

Academic Industry Collaboration and Islamic Finance Support: Evidence from Halal Business Incubators and Student Entrepreneurship

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ABSTRACT

This study examines how working with businesses and using Islamic finance can help students succeed in starting their own businesses through halal business incubation. Universities are becoming important in helping students start businesses, especially in places that follow Sharia law. This study used surveys from 200 student entrepreneurs in a halal business incubator at a university in Aceh, Indonesia. The data were analyzed using PLS-SEM. The study found that halal business incubators greatly help students improve their business skills. Islamic finance improves the functioning of incubators and directly helps students succeed in business. Working with businesses also directly helps students, but it does not help much through incubators. This suggests that other methods, such as learning by doing and working with professionals, might be important. The study shows how working with businesses and using Islamic finance can help in halal business environments. The findings are helpful to universities, policymakers, and Islamic financial institutions in improving their support for Sharia-compliant entrepreneurship.

Keywords: *Academic–Industry Collaboration; Halal Business Incubator; Islamic Finance Support; Student Entrepreneurship.*



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INTRODUCTION

Entrepreneurship development among university students has garnered increasing scholarly and policy interest due to its potential contributions to economic growth, job creation, and innovation. Universities are now perceived not only as centers of knowledge production but also as pivotal actors within entrepreneurial ecosystems that foster entrepreneurial intentions, competencies, and business performance among students (Gonzalez-Tamayo et al., 2025; Ye et al., 2025). Business incubators within higher-education institutions play a crucial role in this ecosystem by offering structured support, including training, mentoring, access to networks, and institutional legitimacy for early-stage ventures (Benessalah & Abdelmalek, 2025; Valliere & Nicholls-Nixon, 2024).

In Muslim-majority contexts, student entrepreneurship is closely linked to Islamic ethical principles and Sharia-compliant practices. The rapid expansion of the halal industry has increased demand for entrepreneurial support mechanisms to enhance business performance and ensure compliance with Islamic values (Amalia et al., 2025; Karudin et al., 2025). Within this framework, halal business incubators have emerged as a strategic institutional response that integrates entrepreneurship education, business development services, and Sharia-based guidance to support student entrepreneurs (Fithri et al., 2024; Rahma et al., 2025).

The effectiveness of such incubators, however, is strongly influenced by external institutional linkages. Academic–industry collaboration has been widely recognized as a key factor in strengthening entrepreneurial ecosystems by aligning academic resources with market needs, facilitating knowledge transfer, and enhancing innovation outcomes (Bańka et al., 2025; Islamiyah et al., 2024). Through collaboration with industry partners, universities can provide students with experiential learning opportunities, mentorship from practitioners, and exposure to real-world business challenges, all of which are critical for entrepreneurial success (Nwosu et al., 2026; Oh et al., 2025).

Alongside industry collaboration, access to appropriate financial support remains a significant challenge for student entrepreneurs. For Muslim students, conventional interest-based financing may conflict with religious beliefs, thereby limiting their willingness or ability to seek external funding (Al-Astewani & Sallam, 2025). Islamic finance, through Sharia-compliant instruments and value-based intermediation, offers an alternative financing framework that aligns economic objectives with ethical and social considerations (Mohsin & Muneeza, 2025; Yunus & Rizal, 2025). Empirical evidence suggests that Islamic financial literacy and access to Sharia-compliant financing positively influence entrepreneurial performance and sustainability, particularly within halal-oriented business environments (Mudjijah et al., 2024; Riyaldi et al., 2024).

Although prior studies have examined entrepreneurship education, university incubators, academic–industry collaboration, and Islamic finance support, these research streams have evolved mainly in parallel. Research on business incubators often emphasizes training quality and institutional support (Mebarka & Sayah, 2025; Rabab'ah & Omoush, 2025), while studies on Islamic finance tend to focus on financial inclusion, literacy, and macro-level development outcomes (Putra & Hotman, 2025; Velmurugan et al., 2025). Consequently, limited empirical evidence explains how academic–industry collaboration and Islamic finance jointly shape the effectiveness of halal business incubators and translate into improved entrepreneurial performance among students, particularly at the university level.

This research examines how academic-industry partnerships, support for Islamic finance, and halal business incubators influence students' entrepreneurial success. It focuses on students at Universitas Sultanah Nahrasiyah Lhokseumawe in Aceh, Indonesia, a region known for its adherence to Sharia principles. The study uses

surveys to see how support systems help student-run halal businesses grow and last. By connecting student entrepreneurship with academic, industry, and Islamic financial support, the study expands the discussion on business ecosystems in Islamic economics. The findings aim to help universities, policymakers, and Islamic financial institutions develop more effective Sharia-compliant strategies to enhance halal business incubators and student entrepreneurship.

Despite the growing literature on entrepreneurship education, business incubation, academic–industry collaboration, and Islamic finance, these streams of research have largely evolved independently. Existing studies predominantly examine the effects of business incubators, industry collaboration, or Islamic finance support in isolation, while limited attention has been given to their simultaneous interaction within halal entrepreneurial ecosystems. Furthermore, empirical evidence regarding the mediating role of halal business incubators in translating academic–industry collaboration and Islamic finance support into entrepreneurial outcomes remains scarce, particularly in regions governed by Sharia-based regulations.

To the best of the authors' knowledge, this study is among the first empirical investigations to examine the dual-path role of Islamic Finance Support in influencing both Halal Business Incubator Effectiveness and Student Entrepreneurial Performance within a Sharia-governed entrepreneurial ecosystem. Additionally, this research provides novel evidence that Halal Business Incubator Effectiveness plays an insignificant mediating role in the relationship between Academic–Industry Collaboration and Student Entrepreneurial Performance, highlighting alternative entrepreneurial development pathways beyond formal incubation mechanisms. By integrating Academic–Industry Collaboration, Islamic Finance Support, Halal Business Incubator Effectiveness, and Student Entrepreneurial Performance into a unified framework grounded in *Maqashid al-Shariah*, this study advances the literature on Islamic entrepreneurship and the entrepreneurial ecosystem.

LITERATURE REVIEW

Maqashid al-Shariah and Fiqh Muamalah Perspective

The development of entrepreneurship within Islamic economics extends beyond economic objectives and encompasses broader social, ethical, and spiritual dimensions. The theoretical foundation of this study is anchored in the *Maqashid al-Shariah* framework, which refers to the higher objectives of Islamic law aimed at preserving religion (*hifz al-din*), life (*hifz al-nafs*), intellect (*hifz al-'aql*), lineage (*hifz al-nasl*), and wealth (*hifz al-mal*). In the context of entrepreneurship, the preservation of wealth (*hifz al-mal*) is particularly relevant because entrepreneurial activities contribute to sustainable wealth creation, economic empowerment, and social welfare while ensuring compliance with Islamic ethical principles.

From the perspective of *fiqh muamalah*, business transactions and financial activities must be conducted in accordance with Sharia principles, which prohibit *riba* (interest), *gharar* (excessive uncertainty), and *maysir* (gambling). Consequently, access to Sharia-compliant financial instruments such as *mudharabah*, *musyarakah*, *qardh hasan*, productive *zakat*, and *waqf*-based financing provides an alternative mechanism for supporting entrepreneurial activities without violating Islamic legal principles. Islamic finance, therefore, serves not only as a source of capital but also as an institutional mechanism that promotes justice, risk-sharing, and sustainable economic development. In the context of halal business incubation, *Maqashid al-Shariah* offers a comprehensive framework for evaluating entrepreneurial support systems. Halal business incubators are expected to facilitate entrepreneurial growth while simultaneously ensuring that business practices comply with Islamic ethical standards. Through mentorship, capacity

building, market access, and Sharia guidance, incubators contribute to achieving *maslahah* (public benefit), a central objective of Islamic economic development. Therefore, the effectiveness of halal business incubators and Islamic finance support should be understood not merely as economic instruments but as mechanisms that promote the realization of Maqashid al-Shariah within entrepreneurial ecosystems.

Accordingly, this study argues that Islamic Finance Support functions as an instrument of *hifz al-mal* by providing Sharia-compliant financing alternatives that protect student entrepreneurs from *riba*-based indebtedness and enhance sustainable entrepreneurial performance. Likewise, Halal Business Incubators serve as institutional platforms that integrate entrepreneurial development with Islamic values, thereby fostering business sustainability, ethical conduct, and socio-economic welfare.

Student Entrepreneurship

Student entrepreneurship has become an important field of study in the economic and business literature, in line with the growing role of higher education institutions in shaping the entrepreneurial ecosystem. Various studies show that institutional support from universities through entrepreneurship education, internal policies, and supporting infrastructure has a significant impact on students' entrepreneurial intentions, competencies, and performance (Bellafronte & Graziano, 2025; Gonzalez-Tamayo et al., 2025; Gregori et al., 2024; Murphy, 2024; Oh et al., 2025; Rahma et al., 2025). Nevertheless, some research still focuses on intention (entrepreneurial intention) and has yet to adequately explain how such support translates into actual business performance.

In addition, several studies highlight the importance of psychological and individual factors, such as self-efficacy, resilience, and psychological capital, in determining students' entrepreneurial success (Badriyah et al., 2025; Benessalah & Abdelmalek, 2025; Duval-Couetil et al., 2025; Gicheva, 2026; Gregori et al., 2024; Maziriri et al., 2025; Nwosu et al., 2026; Ratkovic et al., 2025; Riyaldi et al., 2024; Ye et al., 2025). This approach enriches the micro-level understanding of entrepreneurship but tends to overlook the role of institutional structures and external collaboration in shaping the student entrepreneurial environment. This indicates a need to integrate both individual and institutional perspectives in the study of student entrepreneurship.

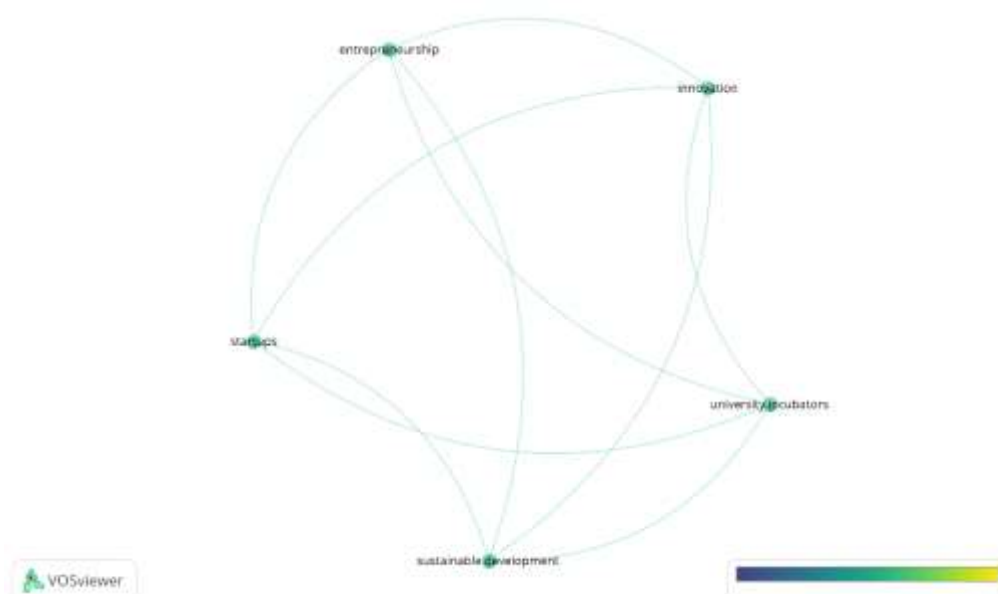


Figure 1. Bibliographic Map of Research on University Incubators and Entrepreneurship

This image shows a map of research topics about university incubators and entrepreneurship. Most studies focus on entrepreneurship, university incubators, and innovation. The link between startups and sustainable development shows that research on university incubators examines the creation of new businesses, innovation, and sustainability. This pattern highlights the important role of university incubators in helping develop innovative and sustainable entrepreneurship.

Business Incubators and Their Effectiveness

University business incubators are regarded as strategic mechanisms for bridging the gap between academic knowledge and business practice. Previous research shows that the quality of incubator services, including training, mentoring, network access, and managerial support, improves the competencies and sustainability of student startups (Duval-Couetil et al., 2025; Efendy & Pusparini, 2025; Oh et al., 2025; Putra & Hotman, 2025; Riyaldi et al., 2024). Nevertheless, empirical findings regarding incubator effectiveness are not always consistent, mainly when institutional contexts and external resources differ. Some critiques of the business incubator literature highlight a tendency to use general performance indicators that are insufficiently sensitive to specific contexts, such as cultural values, financial systems, and orientations toward business ethics (Fithri et al., 2025, 2025; Mebarka & Sayah, 2025; Rabab'ah & Omoush, 2025; Rahma et al., 2025; Sohail et al., 2025; Souissi, 2025; Valliere & Nicholls-Nixon, 2024). In addition, some incubator models still position the incubator as an internal entity of the university, without examining in depth the role of external actors in strengthening or weakening its effectiveness. This opens up space for studies that consider incubators as part of a broader, collaborative entrepreneurial ecosystem. Based on the above explanation, the research hypothesis is as follows:

H1: Halal Business Incubator Effectiveness has a positive effect on Student Entrepreneurial Performance.

Islamic Finance and Support for Student Entrepreneurship

Access to financing is one of the main challenges in the development of student entrepreneurship. For Muslim students, interest-based financing is often considered incompatible with Sharia principles, thereby limiting their business funding options (Al-Astewani & Sallam, 2025). Islamic finance has emerged as an alternative that emphasizes the principles of justice, partnership, and sustainability through instruments such as *mudharabah*, *musyarakah*, and value-based financing (Badriyah et al., 2025; Karudin et al., 2025; Putra & Hotman, 2025; Rahma et al., 2025; Riyaldi et al., 2024; Tarina & Malahayatie, 2024; Wijaya et al., 2025). Several studies show that Islamic financial literacy and support from Islamic financial institutions positively impact business performance and sustainability, including in the halal sector (Al-Astewani & Sallam, 2025; Mohsin & Muneeza, 2025; Mujiatun et al., 2025; Velmurugan et al., 2025; Yunus & Rizal, 2025). Most studies focus on small businesses or big-picture topics. There is little research on how Islamic finance supports student entrepreneurs and business incubators. Also, the link between Islamic financial support and the success of halal business incubators remains underexplored.

From the review above, we can see that many factors affect student entrepreneurship. These include personal, institutional, and outside influences. Business incubators, partnerships between schools and industry, and Islamic finance are key factors identified in prior studies. However, these studies often examine these factors in isolation. They do not show how these elements interact within the student entrepreneurship system. Also, most research is done in general or across different countries. There is little focus on areas that adhere to Sharia principles or on specific

universities. Thus, more research is needed to integrate school-industry partnerships and Islamic financial support within a single study. This should also consider the role of halal business incubators in helping student entrepreneurs. This approach aims to give a better understanding of student entrepreneurship from an Islamic economics and business perspective.

According to the Maqashid al-Shariah framework, Islamic finance serves as an instrument for preserving wealth (hifz al-mal) through Sharia-compliant financing mechanisms that promote economic justice, risk-sharing, and sustainable business development. Access to Islamic financial services enables halal business incubators to provide more effective support through financing facilitation, financial literacy programs, and Sharia-compliant entrepreneurial assistance. Consequently, Islamic Finance Support is expected to strengthen the operational effectiveness of halal business incubators.

H2: Islamic Finance Support has a positive effect on Halal Business Incubator Effectiveness

H4: Islamic Finance Support has a positive effect on Student Entrepreneurial Performance.

H5: Islamic Finance Support has a positive effect on Student Entrepreneurial Performance through Halal Business Incubator Effectiveness as a mediating variable.

Academic–Industry Collaboration in the Entrepreneurship Ecosystem

Collaboration between universities and industry has long been recognized as a key factor in increasing the relevance of education, knowledge transfer, and entrepreneurial innovation. Islamiyah et al. (2024) show that academic–industry collaboration enables the exchange of resources, the alignment of curricula with market needs, and the improvement in the quality of innovation. In the context of student entrepreneurship, such collaboration provides access to industry mentors, practical experience, and business networks that are difficult to obtain through classroom learning alone (Nwosu et al., 2026; Oh et al., 2025). However, the literature also notes that not all forms of academic–industry collaboration produce the same positive impact. Some studies reveal goal gaps, differences in time orientation, and power asymmetries between universities and industry that can limit the effectiveness of collaboration (Bańka et al., 2025). In addition, studies on this collaboration are still rarely explicitly linked to the effectiveness of business incubators, especially in the context of student entrepreneurship based on Islamic values.

H3: Academic–Industry Collaboration has a positive effect on Student Entrepreneurial Performance.

H6: Academic–Industry Collaboration has a positive effect on Halal Business Incubator Effectiveness.

H7: Academic–Industry Collaboration has a positive effect on Student Entrepreneurial Performance through Halal Business Incubator Effectiveness as a mediating variable.

RESEARCH METHOD

Sampling

This study examines how partnerships between universities and industries, support for Islamic finance, and halal business incubators impact students' success in business. It focuses on students from Universitas Sultanah Nahrasiyah Lhokseumawe in Aceh, Indonesia, a region that follows Sharia law. The research uses surveys to understand how these support systems help student-run halal businesses grow and survive. By linking student entrepreneurship to academic, industry, and Islamic financial support, the study contributes to the conversation on business environments in Islamic economics. The results aim to help universities, policymakers, and Islamic financial institutions develop better Sharia-compliant

strategies to enhance halal business incubators and student entrepreneurship.

Data Collection

Data were gathered using a structured questionnaire distributed directly to respondents. The survey aimed to collect insights into perceptions of academic–industry collaboration, support for Islamic finance, the effectiveness of halal business incubators, and student entrepreneurial outcomes. To improve clarity and relevance, the questions were adapted from well-established studies in Islamic economics, entrepreneurship, and business incubation. Responses were measured on a five-point Likert scale ranging from strongly disagree to strongly agree, enabling the quantification of subjective opinions and supporting statistical analysis. Data collection occurred during the incubation period to ensure responses accurately reflected experiences within the halal incubation environment program.

Table 1. Operational Variables

Variable	Indicators
Academic–Industry Collaboration (AIC)	1. Collaboration in halal product research and innovation 2. Industry involvement in mentoring and business assistance 3. Linking and matching entrepreneurship curriculum with the needs of the halal industry 4. Support for market networks and industrial technology 5. Transfer of knowledge and halal business practices
Islamic Finance Support (ISF)	1. Access to Sharia financing (<i>mudharabah</i>, <i>musyarakah</i>) 2. Support from Islamic banks, BMTs, and Islamic microfinance 3. The utilization of productive zakat and waqf 4. Sharia financial assistance and literacy 5. Compliance with Sharia principles and contracts
Halal Business Incubator Effectiveness (HBI)	1. Quality of halal business mentoring and coaching 2. Compliance of the incubation process with Sharia principles 3. Access to halal financing and markets 4. Success rate of incubated startups 5. Incubator governance based on Islamic values
Student Entrepreneurial Performance (SE)	1. Growth of turnover and scale of halal business 2. Sustainability of student enterprises 3. Innovation in halal products and services 4. Compliance with Sharia principles 5. Social contribution and creation of <i>maslahah</i>

Measures

The study looks at four main ideas. ‘Academic Industry Collaboration’ checks how universities and businesses work together to support halal business growth. This includes mentoring, knowledge sharing, and market access. ‘Islamic Finance Support’ examines whether financial services follow Sharia principles, such as profit-sharing and Islamic microfinance. ‘Halal Business Incubator Effectiveness’ measures how well incubation services work, focusing on mentoring, resources, Islamic values, and

startup success. ‘Student Entrepreneurial Performance’ shows business growth, sustainability, innovation, and Sharia compliance. All ideas were measured using Likert-scale questions. The reliability and accuracy of these measures were assessed using Structural Equation Modeling–Partial Least Squares (SEM-PLS), which includes validity and consistency tests. This method ensures the ideas truly represent Islamic entrepreneurship and halal business development.

RESULTS

Reliability, Convergent Validity, and Discriminant Validity

In PLS-SEM, testing a model involves two steps: checking the measurement model and the structural model. The measurement model examines how indicators relate to their latent variables, and it is assessed through validity and reliability tests. Validity is assessed using convergent validity, which requires a factor loading of at least 0.70 (0.50 to 0.60 is also acceptable), and discriminant validity, which requires cross-loadings of at least 0.70 (Bungin, 2006). Reliability is measured using Cronbach’s Alpha and composite reliability; a score of ≥ 0.70 indicates reliability. The structural model tests how hidden constructs are related by looking at the R-Square (R^2) value to see how much outside variables affect inside variables, the Q^2 value for predictive relevance (0.02 is weak, 0.15 is moderate, and 0.35 is strong), and path parameter significance tests using bootstrapping in SmartPLS 3.0, with t-statistics of ≥ 1.65 (10% significance), ≥ 1.96 (5%), and ≥ 2.58 (1%).

Table 2. Loadings, Composite Reliability, and Average Variance Explained

Item	Statement	Lf	CA	Rho	CR	AVE
AIC1	I feel there is active collaboration between the university and the halal industry in supporting the development of student enterprises.	0.729				
AIC2	I sense active collaboration between the university and the halal industry in supporting the development of student enterprises.	0.876				
AIC3	The entrepreneurship curriculum I am following is relevant to the needs of the halal industry.	0.886	0.908	0.917	0.932	0.735
AIC4	Sharia financing products available to suit my business needs and conditions.	0.896				
AIC5	Collaboration between universities and the halal industry yields sustainable benefits for my business’s development.	0.887				
ISF1	I have access to business financing provided by Islamic financial institutions.	0.836				
ISF2	Sharia-compliant financing products available according to my business needs and conditions.	0.805				

ISF3	The process of applying for Sharia financing is relatively easy and suits my abilities as a student.	0.877	0.890	0.894	0.919	0.695
ISF4	The process of applying for Sharia financing is relatively easy and suits my abilities as a student.	0.859				
ISF5	Support from Sharia financial institutions has helped sustain my business in the halal incubation program.	0.790				
HBI1	The incubator program provides regular and structured halal entrepreneurship training.	0.754				
HBI2	The incubator provides competent and experienced mentors in the halal business sector.	0.850	0.890	0.890	0.919	0.696
HBI3	The incubator helps me access both national and international halal markets.	0.827				
HBI4	The incubator facilitates halal certification for my products or business.	0.877				
HBI5	The incubator program has enhanced my managerial skills and business innovation.	0.855				
SE1	The incubator program has enhanced my managerial skills and business innovation.	0.826				
SE2	I can maintain the sustainability of my halal business.	0.893	0.857	0.890	0.897	0.638
SE3	I continuously innovate halal products or services.	0.889				
SE4	I manage the business's finances and run it in accordance with Sharia principles.	0.707				
SE5	I manage the business's finances and run it in accordance with Sharia principles.	0.848				

Table 3. *Discriminant Validity Assessment Using the HTMT Criterion*

Construct	AIC	IFS	HBI	SE
Academic–Industry Collaboration (AIC)	-			
Islamic Finance Support (IFS)	0.621	-		
Halal Business Incubator Effectiveness (HBI)	0.548	0.772	-	
Student Entrepreneurial Performance (SE)	0.463	0.681	0.814	-

Note: HTMT values below 0.85 indicate satisfactory discriminant validity, while values below 0.90 are considered acceptable for conceptually related constructs (Hair et al., 2022).

The results of the HTMT assessment indicate that all HTMT values are below the recommended threshold of 0.90. Therefore, discriminant validity is established, suggesting that each construct captures a distinct conceptual domain and that

multicollinearity among latent variables is not a concern. These findings confirm that Academic–Industry Collaboration, Islamic Finance Support, Halal Business Incubator Effectiveness, and Student Entrepreneurial Performance represent empirically distinct constructs.

Table 4. *Predictive Relevance Assessment*

Endogenous Construct	R ²	Interpretation	Q ²	Predictive Relevance	PLSpredict Result
Halal Business Incubator Effectiveness (HBI)	0.598	Moderate	0.412	Strong	High Predictive Power
Student Entrepreneurial Performance (SE)	0.781	Substantial	0.536	Strong	High Predictive Power

Source: Processed SmartPLS Output

The predictive relevance assessment demonstrates that the proposed model possesses satisfactory explanatory and predictive capabilities. The coefficient of determination (R²) indicates that Academic–Industry Collaboration and Islamic Finance Support explain approximately 59.8% of the variance in Halal Business Incubator Effectiveness. Furthermore, the combined effects of Academic–Industry Collaboration, Islamic Finance Support, and Halal Business Incubator Effectiveness explain approximately 78.1% of the variance in Student Entrepreneurial Performance. The blindfolding procedure shows positive Q² values for all endogenous constructs (Q² > 0), confirming that the model has predictive relevance. Specifically, the Q² values of 0.412 and 0.536 indicate strong predictive relevance according to the criteria proposed by Hair et al. (2022). In addition, the PLSpredict assessment indicates that the PLS-SEM model's prediction errors are lower than those of the benchmark linear model (LM) for most indicators. Therefore, the model demonstrates high predictive power and is suitable for predicting entrepreneurial outcomes within halal entrepreneurial ecosystems. There is no fixed recipe for presenting study findings. We will therefore first consider general guidelines, then turn our attention to options for reporting descriptive statistics and the results of the hypothesis test.

Table 5. *R Square and Adjusted R Square Values*

p	R Square	R Square Adjusted	f ² (Effect Size)	Nilai Q ²
Halal Business Incubator	0.873	0.872	6.874	0.960
Student Entrepreneurial Performance	0.682	0.672	2.145	

According to the structural model analysis, the R-square value for Halal Business Incubator is 0.873, indicating very strong explanatory power. Student Entrepreneurial Performance is 0.682, suggesting that most of the variation in the two endogenous variables is explained by the construct in the model. Based on the effect size (f²) test, the result indicates a large effect, indicating that the exogenous variables contribute substantially to the model's formation. Furthermore, the model's predictive relevance (Q²) of 0.960, which is greater than 0, indicates strong predictive power. All things considered, R-squared, predictive relevance, and effect size indicate that the model used in the research is valid, reliable, and suitable for explaining relationships among variables. We will therefore first consider general guidelines,

then turn our attention to options for reporting descriptive statistics and the results of the hypothesis test.

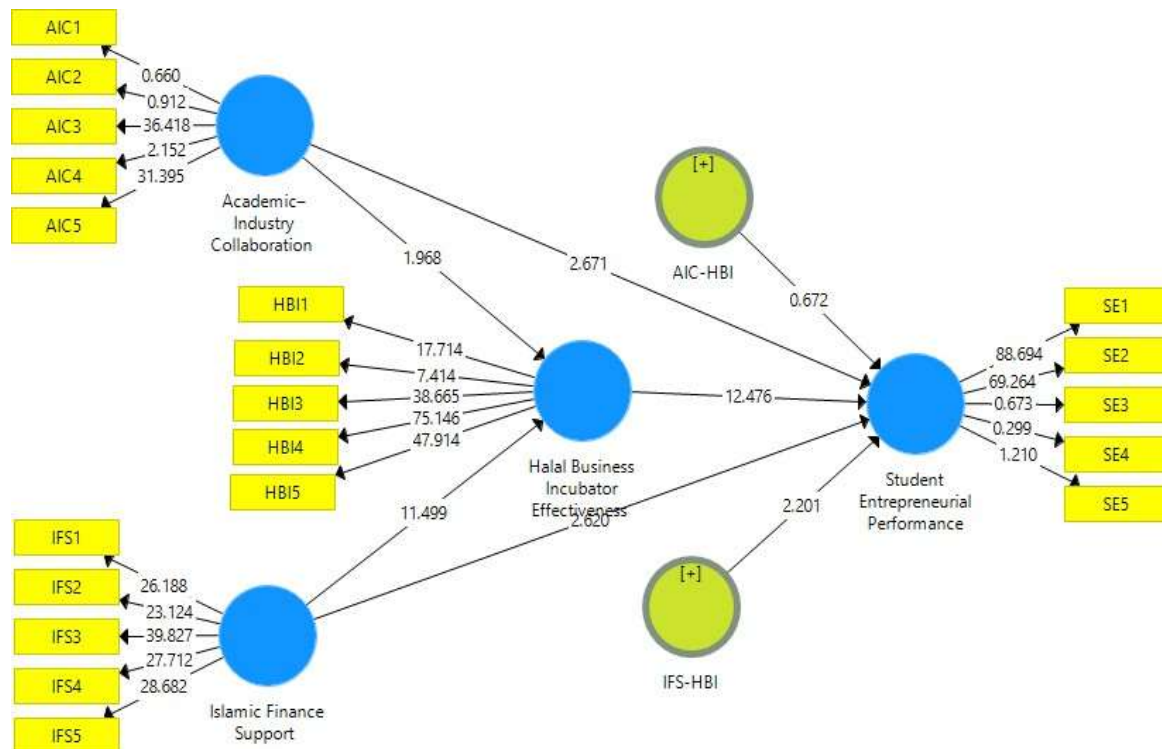


Figure 2 Bootstrapping

Table 5. Hypothesis Testing Results

		Original Sample	Sample Mean	Standard Deviation	T Statistics (O/S TDE V)	P Values
		(O)	(M)	(STDEV)		
Halal Business Incubator Effectiveness -> Student Entrepreneurial Performance		0.836	0.821	0.067	12.476	0.000
Islamic Finance Support -> Halal Business Incubator Effectiveness		0.694	0.695	0.060	11.499	0.000
Academic-Industry Collaboration -> Student Entrepreneurial Performance		0.134	0.141	0.050	2.671	0.008
Islamic Finance Support -> Student Entrepreneurial Performance		0.175	0.166	0.067	2.620	0.009

Performance						
IFS-HBI_Student Entrepreneurial Performance	->	0.124	0.137	0.057	2.201	0.028
Academic–Industry Collaboration	->	0.147	0.149	0.075	1.968	0.050
Halal Business Incubator Effectiveness						
AIC-HBI_Student Entrepreneurial Performance	->	0.033	0.046	0.050	0.672	0.502

The structural model results indicate that the Halal Business Incubator Effectiveness has a strong, statistically significant effect on Student Entrepreneurial Performance ($t = 12.476$; $p < 0.001$). This finding demonstrates that the extent to which halal incubators provide practical training, mentoring, market access, and Sharia-compliant guidance is decisive in improving students' entrepreneurial outcomes.

Furthermore, Islamic Finance Support has a significant influence on the Halal Business Incubator Effectiveness ($t = 11.499$; $p < 0.001$). This result suggests that access to Sharia-compliant financing, financial literacy programs, and ongoing financial mentoring enhances the Halal Business Incubator Effectiveness. In practical terms, incubators function more effectively when supported by Islamic financial institutions that align with students' ethical and religious values.

The analysis also reveals that Academic–Industry Collaboration has a direct and significant impact on Student Entrepreneurial Performance ($t = 2.671$; $p = 0.008$). This indicates that collaboration with industry partners—such as practitioner mentoring, curriculum alignment, and exposure to real-world market conditions—positively affects Student Entrepreneurial Performance, regardless of the incubator mechanism.

Similarly, Islamic Finance Support directly affects Student Entrepreneurial Performance ($t = 2.620$; $p = 0.009$), highlighting that Sharia-compliant financial access and support systems not only strengthen institutional mechanisms but also directly improve students' ability to manage, sustain, and grow their businesses. Regarding indirect effects, the results indicate that Islamic Finance Support has a significant indirect effect on Student Entrepreneurial Performance through the effectiveness of halal business incubators ($t = 2.201$; $p = 0.028$). This finding confirms the mediating role of Halal Business Incubators in translating Islamic Financial Support into tangible entrepreneurial outcomes, indicating a complementary relationship between financial institutions and incubation programs.

In contrast, although Academic–Industry Collaboration significantly affects the Halal Business Incubator Effectiveness ($t = 1.968$; $p = 0.050$), its indirect effect on Student Entrepreneurial Performance through incubator effectiveness is not statistically significant ($t = 0.672$; $p = 0.502$). This suggests that while collaboration with industry improves incubator operations, it does not necessarily enhance student performance through the incubator channel alone, implying the presence of alternative pathways or direct mechanisms.

DISCUSSION

This study examined the roles of the Halal Business Incubator Effectiveness, Islamic Finance Support, and Academic–Industry Collaboration in shaping students' entrepreneurial performance within a halal entrepreneurial ecosystem. By integrating institutional support mechanisms with value-based financial systems, this research contributes to a more holistic understanding of how student entrepreneurship can be effectively fostered in contexts where ethical and religious considerations are salient. The findings reaffirm the central importance of halal business incubators' effectiveness in enhancing students' entrepreneurial performance. The strong, significant relationship observed indicates that incubators offering structured training, mentoring, market access, and Sharia-compliant guidance are pivotal to translating entrepreneurial intentions into tangible business outcomes. This result aligns with prior studies emphasizing the critical role of university incubators in improving the quality, sustainability, and performance of student startups (Duval-Couetil et al., 2025; Opizzi et al., 2024). From a knowledge-based perspective, effective incubators function as learning platforms that reduce uncertainty and enhance students' managerial and entrepreneurial capabilities (Fithri et al., 2024, 2025; Mebarka & Sayah, 2025; Rabab'ah & Omoush, 2025; Rahma et al., 2025; Sohail et al., 2025; Souissi, 2025; Valliere & Nicholls-Nixon, 2024). The present study extends this literature by demonstrating that such effectiveness is particularly pronounced when incubation services are explicitly aligned with halal and Sharia principles.

Another key contribution of this study is the uncovering of the significant influence of support for Islamic finance on the effectiveness of halal business incubators. Access to Sharia-compliant financing, financial literacy initiatives, and ongoing financial mentoring appears to strengthen incubator operations by aligning institutional processes with students' ethical values. This finding corroborates earlier research highlighting the role of Islamic finance and financial literacy in supporting entrepreneurial ventures and halal ecosystems (Fithri et al., 2024, 2025; Mebarka & Sayah, 2025; Rabab'ah & Omoush, 2025; Rahma et al., 2025; Sohail et al., 2025; Souissi, 2025; Valliere & Nicholls-Nixon, 2024). It also supports the argument that value-based intermediation enhances institutional trust and participation, particularly among Muslim entrepreneurs who may avoid conventional interest-based financing (Al-Astewani & Sallam, 2025; Mohsin & Muneeza, 2025; Mujiatun et al., 2025; Velmurugan et al., 2025; Yunus & Rizal, 2025). Thus, Islamic finance support does not merely act as a funding source but functions as an enabling institutional infrastructure that enhances incubator effectiveness.

The study further reveals that academic–industry collaboration exerts a direct and significant impact on student entrepreneurial performance. This finding suggests that engagement with industry practitioners, exposure to fundamental market dynamics, and curriculum–industry alignment provide students with practical knowledge and networks that directly enhance business performance. This result is consistent with previous research demonstrating the positive outcomes of university–industry collaboration for entrepreneurial learning and performance (Fithri et al., 2024, 2025; Mebarka & Sayah, 2025; Rabab'ah & Omoush, 2025; Rahma et al., 2025; Sohail et al., 2025; Souissi, 2025; Valliere & Nicholls-Nixon, 2024). It also reinforces ecosystem-based perspectives, which argue that direct interaction with industry actors accelerates experiential learning and market readiness (Duval-Couetil et al., 2025; Efendy & Pusparini, 2025; Oh et al., 2025; Putra & Hotman, 2025; Riyaldi et al., 2024).

Interestingly, although academic–industry collaboration significantly improves the effectiveness of halal business incubators, its indirect effect on student

entrepreneurial performance through the incubator is not statistically significant. This non-significant mediation suggests that the benefits of industry collaboration may bypass incubator mechanisms and operate through alternative pathways, such as direct mentoring, informal networks, or experiential learning opportunities. Similar patterns have been observed in prior studies, indicating that industry engagement often influences entrepreneurial outcomes independently of formal institutional structures (Duval-Couetil et al., 2025; Efendy & Pusparini, 2025; Oh et al., 2025; Putra & Hotman, 2025; Riyaldi et al., 2024). One possible explanation is that students may leverage industry relationships more individually, reducing reliance on incubator-mediated support. This finding highlights the differentiated roles within entrepreneurial ecosystems, where not all institutional linkages necessarily translate into mediated performance outcomes.

In contrast, Islamic finance support has both direct and indirect effects on students' entrepreneurial performance, confirming the mediating role of the halal business incubator's effectiveness. This dual pathway underscores the complementary relationship between financial institutions and incubation programs. Islamic finance support directly enhances students' capacity to manage and grow their ventures, while indirectly strengthening performance by improving the operational quality of incubators. This finding aligns with studies that emphasize the synergistic integration of Islamic finance and entrepreneurial support systems (Duval-Couetil et al., 2025; Efendy & Pusparini, 2025; Oh et al., 2025; Putra & Hotman, 2025; Riyaldi et al., 2024). It also reinforces the argument that financial systems aligned with religious and ethical values can reduce psychological and institutional barriers to entrepreneurship (Duval-Couetil et al., 2025; Efendy & Pusparini, 2025; Oh et al., 2025; Putra & Hotman, 2025; Riyaldi et al., 2024).

From a managerial and policy perspective, these findings imply that universities should not treat incubators, industry partnerships, and Islamic finance support as isolated interventions. Instead, a coordinated yet differentiated strategy is required. Halal business incubators should actively integrate Islamic financial institutions into their operational frameworks. At the same time, academic–industry collaborations should be designed to deliver direct experiential benefits to students beyond formal incubation programs. Policymakers and university administrators may also consider embedding Islamic financial literacy and value-based financing instruments into entrepreneurship education curricula to strengthen long-term entrepreneurial performance (Duval-Couetil et al., 2025; Efendy & Pusparini, 2025; Oh et al., 2025; Putra & Hotman, 2025; Riyaldi et al., 2024).

Despite its contributions, this study has several limitations. First, the cross-sectional design restricts the ability to capture dynamic changes in entrepreneurial performance over time. Second, the focus on student entrepreneurs within halal incubator settings may limit the generalizability of the findings to non-halal or non-student entrepreneurial contexts. Third, reliance on self-reported measures may introduce response bias. These limitations suggest caution in interpreting causal relationships and external validity.

Future research could address these limitations by employing longitudinal designs to examine how Islamic finance support and incubator effectiveness evolve across different stages of venture development. Additionally, comparative studies across countries or between halal and non-halal incubator models could provide deeper insights into contextual differences. Further exploration of alternative mediating mechanisms, such as psychological capital, entrepreneurial self-efficacy, or informal networks, may also enrich the understanding of how academic–industry collaboration influences student entrepreneurial outcomes (Duval-Couetil et al., 2025; Efendy & Pusparini, 2025; Oh et al., 2025; Putra & Hotman, 2025; Riyaldi et al., 2024). Overall, this study advances the literature on entrepreneurship and Islamic

finance by demonstrating that, while academic– industry collaboration primarily operates through direct mechanisms, Islamic finance supports functions through both direct and mediated pathways via halal business incubators. These findings emphasize the importance of integrated, value-based entrepreneurial ecosystems that recognize the distinct yet complementary roles of institutional actors in fostering sustainable student entrepreneurship.

The insignificant mediating effect of Halal Business Incubator Effectiveness in the relationship between Academic–Industry Collaboration and Student Entrepreneurial Performance suggests that industry collaboration may generate entrepreneurial benefits through mechanisms beyond formal incubation structures. Resource Dependence Theory argues that entrepreneurs actively seek external resources directly from industry actors when institutional channels are perceived as less efficient or more bureaucratic. In the Aceh context, student entrepreneurs may rely more heavily on direct mentoring relationships, industrial networking, and experiential learning opportunities provided by industry practitioners rather than incubator-facilitated interactions. Consequently, the value created through Academic–Industry Collaboration may bypass formal incubator mechanisms and directly influence entrepreneurial performance outcomes.

CONCLUSION

This study explored how the effectiveness of halal business incubators, Islamic finance support, and academic–industry collaboration enhances student entrepreneurial performance within a halal entrepreneurial ecosystem. The findings show that effective halal business incubators are essential for translating students' entrepreneurial capabilities into measurable outcomes. Incubators that offer structured training, mentoring, market access, and Sharia-compliant guidance significantly improve students' business performance. Islamic finance support plays a dual role: directly providing Sharia-compliant financial access and guidance, and indirectly enhancing performance by strengthening incubators' effectiveness. This highlights the need to integrate Islamic financial institutions into university-based entrepreneurial support. Academic–industry collaboration primarily impacts students' entrepreneurial performance through direct channels, such as practitioner mentoring and real-world market exposure, rather than through incubators. Overall, the study demonstrates the distinct yet complementary roles of incubators, Islamic finance, and academic–industry collaboration. The results suggest that developing student entrepreneurship in halal contexts requires a coordinated approach that aligns educational support, industry engagement, and value-based financial systems. These insights provide practical guidance for universities, policymakers, and financial institutions seeking to build sustainable, inclusive halal entrepreneurial ecosystems.

LIMITATION

While this study provides valuable insights, several limitations should be acknowledged. First, the cross-sectional Design prevents the identification of causal relationships and the tracking of changes in student entrepreneurial performance over time. As a result, the findings reflect associations rather than longitudinal effects, which may affect internal validity and limit evidence of causation. Second, focusing on student entrepreneurs in halal business incubators may limit the generalizability of the results to other contexts, such as conventional incubators or non-student entrepreneurs. This specificity may affect external validity and restrict the applicability of the findings to a narrow subset of entrepreneurs. Third, reliance on self-reported data introduces the risk of response bias, as participants' perceptions may not reflect actual business performance. Despite the use of validated

instruments, this bias could weaken observed relationships and affect the interpretation of the study's outcomes. These limitations do not diminish the study's conclusions, but they do suggest caution when interpreting the results. Future research should use longitudinal designs. Future research should use longitudinal designs, objective performance measures, and comparative settings to enhance robustness and generalizability.

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