

Building Sustainable Islamic Education: The Power of Innovative Entrepreneurship Education Management

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Abstract:

This study examines innovative management in entrepreneurship education that integrates Islamic values with environmental sustainability in Islamic schools. The primary focus of this research is active collaboration between Islamic schools and external partners as a strategy to build a sustainable entrepreneurial ecosystem. Using a qualitative approach with a case study, data collection techniques included interviews, observation, and documentation. Data analysis was conducted using a thematic analysis approach to identify patterns within the data. The results indicate that through instilling the values of *khalifah fil ardh* (vicegerent) and *hifdzul bi'ah* (leadership), utilizing local waste as production materials, integrating the curriculum, extracurricular activities, and external collaboration, the Islamic school successfully created a holistic entrepreneurial ecosystem. This innovation significantly increased students' independence, skills, and systematic thinking, while strengthening the role of teachers as facilitators and mentors. The implications of this research demonstrate the importance of integrating Islamic values and environmental sustainability in entrepreneurship education in Islamic schools. This holistic approach can serve as a model for other Islamic schools in building independent entrepreneurial ecosystems while strengthening the role of teachers as facilitators in creating an innovative and responsible generation.

Keywords: *Entrepreneurship Education, Environmental Sustainability, Collaboration*

Abstrak:

Penelitian ini mengkaji manajemen inovatif dalam pendidikan kewirausahaan yang mengintegrasikan nilai-nilai Islam dengan keberlanjutan lingkungan di madrasah. Fokus utama penelitian ini adalah kolaborasi aktif antara madrasah dan mitra eksternal sebagai strategi untuk membangun ekosistem kewirausahaan yang berkelanjutan. Menggunakan pendekatan kualitatif dengan jenis studi kasus, teknik pengumpulan data yang digunakan adalah wawancara, observasi, dan dokumentasi. Analisis data dilakukan dengan pendekatan analisis tematik untuk mengidentifikasi pola dalam data. Hasil penelitian menunjukkan bahwa melalui penanaman nilai *khalifah fil ardh* dan *hifdzul bi'ah*, pemanfaatan limbah lokal sebagai bahan produksi, integrasi kurikulum, kegiatan ekstrakurikuler, dan kolaborasi eksternal, madrasah berhasil menciptakan ekosistem kewirausahaan yang holistik. Inovasi ini secara signifikan meningkatkan kemandirian, keterampilan, dan pola pikir sistematis siswa, sekaligus memperkuat peran guru sebagai fasilitator dan mentor. Implikasi penelitian ini menunjukkan pentingnya integrasi nilai-nilai Islam dan keberlanjutan lingkungan dalam pendidikan kewirausahaan di madrasah. Pendekatan holistik ini dapat menjadi model bagi madrasah lainnya dalam membangun ekosistem kewirausahaan yang mandiri, sekaligus memperkuat peran guru

sebagai fasilitator dalam menciptakan generasi yang inovatif dan bertanggung jawab.
Kata Kunci: Pendidikan Kewirausahaan, Keberlanjutan Lingkungan, Kolaborasi

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INTRODUCTION

Entrepreneurship education has long been recognized as an essential catalyst for economic growth and individual development, equipping learners with innovative skills and an adaptive mindset (Bhoyar et al., 2025; Ou & Kim, 2024; Patrício & Ferreira, 2024). However, in the context of Islamic education, especially in madrasas, entrepreneurial integration is often still partial, not yet fully encompassing the dimensions of environmental sustainability and *Maqāṣid Sharī'ah* values (Asni, 2022; Mukhtar et al., 2022; Subaidi et al., 2023). Studies show that, despite efforts to incorporate an entrepreneurial element, the focus often remains on the profitability aspect alone, overlooking the potential to foster ecological awareness and social responsibility (Busch et al., 2024; Chenavaz et al., 2023; Marrucci et al., 2025). This phenomenon has become even more relevant in the era of disruption, where global environmental challenges demand that every sector, including education, contribute to sustainable solutions. Therefore, it is essential to understand how madrasas can design and implement entrepreneurship programs that not only produce successful entrepreneurs but also cultivate citizens who value the preservation of nature and uphold Islamic ethics in their business practices.

Various previous studies have examined entrepreneurship education from diverse perspectives, demonstrating the importance of individual capacity building. Some of the existing and related specific studies highlight the urgency of fostering an entrepreneurial spirit for students, emphasizing how the relevance of these skills is crucial to facing short- and medium-term economic challenges, and preparing them to become adaptive economic actors (Ben Hassen, 2022; Biney, 2023; Nate et al., 2022). Furthermore, Kılıç & Atilla (2024) and Gomez (2024) concur that entrepreneurship education is not merely a choice. However, a necessity (*must*) in building a sustainable society, indicating that the impact of entrepreneurship goes beyond the economic realm and touches the social and environmental dimensions. Meanwhile, studies on the integration of Islamic values in various aspects of life have also been carried out, including discussing coastal reclamation from the perspective of *Maqāṣid Sharī'ah* for environmental conservation, emphasizing the principle of *hifdzul bi'ah* or maintaining nature preservation as an integral part of Islamic teachings (Azmin Shompa et al., 2025; de Vries & Rudiarto, 2023; Rabiou et al., 2025). However, there have been few studies that systematically analyze entrepreneurial education management innovations, integrating Islamic values and environmental awareness in the context of formal education, especially in madrasas, thereby creating gaps in the literature that need to be addressed.

Although the existing literature has emphasized the importance of entrepreneurship education and the relevance of Islamic values in the context of sustainability, a significant gap remains in understanding how entrepreneurial education management innovations can effectively integrate these two dimensions in real-world practice within madrasas. Previous research has tended to address entrepreneurship as a separate economic entity or environmental sustainability without highlighting innovative managerial mechanisms in Islamic education. This gap is crucial because, without a systematic management model, efforts to instill the values of *the caliphate* and *hifdzul bi'ah* through entrepreneurship will remain sporadic and less impactful. Therefore, this research problem focuses on identifying and analyzing management innovations in entrepreneurship education in madrasas that successfully integrate Islamic values and environmental awareness, thereby filling the knowledge gap regarding the holistic implementation of such values in religious education institutions.

The uniqueness of this research lies in its holistic approach, which analyzes explicitly the management innovations of entrepreneurial education by combining the management function of George R. Terry (POAC) with an ecology-based entrepreneurial approach within the framework of Islamic education. This approach is still rarely applied in the context of formal Islamic education, providing new insights into how conventional managerial principles can be adapted and enriched with spiritual and environmental values. The study also highlights active collaboration between madrasas and external partners as a key strategy for building a sustainable entrepreneurial ecosystem. This aspect has often been underemphasized in previous studies. With a focus on the development of Islamic character, ecological awareness, and students' practical skills, this study not only broadens the understanding of entrepreneurial education management but also offers an effective, applicable model for contextually and sustainably improving the quality of Islamic education.

This research aims to explore and analyze in depth the innovation of entrepreneurial education management that combines Islamic values and environmental sustainability in madrasas, with a focus on environmentally conscious entrepreneurship education design, the strategic implementation of the value-based Adiwiyata Madrasah program, and managerial functions, as well as the transformation of the resulting human resources. Through a case study at MA Al Hikam Jombang, this study seeks to identify best practices in the management of holistic entrepreneurship programs, outline how Islamic values are internalized at every stage, and analyze their transformative impact on students and teachers. The ultimate goal is to present a comprehensive model that can serve as a guide for other Islamic educational institutions in developing relevant, sustainable, and ethically grounded entrepreneurship education, thereby contributing to the improvement of the Islamic education contextually and sustainably.

RESEARCH METHOD

This research employs an intensive case study design, strategically selected to explore in-depth the phenomenon of entrepreneurial education management

innovation at MA Al Hikam Jombang, East Java. This design is particularly relevant to research problems that focus on *how* and *why* Environment-based entrepreneurship programs can be implemented effectively in the context of madrasas (Ehlert et al., 2024; Ma et al., 2022; Zitar et al., 2022). MA Al Hikam Jombang is a setting rich in unique dynamics, allowing researchers to understand the complexity of the interaction between Islamic values, environmental awareness, and entrepreneurial practices. As a type of qualitative research, this case study allows for a holistic and contextual exploration of informants' experiences, perceptions, and practices (Aguzzoli et al., 2024; Alkouatli, 2024; Pretorius, 2024). The qualitative research approach, rooted in the interpretivist paradigm, provides a theoretical basis for understanding the subjective meanings that individuals construct within their social environment (Burns et al., 2022; Kouam Arthur William, 2024; Lim, 2024). This approach facilitates the exploration of more profound insights into the motivations, challenges, and successes of managing entrepreneurship education, with a focus on rich narratives and interpretations of field data.

Data collection in this study was conducted through in-depth interviews, document analysis, and field observations (Khoa et al., 2023; Natow, 2020; Schlunegger et al., 2024). In-depth interviews were chosen to capture the personal experiences and perceptions of key informants, providing a rich and contextual narrative regarding the implementation of the entrepreneurship program. The findings in the field, which involved participatory observation of students' production and marketing activities, confirmed the real practices and dynamics of interaction in the madrasah environment. The researcher acts as the main instrument in the data collection process, interacting directly with the informant. The research was conducted at MA Al Hikam, allowing researchers to build rapport and collect in-depth data. To ensure the credibility of the results, data triangulation techniques and *member checking* were applied consistently.

Data analysis in this qualitative research employs a thematic analysis approach, which enables the systematic identification, analysis, and reporting of patterns (themes) in the data (Braun & Clarke, 2021; Jowsey et al., 2021; Morgan, 2022). The analysis process begins with a verbatim transcription of the interview, followed by familiarization of the data through repeated reading. Next, the researcher conducts the initial coding, grouping the codes into potential themes, and reviewing the themes to ensure internal and external coherence. Data categorization and abstraction were conducted to compile findings narratively and descriptively, linking informant citations with the findings in the field. To enhance the credibility of the results, data triangulation from various sources (interviews, documents, and field findings) is employed to validate emerging patterns and themes (Hammerton & Munafò, 2021; Kavar et al., 2024; Stamenkov, 2023). Moreover *member checking* This is done by presenting the initial findings to the informant to verify the accuracy of the researcher's interpretation, thus ensuring that the data analysis reflects the reality experienced by the research subject and produces more profound and more detailed insights (Aguzzoli et al., 2024; Morgan, 2022; Schlunegger et al., 2024).

RESULT AND DISCUSSION

Result

Environmentally Conscious Entrepreneurship Education Design

The design of entrepreneurship education is conceptually rooted in the integration of Islamic values and environmental awareness, which is applied through the *Adiwiyata* program. This program aims to equip students with entrepreneurial character and business skills based on Islamic principles, one of which is the role of humans as stewards of the earth. Appropriately, madrasahs utilize local resources and waste as raw materials for production, such as compost, eco-enzyme soaps, patchwork bags, and canned leaf tea. This approach not only fosters skills but also promotes ecological awareness in graduates, demonstrating that entrepreneurship is not only a business practice but also a means to revive Islamic ethics and social responsibility.

The cultivation of Islamic values in every entrepreneurial activity is the primary foundation for shaping the character of ethical and responsible students, in line with the role of *the caliph* in the world. "Through waste management and recycling activities, students are given the understanding that waste or items around them can be turned into products of selling value (I_T)." In addition, the focus on environmentally friendly products underscores the madrasah's commitment to entrepreneurial development grounded in Islamic ethics. This was expressed by the principal on one of the occasions when he revealed, "With entrepreneurship that cares about the environment, MA Al Hikam wants to show the role of humans as *caliphs fil ardh*, which is expected to provide great benefits in the economic, social, and environmental fields (I_HM)." Furthermore, he also revealed that this program not only emphasizes the business aspect but also integrates religious values that guide students in conducting business with integrity, adhering to Islamic moral principles. "The program not only focuses on the entrepreneurial aspect in a business context, but also integrates religious values that can guide students in running their businesses with good ethics and based on Islamic moral principles (I_HM)."

From a series of statements given by the research informants above, it is known that the cultivation of Islamic values is intrinsically integrated in every aspect of entrepreneurial education activities in madrasahs, serving as the primary foundation in shaping the character of ethical and responsible students, in line with the role of human beings as *caliphs fil ardh*, that is, the steward of the earth. The program directly teaches students how to turn waste into products of economic value, fostering a practical understanding of sustainability and environmental responsibility. The focus on environmentally friendly products is not just a business strategy, but a tangible manifestation of the madrasah's commitment to entrepreneurship based on Islamic ethics and moral principles. This means that the program not only emphasizes the business aspect but also explicitly integrates religious values to guide students in doing business ethically, extending beyond mere profit orientation, resulting in individuals who are not only capable of conducting business but also morally and environmentally responsible.

The design of environmentally conscious entrepreneurship education successfully integrates Islamic values and ecological awareness in every aspect of its program. Through instilling entrepreneurial values that prioritize environmental care and the responsible use of local resources and waste, madrasas can help shape the character of students who are independent, creative, and responsible for the environment and society. These findings confirm that entrepreneurship education in madrasas not only focuses on the business aspect, but also the formation of individuals with noble character and ecological awareness, through the role of *the caliph fil ardh*.

Implementation of Value-Based Entrepreneurship in Madrasah Adiwiyata

The strategic implementation of the entrepreneurship program is based on the Adiwiyata values and the managerial function of George R. Terry (POAC: *planning, organizing, actuating, and controlling*) to build a holistic and contextual entrepreneurial ecosystem. This approach ensures that every stage of the program, from planning to implementation, is aligned with the madrasah's goal of producing a generation that is not only capable of conducting business but also possesses an Islamic character and is environmentally conscious. This program integrates entrepreneurship education into various madrasah activities, ranging from intracurricular activities that cover multiple subjects to more specialized extracurricular activities, as well as self-development programs designed to enhance soft skills. In addition, this implementation actively involves collaboration with external partners, enriching students' learning experiences and opening up new opportunities for madrasah development.

The entrepreneurship curriculum is integrated across subjects and extracurricular activities to ensure a comprehensive and applicable understanding. This was expressed by one of the teachers who stated that, "MA Al Hikam tries to instill entrepreneurship education by integrating it into intracurricular activities such as biology, chemistry, English, Indonesian, fine arts, economics, and PWKU with a theoretical and practical approach (I_T)." In addition, extracurricular activities are an important forum to hone students' practical skills according to their interests and talents, "Extracurricular activities related to entrepreneurship are entrepreneurship, sewing, and calligraphy (I_T)". "As a form of student self-development, entrepreneurship education is integrated into self-development programs such as workshops, bazaars, festivals, art performances, and edutourism (I_T)."

Based on the results of the interviews conducted, it is evident that the entrepreneurship curriculum in this madrasah is designed holistically, encompassing not only one subject but also integrating it across disciplines and extracurricular activities. This approach ensures that students' understanding of the concept of entrepreneurship is comprehensive, encompassing both theoretical and practical aspects. Integration into intracurricular subjects such as biology, chemistry, English, and economics demonstrates an effort to instill an understanding of entrepreneurship in diverse contexts. Moreover, extracurricular roles such as entrepreneurship, sewing, and calligraphy become crucial platforms for students to hone practical skills and develop their specific interests and talents.

Various self-development programs, such as workshops, bazaars, and *edutourism*, are also vital means of personal growth and development. This demonstrates that the goal is not only the transfer of business knowledge, but also the development of strong character and interpersonal skills that are essential for success in both the business world and life. In addition, to fully understand how the management innovation of environment-based entrepreneurship education works, it is necessary to present a model that represents the implementation of integrated managerial functions, namely the management innovation model that involves four primary functions of George R. Terry, namely planning, organization, implementation, and control (POAC) at MA Al Hikam as shown in table 1.

Table 1. Integrated Model of Entrepreneurship Education Management Based on Environment Stages

Stages	Activity Description
Planning	Analysis of environmental-based entrepreneurship needs, as well as the preparation of programs that integrate Islamic values and sustainability principles.
Organizing	Arrangement of human resources, facilities, and partnerships with external parties to support various entrepreneurial activities.
Actuating	The implementation of entrepreneurial activities includes the production of ecoenzyme soap, canned tea, and practical skills training for students.
Controlling	Monitoring and evaluating the program periodically to ensure its sustainability and improvement in the quality of entrepreneurship education.

Upon examining the essence of the strategic implementation of the entrepreneurship program, it is clear that the adopted approach has successfully created a comprehensive and highly applicable learning ecosystem. This approach is fundamentally based on Adiwiyata's values of fostering environmental awareness, combined with practical managerial functions to ensure the sustainability and effectiveness of the program. The integration of entrepreneurship into the curriculum, extracurricular activities, and student self-development has systematically become a key pillar. More than just the acquisition of theoretical knowledge, these efforts, coupled with active collaboration with external partners, effectively ensure that learners can hone practical skills and gain hands-on experience. This phenomenon is crucial in forming an entrepreneurial spirit and fostering strong independence in every student, reflecting strategic success in the context of modern education.

Human Resource Transformation through Innovation in Entrepreneurial Education Management

The transformation of human resources through entrepreneurial education management innovations significantly contributes to improving the overall quality of Islamic education. The program not only equips students with cognitive and religious aspects but also with entrepreneurship-based life skills that are systematically and sustainably designed. The theoretical and practical approaches applied encourage the growth of creativity, innovation, and student independence, in line with Islamic values. The impact of this transformation is evident in both the short and long term, affecting the quality of students and teachers.

The active involvement of students in entrepreneurial activities has been proven to increase their independence and performance, both in practical and academic aspects. They are actively involved in entrepreneurial activities, such as producing soap from ecoenzymes, creating patchwork bags, and composting organic waste. They market these products through social media and school bazaars. These activities build self-confidence and pride in their work (I_S)." In the long term, this program fosters students' entrepreneurial capabilities and identities. They can compile a complete business plan, make product samples, calculate production costs, and present them in the edutourism program. This activity fosters self-efficacy and systematic thinking skills (I_S)."

Positive impacts can also be seen in improving the quality of teachers as facilitators and mentors, who are actively involved in student guidance and external collaboration. "PKWU teachers, for example, routinely guide students in compiling business plans, developing marketing strategies, and evaluating sales reports. Teachers are not only teachers, but also facilitators and mentors. The active role of teachers is also evident in extracurricular sewing and calligraphy activities, where they are directly involved in technical assistance and marketing of products such as menspad and waste paper calligraphy (I_T)."

Based on the results of the interviews conducted, students' active involvement in entrepreneurial activities significantly enhances their independence and performance. Through direct participation in the production of eco-friendly products, such as *ecoenzyme* soaps and *patchwork* bags, and their marketing through social media and school bazaars, students not only hone practical skills but also build confidence and pride in their work. In the long run, the program has been proven to shape students' mature entrepreneurial capabilities and identities, including the ability to develop comprehensive business plans, create product samples, calculate production costs, and present their ideas, which collectively foster *self-efficacy* and the ability to think systematically. Furthermore, this positive impact extends to improving the quality of teachers, especially PKWU teachers, who act as active facilitators and mentors, provide regular guidance in the development of business plans, marketing strategies, and sales evaluations, and are directly involved in technical assistance and marketing of extracurricular products. Departing from this, the transformation through the management of entrepreneurship education at MA Al Hikam is as shown in Figure 1.

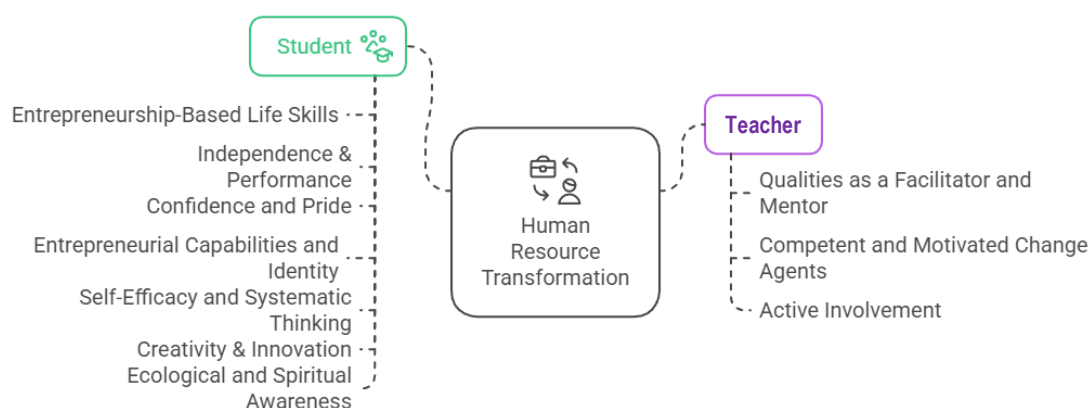


Figure 1. Transformation of Entrepreneurship Education Management

Innovations in entrepreneurial education management are significantly transforming human resources, both at the student and teacher levels. Based on the findings, the students showed substantial improvements in independence, mastery of practical skills, and the ability to think systematically. This phenomenon reflects the program's success in equipping participants with not only cognitive and religious aspects but also essential life skills based on entrepreneurship. On the other hand, teachers also develop into competent and motivated agents of change, active in encouraging students' creativity and innovation. This transformation confirms that entrepreneurship education in madrassas goes beyond the economic dimension alone. This program succeeds in cultivating individuals who possess a high level of ecological and spiritual awareness, in harmony with Islamic values. Therefore, this innovation lays a crucial foundation for the continuous improvement of Islamic education quality, demonstrating a holistic education model that is both relevant and adaptable.

Discussion

This research reveals that innovations in the management of entrepreneurial education have significantly transformed both the human resources of students and teachers. Students demonstrate a substantial increase in independence, as reflected in their ability to manage the entire production cycle, from marketing environmentally friendly products. Their practical skills are developing rapidly, supported by direct involvement in the manufacture of compost, eco-enzyme soaps, and other recycled products. Additionally, students' systematic thinking skills are refined through the preparation of business plans and comprehensive activity reports. On the other hand, teachers also experience increased capacity, developing into competent and motivated agents of change. They not only play the role of teachers but also serve as facilitators, mentors, and key movers in the madrasah entrepreneurial ecosystem. This holistic transformation shows that entrepreneurship education has managed to go beyond mere economic goals, shaping individuals who are not only financially independent, but also have a high ecological and spiritual awareness, making it an important foundation for the sustainable and relevant improvement of the quality of Islamic education in the modern era.

This research makes a significant contribution to the existing knowledge about entrepreneurship education, particularly in the context of madrassas and the integration of environmental and Islamic values. Previous research has often focused on the economic or managerial aspects of entrepreneurship in general; however, this study broadens the perspective by highlighting the dimensions of Islamic ethics and environmental sustainability as the core of program design and implementation (Asni, 2022; Mukhtar et al., 2022; Subaidi et al., 2023). Meanwhile, the findings of this study show that teachers actively adjust curricula and activities based on continuous analysis of student involvement in production and marketing, in line with research showing that teachers in a personalized learning model utilize student mastery and achievement data to provide educational recommendations. (Ben Hassen, 2022; Busch et al., 2024; Nate et al., 2022). Meanwhile, this study also situates the use of data within the framework of

Adiwiyata values and the managerial function of POAC, an area that has not been widely explored. It fills a gap in the literature on how innovative entrepreneurship education can be implemented holistically in Islamic educational institutions, addressing the contradiction between profit orientation and ecological and spiritual responsibility.

The findings of this study align with George R. Terry's theoretical framework of POAC (*planning, organizing, actuating, and controlling*) in the context of entrepreneurship education management. Aspects *Planning*. This is evident from the curriculum design, which integrates Islamic and environmental values, as well as setting goals to produce environmentally friendly products (Aguzzoli et al., 2024; Kouam Arthur William, 2024; Nie et al., 2024). *Organizing* is reflected in the formation of madrasah business units and the establishment of collaboration structures with external parties. *Actuating* is realized through the active involvement of students in production and marketing, as well as the role of teachers as facilitators and mentors.

Meanwhile, *Controlling* It can be seen from the regular guidance of teachers in compiling sales reports and evaluating activities. From a theoretical perspective, students' and teachers' positive responses to the program may be based on a deep understanding of the relevance of environmental entrepreneurship to their futures, rather than merely complying with policy. This shows that *sensemaking* not only at the individual level, but also at the organizational level, where madrasahs collectively understand and internalize the values of Adiwiyata (Asni, 2022; Chenavaz et al., 2023; Marrucci et al., 2025). The theoretical contribution of this research is to demonstrate how the POAC framework can be enriched with the dimensions of values and ethics in the context of Islamic education, as well as to explain how the theory of *sensemaking* can account for the adoption of complex managerial innovations in educational settings.

Innovations in entrepreneurial education management have successfully created a transformative educational model, yielding economically superior, ecologically responsible, and spiritually enriched human resources. These findings are important because they broaden the understanding of how entrepreneurship education can be implemented holistically in Islamic educational institutions, beyond just profit orientation. This research enriches George R. Terry's POAC theory by showing its application in the context of value-based education, giving a new dimension to every managerial function. In addition, this study contributes to the understanding of how *sensemaking* theory can explain the adoption of complex managerial innovations in madrasah settings, where a collective understanding of program relevance is crucial to success. The specific contribution of this research is to provide a practical framework for other madrasah to develop entrepreneurship programs that are not only competitive but also environmentally responsible and grounded in Islamic values, thereby advancing the theory and practice of sustainable entrepreneurship education.

CONCLUSION

This research addresses the urgent need for an entrepreneurial education model that is not only oriented towards economic profits but also capable of integrating spiritual values and environmental responsibility, particularly in the

context of Islamic educational institutions, such as madrasas. Through the exploration of entrepreneurial education management innovations, it was found that this program successfully transformed students' independence and practical skills, while also strengthening the role of teachers as agents of change. The strategic implementation, based on the values of *Adiwiyata* and the managerial functions of George R. Terry, has created a holistic and applicable learning ecosystem, where students are actively involved in producing eco-friendly products and teachers become competent facilitators. These findings suggest that entrepreneurship education in madrasas has significant potential to produce individuals who are not only economically independent but also possess high ecological and spiritual awareness, in line with the role of *caliph fil ardh*. Therefore, this study recommends more explicit policy development, ongoing teacher training, and industry-education collaboration to expand these positive impacts, while enriching POAC theory and *sensemaking* in the context of value-based education.

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REFERENCES

- Aguzzoli, R., Lengler, J., Miller, S. R., & Chidlow, A. (2024). Paradigms in Qualitative IB Research: Trends, Analysis and Recommendations. *Management International Review*, 64(2), 165–198. <https://doi.org/10.1007/s11575-024-00529-5>
- Alkouatli, C. (2024). Illuminating Data Beyond the Tangible: Exploring a Conceptually-Relevant Paradigmatic Frame for Empirical Inquiry With Muslim Educators. *International Journal of Qualitative Studies in Education*, 37(8), 2466–2484. <https://doi.org/10.1080/09518398.2024.2318301>
- Asni, F. (2022). The Difference of Shariah Risk Potential and Shariah Risk in Personal Financing Products Based on Tawarruq Munazzam Contracts Practised in Malaysia. *Qualitative Research in Financial Markets*, 14(1), 95–118. <https://doi.org/10.1108/QRFM-01-2021-0013>
- Azmin Shompa, Z., Akbar, M. A., & Mohd Mohadis, H. (2025). Harmonizing Maqasid al-Shari'ah With Sustainable Waste Management Practices: A Conceptual Framework for Principles and Implementation. *International Journal of Islamic and Middle Eastern Finance and Management*, 18(1), 142–165. <https://doi.org/10.1108/IMEFM-02-2024-0061>
- Ben Hassen, T. (2022). A Transformative State in the Wake of COVID-19: What Is Needed to Enable Innovation, Entrepreneurship, and Education in Qatar? *Sustainability (Switzerland)*, 14(13), 7953. <https://doi.org/10.3390/su14137953>

- Bhoyar, P. K., Chitrao, P. V., & Divekar, B. R. (2025). Long-Term Outcomes and Resilience in Entrepreneurship Education 2024: Evaluating Career Success and Adaptability. *Cogent Education*, 12(1), 2479399. <https://doi.org/10.1080/2331186X.2025.2479399>
- Biney, I. K. (2023). Adult Education and Entrepreneurship: Getting Young Adults Involved. *Journal of Innovation and Entrepreneurship*, 12(1), 13. <https://doi.org/10.1186/s13731-023-00277-0>
- Braun, V., & Clarke, V. (2021). Can I Use TA? Should I Use TA? Should I Not Use TA? Comparing Reflexive Thematic Analysis and Other Pattern-Based Qualitative Analytic Approaches. *Counselling and Psychotherapy Research*, 21(1), 37–47. <https://doi.org/10.1002/capr.12360>
- Burns, M., Bally, J., Burles, M., Holtslander, L., & Peacock, S. (2022). Constructivist Grounded Theory or Interpretive Phenomenology? Methodological Choices Within Specific Study Contexts. *International Journal of Qualitative Methods*, 21, 16094069221077758. <https://doi.org/10.1177/16094069221077758>
- Busch, T., Barnett, M. L., Burritt, R. L., Cashore, B. W., Freeman, R. E., Henriques, I., Husted, B. W., Panwar, R., Pinkse, J., Schaltegger, S., & York, J. (2024). Moving Beyond “The” Business Case: How to Make Corporate Sustainability Work. *Business Strategy and the Environment*, 33(2), 776–787. <https://doi.org/10.1002/bse.3514>
- Chenavaz, R. Y., Couston, A., Heichelbech, S., Pignatelli, I., & Dimitrov, S. (2023). Corporate Social Responsibility and Entrepreneurial Ventures: A Conceptual Framework and Research Agenda. *Sustainability (Switzerland)*, 15(11), 8849. <https://doi.org/10.3390/su15118849>
- de Vries, W. T., & Rudiarto, I. (2023). Testing and Enhancing the 8R Framework of Responsible Land Management With Documented Strategies and Effects of Land Reclamation Projects in Indonesia. *Land*, 12(1), 208. <https://doi.org/10.3390/land12010208>
- Ehlert, K. A., Blair, A. D., Hadrick, S., & Olson, K. (2024). BeefSD: An Integrated and Intensive Extension Curriculum for Beginning Beef Cattle Producers. *Journal of Extension*, 62(1), 14. <https://doi.org/10.34068/joe.62.01.14>
- Gomez Gomez, C. V. (2024). Teaching Entrepreneurship in Higher Education: The Application Active Based Learning Activities to Environmental Protection. *Thinking Skills and Creativity*, 52, 101502. <https://doi.org/10.1016/j.tsc.2024.101502>
- Hammerton, G., & Munafò, M. R. (2021). Causal Inference With Observational Data: The Need for Triangulation of Evidence. *Psychological Medicine*, 51(4), 563–578. <https://doi.org/10.1017/S0033291720005127>
- Jowsey, T., Deng, C., & Weller, J. (2021). General-Purpose Thematic Analysis: A Useful Qualitative Method for Anaesthesia Research. *BJA Education*, 21(12), 472–478. <https://doi.org/10.1016/j.bjae.2021.07.006>
- Kawar, L. N., Dunbar, G. B., Aquino-Maneja, E. M., Flores, S. L., Rondez Squier, V., & Failla, K. R. (2024). Quantitative, Qualitative, Mixed Methods, and Triangulation Research Simplified. *Journal of Continuing Education in Nursing*, 55(7), 338–344. <https://doi.org/10.3928/00220124-20240328-03>

- Khoa, B. T., Hung, B. P., & Hejsalem-Brahmi, M. (2023). Qualitative Research in Social Sciences: Data Collection, Data Analysis and Report Writing. *International Journal of Public Sector Performance Management*, 12(1-2), 187–209. <https://doi.org/10.1504/IJPSPM.2023.132247>
- Kılıç, C., & Atilla, G. (2024). Industry 4.0 and Sustainable Business Models: An Intercontinental Sample. *Business Strategy and the Environment*, 33(4), 3142–3166. <https://doi.org/10.1002/bse.3634>
- Kouam Arthur William, F. (2024). Interpretivism or Constructivism: Navigating Research Paradigms in Social Science Research. *International Journal of Research Publications*, 143(1), 5. <https://doi.org/10.47119/ijrp1001431220246122>
- Lim, W. M. (2024). What Is Quantitative Research? An Overview and Guidelines. *Australasian Marketing Journal*, 33(2), 199–229. <https://doi.org/10.1177/14413582241264622>
- Ma, S., Ding, W., Liu, Y., Ren, S., & Yang, H. (2022). Digital Twin and Big Data-Driven Sustainable Smart Manufacturing Based on Information Management Systems for Energy-Intensive Industries. *Applied Energy*, 326, 119986. <https://doi.org/10.1016/j.apenergy.2022.119986>
- Marrucci, L., Iovino, R., & Iraldo, F. (2025). Environmental Sustainability Award Winners: Do They Communicate Their Environmental Performance Without Potential Greenwashing? *Corporate Social Responsibility and Environmental Management*, 32(2), 2783–2794. <https://doi.org/10.1002/csr.3088>
- Morgan, H. (2022). Understanding Thematic Analysis and the Debates Involving Its Use. *Qualitative Report*, 27(10), 2079–2091. <https://doi.org/10.46743/2160-3715/2022.5912>
- Mukhtar, M., Haniffa, M. A., Paidi, Z. B., & Thaib, M. M. (2022). Involvement of Families as Owners of Cultural Heritage Improving Religious Tourism in Banda Aceh: Perspective of Maslahah Theory. *Samarah*, 6(2), 655–677. <https://doi.org/10.22373/sjkh.v6i2.12537>
- Nate, S., Grecu, V., Stavytskyy, A., & Kharlamova, G. (2022). Fostering Entrepreneurial Ecosystems Through the Stimulation and Mentorship of New Entrepreneurs. *Sustainability (Switzerland)*, 14(13), 7985. <https://doi.org/10.3390/su14137985>
- Natow, R. S. (2020). The Use of Triangulation in Qualitative Studies Employing Elite Interviews. *Qualitative Research*, 20(2), 160–173. <https://doi.org/10.1177/1468794119830077>
- Nie, Y., Hu, Y., Sa, R., & Fan, W. (2024). Inversion of Forest Above Ground Biomass in Mountainous Region Based on PolSAR Data After Terrain Correction: A Case Study From Saihanba, China. *Remote Sensing*, 16(5), 846. <https://doi.org/10.3390/rs16050846>
- Ou, Y., & Kim, K. (2024). Integrating Psychology Into Entrepreneurship Education: A Catalyst for Developing Cognitive and Emotional Skills Among College Students. *Journal of the Knowledge Economy*, 16(2), 7979–8006. <https://doi.org/10.1007/s13132-024-02070-0>

- Patrício, L. D., & Ferreira, J. J. (2024). Unlocking the Connection Between Education, Entrepreneurial Mindset, and Social Values in Entrepreneurial Activity Development. *Review of Managerial Science*, 18(4), 991–1013. <https://doi.org/10.1007/s11846-023-00629-w>
- Pretorius, L. (2024). Demystifying Research Paradigms: Navigating Ontology, Epistemology, and Axiology in Research. *Qualitative Report*, 29(10), 2698–2715. <https://doi.org/10.46743/2160-3715/2024.7632>
- Rabiu, A. A., Idriss, I. D., & Rabiu, S. (2025). Demystifying the Religionisation of Commercial Begging in Northern Nigeria: The Revival of Philanthropy Among Muslims. *IIUM Journal of Religion and Civilisational Studies*, 8(1), 82–92.
- Schlunegger, M. C., Zumstein-Shaha, M., & Palm, R. (2024). Methodologic and Data-Analysis Triangulation in Case Studies: A Scoping Review. *Western Journal of Nursing Research*, 46(8), 611–622. <https://doi.org/10.1177/01939459241263011>
- Stamenkov, G. (2023). Recommendations for Improving Research Quality: Relationships Among Constructs, Verbs in Hypotheses, Theoretical Perspectives, and Triangulation. *Quality and Quantity*, 57(3), 2923–2946. <https://doi.org/10.1007/s11135-022-01461-2>
- Subaidi, Tantowi, A., Cholid, N., Junaedi, M., Waluyo, & Nursikin, M. (2023). Eco-Pesantren: Islamic Education in Forest Conservation Landscapes. *Fudan Journal of the Humanities and Social Sciences*, 16(4), 541–567. <https://doi.org/10.1007/s40647-023-00386-w>
- Zitar, R. A., Al-Betar, M. A., Awadallah, M. A., Doush, I. A., & Assaleh, K. (2022). An Intensive and Comprehensive Overview of JAYA Algorithm, Its Versions and Applications. *Archives of Computational Methods in Engineering*, 29(2), 763–792. <https://doi.org/10.1007/s11831-021-09585-8>