369
Boarding School Alumni	5	Others	24
Others	2		
<b>Latest education</b>			
Junior High School	39		
Senior High School	166		
Diploma/Bachelor's Degree	225		
Postgraduate	42		

Source: Author

### Test of Requirements

The data collected from 472 respondents were processed using the SmartPLS version 3.9 application. As a requirement for the research to proceed, a Measurement Model analysis, also known as the outer model, was first conducted to illustrate the specifications of the relationships between variables and their indicators (Hair et al., 2021). Good data that can be used as research instruments are data that have passed validity and reliability tests. Therefore, before further analysis is conducted on this research data, both tests are carried out.

#### Validity Test

**Table 3.**  
**Loading Factor Value**

Indicators	Human Resources	Leadership	Technology Utilization	Access to Capital	Networks and Partnerships	MSME Success	Islamic Boarding School Independence
HR1	0,769						
HR2	0,775						
HR3	0,698						
HR4	0,699						
HR5	0,759						
HR6	0,760						
HR7	0,752						
HR8	0,781						
HR9	0,712						
L1		0,773					
L2		0,819					
L3		0,788					
L4		0,819					
L5		0,810					
L6		0,848					

L7		0,810				
L8		0,735				
L9		0,777				
T1			0,752			
T2			0,834			
T3			0,802			
T4			0,811			
T5			0,766			
T6			0,827			
T7			0,776			
T8			0,789			
T9			0,819			
AC1				0,770		
AC 2				0,766		
AC 3				0,751		
AC 4				0,806		
AC 5				0,818		
AC 6				0,763		
AC 7				0,779		
AC 8				0,785		
AC 9				0,753		
NP 2					0,697	
NP 3					0,796	
NP 4					0,783	
NP 5					0,797	
NP 6					0,786	
NP 7					0,760	
NP 8					0,824	
NP 9					0,783	
SME1						0,737
SME2						0,743
SME3						0,770
SME 4						0,733
SME5						0,811
SME6						0,787
SME7						0,853
SME 8						0,805
SME9						0,789
KM1						0,795
KM2						0,685

<b>KM3</b>							0,768
<b>KM4</b>							0,767
<b>KM5</b>							0,707
<b>KM7</b>							0,744
<b>KM8</b>							0,762
<b>KM9</b>							0,713

Source : Output SmartPLS version 3.9

To determine the validity level of the questionnaire questionnaire used in this study, the validity test was carried out, the test results can be seen in Table 3. Loading Factor Value, Table 4. Construct Reliability and Validity, Table 5. Heterotrait-Monotrait Ratio Matrix (HTMT).

**Table 4.**  
**Construct Reliability and Validity**

	<b>Cronbach's Alpha</b>	<b>rho_A</b>	<b>Composite Reliability</b>	<b>Average Variance Extracted (AVE)</b>
Human Resources	0.900	0.903	0.918	0.556
Leadership	0.929	0.930	0.940	0.637
Technology Utilization	0.928	0.929	0.940	0.636
Access to Capital	0.918	0.921	0.932	0.604
Networks and Partnerships	0.907	0.910	0.925	0.607
MSME Success	0.920	0.922	0.934	0.611
Islamic Boarding School Independence	0.884	0.886	0.908	0.553

Source: Output SmartPLS version 3.9

The validity test can be carried out by testing its Convergent validity by comparing the Loading Factor values of each indicator in Table 3. Because the loading factor values of all indicators used are all > 0.60, it can be concluded that all indicators meet Convergent Validity (Hair, 2018). Convergent validity can also be seen from the Average Variance Extracted (AVE) value of each variable. Based on Table 4, the AVE value of each variable is > 0.50 (Chin and Dibbern, 2010), so it can be concluded that all variables used in this study meet Convergent Validity.

**Table 5.**  
**Heterotrait Monotrait Ratio (HTMT) Matrix**

	<b>Access to Capital</b>	<b>Networks and Partnerships</b>	<b>MSME Success</b>	<b>Islamic Boarding School Independence</b>	<b>Leadership</b>	<b>Technology Utilization</b>	<b>Human Resources</b>
<b>Access to Capital</b>							

<b>Networks and Partnerships</b>	0,816						
<b>MSME Success</b>	0,819	0,810					
<b>Islamic Boarding School Independence</b>	0,856	0,775	0,883				
<b>Leadership</b>	0,763	0,691	0,719	0,721			
<b>Technology Utilization</b>	0,785	0,732	0,740	0,766	0,747		
<b>Human Resources</b>	0,719	0,697	0,734	0,667	0,726	0,758	

Source : Output SmartPLS version 3.9

The validity test is also carried out by testing its Discriminant validity by comparing the Heterotrait and Monotrait Ratio (HTMT) of each variable in Table 5. Because the HTMT Ratio of the 6 variables used are all <0.90, it can be concluded that all variables meet the Discriminant Validity requirements (Chin and Dibbern 2010).

#### Reliability Test

To prove the level of accuracy, consistency, and accuracy of the instrument in measuring a latent variable, a Reliability Test is carried out. The test results can be seen in Table 4 and the test criteria where if the Cronbach's alpha and composite reliability (rho\_c) values of the variables are > 0.70, the variables are considered reliable (Chin & Dibbern, 2010). With the Cronbach's alpha and composite reliability (rho\_c) values of each variable > 0.70, it can be concluded that all variables used have been measured accurately, consistently, and precisely by all indicators.

#### Multicollinearity Test

Multicollinearity test is conducted to see the relationship between variables. Variables that experience multicollinearity can distort the results substantially or make them so unstable that they cannot be generalized (Hair et al., 2021). To find out whether the variables experience multicollinearity by knowing the VIF (Variance Inflation Factor) value. If the VIF value < 5, there is no multicollinearity between variables (Hair et al., 2022). From Table 6. it can be seen that the VIF value of all variables is <5, so it can be concluded that there is no indication of multicollinearity. Thus, there are no variables that must be eliminated.

**Table 6.**

**Inner VIF Value for Multicollinearity Test**

	<b>Access to Capital</b>	<b>Networks and Partnerships</b>	<b>MSME Success</b>	<b>Islamic Boarding School Independence</b>	<b>Leadership</b>	<b>Technology Utilization</b>	<b>Human Resources</b>
<b>Access to Capital</b>			3,217				
<b>Networks and Partnerships</b>			2,580				

<b>MSME Success</b>				1,000			
<b>Islamic Boarding School Independence</b>							
<b>Leadership</b>			2,531				
<b>Technology Utilization</b>			2,831				
<b>Human Resources</b>			2,381				

Source: Output SmartPLS version 3.9

### Hypothesis Testing

Hypothesis testing is carried out by analyzing the results of the t-statistic test obtained through the bootstrapping test in the SmartPLS version 3.9 application. Estimate for the path coefficient is the path coefficient value or the magnitude of the relationship or influence of exogenous latent variables on endogenous latent variables. In this study, an error rate ( $\alpha$ ) of 5% or a significance level of 95% was used.

Based on the results of the t-statistic test of the relationship between variables shown in Table 7, it can be concluded that not all variables have a significant effect on the success of MSMEs. The human resource variable has an original sample value of 0.160, a t-statistic value of 3.342, and a p-value of 0.001, which means that it has a statistically significant effect on the success of MSMEs. This shows that the better the quality of human resources owned, the greater the chance of success of MSMEs managed by Islamic boarding schools. Meanwhile, the leadership variable shows a coefficient value of 0.097, with a t-statistic of 1.904 and a p-value of 0.058. Although the direction of the relationship is positive, it is statistically insignificant because the p-value is greater than 0.05, which indicates that leadership has not provided a strong influence on the success of MSMEs in this context.

Furthermore, the technology utilization variable also showed an insignificant effect on the success of MSMEs, with a coefficient value of 0.094, a t-statistic of 1.580, and a p-value of 0.115. This could be due to the low level of technology adoption or the non-optimal utilization of technology in the operations of pesantren MSMEs. On the other hand, the access to capital variable has a significant influence on the success of MSMEs, with a coefficient value of 0.300, a t-statistic of 4.411, and a p-value of 0.000. This indicates that the ease of obtaining access to capital contributes greatly to improving the performance of MSMEs. Similarly, the partnership network variable shows a significant relationship, with a coefficient value of 0.290, a t-statistic of 4,476, and a p-value of 0.000. This means that the wider and stronger the partnership network owned by MSMEs, the higher their success rate.

**Table 7.**

#### Results of the t-Statistic Test of the Relationship Between Variables

	<b>Original Sample (O)</b>	<b>Sample Mean (M)</b>	<b>Standard Deviation (STDEV)</b>	<b>T Statistics ( O/STDEV )</b>	<b>P Values</b>
<b>Human Resources -&gt; MSME Success</b>	0.160	0.158	0.048	3.342*	0.001
<b>Leadership -&gt; MSME Success</b>	0.097	0.095	0.051	1.904	0.058

<b>Technology Utilization -&gt; MSME Success</b>	0.094	0.087	0.059	1.580	0.115
<b>Access to Capital -&gt; MSME Success</b>	0.300	0.305	0.068	4.411*	0.000
<b>Partnership Network -&gt; MSME Success</b>	0.290	0.297	0.065	4.476*	0.000
<b>MSME Success -&gt; Islamic Boarding School Independence</b>	0.799	0.802	0.025	31.589*	0.000

Description: \* : Significant

Source : Output SmartPLS version 3.9

Finally, the success of MSMEs is proven to have a very significant effect on the independence of Islamic boarding schools. This is indicated by the coefficient value of 0.799, t-statistic of 31.589, and p-value of 0.000. This finding indicates that the success of MSMEs run by boarding schools has a major contribution in realizing the economic independence of pesantren. Overall, of the six relationship paths tested, four paths showed a significant effect, namely human resources, access to capital, partnership networks on the success of MSMEs, and the success of MSMEs on the independence of boarding schools. Meanwhile, leadership and technology utilization have not had a significant effect so that they can be the focus of further development. So from the hypotheses tested in this study, it can be concluded that H1, H4, H5 and H6 can be accepted, while H2 and H3 are rejected.

#### **The Effect of Human Resources on the Success of MSMEs**

Human resources affects positively and significantly on the success of MSMEs. This means that the better the quality of human resources (knowledge, skills, and attitudes), the greater the chance of MSME success in Islamic boarding schools. Human resources are proven to have a positive and significant influence on the success of MSMEs. This is in line with research by Tambunan (2009) which states that the quality of human resources is one of the key factors in increasing the productivity and competitiveness of MSMEs. Aspects of knowledge, skills, and work attitudes possessed by business actors are the foundation for running and developing a business in a sustainable manner. Research from Aribawa (2016) also corroborates that HR competencies contribute significantly to the success of MSME businesses, especially in terms of decision-making, innovation, and operational efficiency. This shows that increasing the capacity of human resources through entrepreneurship training and education can be a key strategy in developing Islamic boarding school MSMEs.

#### **The Influence of Leadership on MSME Success**

Leadership does not have a strong enough influence on the success of MSMEs, even though the direction of influence is positive. Although the Leadership variable shows a positive relationship direction, its effect is not statistically significant. This is in contrast to the results of research by Elias, Mahidin and Bahaudin (2019) which state that an effective leadership style can encourage improved organizational performance including MSMEs. However, the insignificance in the context of pesantren could be due to the traditional or charismatic leadership style, which is not fully adaptive to modern business dynamics. Therefore, a more transformational leadership approach is needed, as proposed by Bass and Riggio (2006), which emphasizes the importance of vision, motivation, and empowerment in managing MSMEs.

### **Effect of Technology Utilization on MSME Success**

The results show that the effect of technology utilization on the success of MSMEs is also not significant. This could be due to the low adoption or optimal utilization of technology by pesantren-based MSMEs. This finding contradicts the study of Chung and Moon (2022) which emphasizes the importance of digitalization and the use of information technology in expanding markets and increasing the operational efficiency of MSMEs. In the context of pesantren, this low significance may be due to the lack of technology adoption among pesantren, as stated by Rahmawati and Walyoto, 2022 that pesantren-based MSMEs often face constraints in digital access and literacy. The implication is that interventions are needed in the form of technology training and provision of supporting infrastructure to encourage the transformation of digital MSME pesantren.

### **Effect of Access to Capital on MSME Success**

Access to Capital is highly significant and positive to MSME Success. This indicates that access to capital is an important factor affecting the success of MSMEs. The easier it is for MSMEs to obtain financing, the higher the level of success that can be achieved. Access to capital is proven to have a significant and positive effect on the success of MSMEs. This strengthens the findings of a study by Afrifa and Tingbani (2018) which states that access to financing is the main obstacle faced by MSMEs in developing countries. In the context of Islamic boarding schools, the availability of capital allows businesses to expand, purchase raw materials in large quantities, and access a wider market. The study by Nugroho (2012) also states that the ease of obtaining financing from microfinance institutions, including Islamic cooperatives or BMTs, greatly contributes to the growth of pesantren-based MSMEs. This finding underscores the importance of policies that facilitate access to financing, including through the KUR scheme or cooperation with Islamic banks.

### **Effect of Partnership and Networks on MSME Success**

The results show a positive influence, which means this relationship is statistically significant. This indicates that partnerships, both with outside agencies, communities, and other business actors, can strengthen MSMEs in facing business challenges. This is in line with the results of research by Alamsyah et al., 2024 and Upton, Broming and Upton (2019) which state that social networks and strategic partnerships can provide access to market information, product innovation, and business collaboration opportunities. Partnerships with external parties such as the government, training institutions, the industrial world, and the business community are key to expanding business scope and increasing the competitiveness of MSMEs in Islamic boarding schools. These results emphasize the need to strengthen collaboration between pesantren and business actors, government, and MSME support institutions to create a sustainable business ecosystem.

### **The Effect of MSME Success on the Independence of Islamic Boarding Schools**

This result confirms the need to strengthen collaboration between pesantren and business people, government, and MSME support institutions to create a sustainable business ecosystem. This indicates that the more successful the MSMEs managed by the boarding school, the higher the level of economic independence owned by the boarding school. This is in line with the concept of pesantrenpreneur (Sa'adah and Rahman 2024) which states that boarding schools that successfully build business units independently are able to reduce dependence on donors and strengthen the pesantren's economic base. Studies by Kusuma et al. (2020) and Solihin and Azro (2024) also show that pesantren business units contribute

greatly to creating economic independence, empowering students, and strengthening the role of pesantren in the economic development of the people. Thus, the development of pesantren-based MSMEs is not only economically relevant, but also in line with the socio-religious mission of pesantren in building people's independence. To increase the success of MSMEs in boarding schools, the main attention should be given to improving the quality of human resources, strengthening partnership networks, and expanding access to capital. The government, Islamic financial institutions, and educational institutions need to synergize in providing technical and entrepreneurial skills training for santri and pesantren MSME players. This training includes the development of soft skills such as leadership, teamwork, and business communication, as well as hard skills such as financial management, production, and marketing. In addition, sharia-based financing programs that are easily accessible and in accordance with the characteristics of pesantren are very important to accelerate the sustainable growth of MSMEs.

## CONCLUSION

The study revealed that only four out of six hypothesized factors significantly influence the success of MSMEs in Islamic boarding schools (pesantren). Human resources, access to capital, and networks/partnerships were found to be critical, emphasizing the importance of skilled labor, adequate financing, and external collaborations for business performance. However, leadership and technology utilization did not show significant impacts, suggesting these factors are either underutilized or misaligned with the pesantren context. Importantly, MSME success significantly enhances the economic and institutional independence of pesantren, positioning them as hubs for community-based empowerment. These findings guide pesantren managers to prioritize HR development, financial access, and partnerships while reevaluating leadership and technology strategies.

From an academic perspective, the study contributes to faith-based entrepreneurship literature but has limitations, including a narrow focus on modern pesantren, simplistic indicators for leadership and technology, and a small regional sample. Future research should incorporate pesantren type as a moderating variable, refine contextual indicators (e.g., kiai leadership, santri culture), and adopt mixed methods for deeper insights. Broader geographic sampling and stronger collaboration among researchers, policymakers, and pesantren stakeholders are needed to enhance the validity and applicability of findings, ultimately fostering sustainable MSME growth in the pesantren ecosystem.

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