

Entrepreneurship in Islamic Education Institutions: Pesantren Strategy in Responding to the Industrial Revolution 4.0

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Abstract

Keywords:

Pesantren,
Entrepreneur,
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Institutions.

This study aims to explore the proactive steps of pesantren in improving the entrepreneurial skills of Santri to respond to the Industrial Revolution 4.0. The study, which was conducted at Pesantren Al-Mawadah Honggo Suco Kudus, used a case study approach with data collection techniques through observation, interviews, and document analysis. The collected data were analyzed using a qualitative approach with thematic analysis techniques. The results showed that Pesantren Al-Mawadah Honggo Suco Kudus has four excellent programs to support these goals. First, through training and workshops that focus on developing digital skills such as programming, graphic design, and social media management. Second, by strengthening technology-based education through curriculum relevant to Industry 4.0, such as artificial intelligence, data analysis, and the Internet of Things (IoT). Third, through collaboration with related companies and institutions to provide access to pesantren and students in understanding the latest industry needs and building networks that are useful in the business world. Fourth, by applying an experiential learning-oriented learning approach to teach students how to think creatively, innovatively, and adaptively. The challenges faced are the lack of understanding of entrepreneurial concepts and practices among pesantren teachers and managers as well as access to resources and capital to develop entrepreneurial activities. This research provides a foundation for the development of an entrepreneurship curriculum that is relevant and useful for Santri in welcoming industry 4.0.

Abstrak

Kata kunci:
Pesantren,
Entrepreneur, Industri
4.0., Lembaga
Pendidikan Islam.

Penelitian ini bertujuan untuk mengeksplorasi langkah-langkah proaktif pesantren dalam meningkatkan kemampuan wirausaha santri untuk merespons Revolusi Industri 4.0. Studi yang dilaksanakan di pesantren Al-Mawadah Honggo Suco Kudus ini menggunakan pendekatan studi kasus dengan teknik pengumpulan data melalui observasi, wawancara, dan analisis dokumen. Data yang terkumpul dianalisis menggunakan pendekatan kualitatif dengan teknik analisis tematik. Hasil penelitian menunjukkan bahwa pesantren Al-Mawadah Honggo Suco Kudus memiliki empat program unggulan untuk mendukung tujuan tersebut. Pertama, melalui pelatihan dan workshop yang fokus pada pengembangan keterampilan digital seperti pemrograman, desain grafis, dan manajemen media sosial. Kedua, dengan memperkuat pendidikan berbasis teknologi melalui kurikulum yang relevan dengan Industri 4.0, seperti kecerdasan buatan, analisis data, dan Internet of Things (IoT). Ketiga, melalui kolaborasi dengan perusahaan dan lembaga terkait untuk memberikan akses pada pesantren dan siswa dalam memahami kebutuhan industri terkini serta membangun jaringan yang berguna dalam dunia bisnis. Keempat, dengan menerapkan pendekatan pembelajaran yang berorientasi pada experiential learning untuk mengajarkan santri cara berpikir kreatif, inovatif, dan adaptif. Adapun tantangan yang dihadapi adalah kurangnya pemahaman tentang konsep dan praktik kewirausahaan di kalangan pengajar dan pengelola pesantren serta akses terhadap sumber daya dan modal untuk mengembangkan kegiatan kewirausahaan. Penelitian ini memberikan landasan bagi pengembangan kurikulum kewirausahaan yang relevan dan berdaya guna bagi santri dalam menyambut industri 4.0.

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INTRODUCTION

The emergence of claims that religious-based education such as pesantren does not provide space for graduates to become entrepreneurs further strengthens the accusation that Santri only acquires religious cognitive abilities (Zaini, 2021), while entrepreneurial abilities tend to be ignored (Nata, 2012). This situation is relevant considering that the number of entrepreneurs in Indonesia is still relatively small, especially considering that in August 2023 there were only around 52 million novice entrepreneurs, consisting of 32.2 million people who tried independently and 19.8 million people who tried with the help of labor (Singgih, 2020). This figure is not comparable to Indonesia's population of 273.8 million (Safitri, 2022). Therefore, an inclusive education approach that provides entrepreneurial knowledge and skills in pesantren should be encouraged to increase the number of entrepreneurs in welcoming the Industrial Revolution 4.0. (Ellitan Lena, 2020). This is important because, in this era, entrepreneurial skills are key in dealing with change and utilizing digital technology to create new business opportunities (Genkin et al., 2020). The integration of religious knowledge with entrepreneurial aspects will enrich Indonesia's entrepreneurial landscape, activate broader economic potential, and strengthen the nation's competitiveness in facing global challenges in the digital era.

The study of entrepreneurship education has been a major concern in academic literature in schools and colleges. Dana (2021), for example, successfully observed various entrepreneurship curriculum presentations coupled with appropriate teaching methods to provide maximum potential learning outcomes. Meanwhile, Okkonen & Suhonen (2010) reported that entrepreneurship education in secondary schools in Finland succeeded in increasing students' motivation for entrepreneurship, while Ariff & Abubakar's (2003) analysis showed that entrepreneurship education in Islamic colleges in Malaysia has not fully spurred students' interest in entrepreneurship. Although these studies have provided many benefits, exploration specific to entrepreneurship education in pesantren is still rare. The unique context of religious education in pesantren incorporates social, cultural, and spiritual values that are important in the formation of individual character and identity (Rideout & Gray, 2013). Therefore, thorough research on entrepreneurship education in pesantren can provide valuable insights for further understanding of education and educational diversity in Indonesia as well as other countries with pesantren traditions.

Based on the lack of research linking entrepreneurship and pesantren education, as well as the importance of this theme for the future progress of pesantren (Purwanto & Supriadi, 2019), we designed a study that aims to explore the proactive steps of pesantren in improving the entrepreneurial skills of Santri in responding to the Industrial Revolution 4.0. This research was conducted at Al-Mawadah Honggo Suco

Islamic boarding school in Kudus, Central Java. This research was conducted at Al-Mawadah Honggo Suco Kudus boarding school because of the existence and excellence of the boarding school in the field of education and the development of student's potential. The focus of this study will discuss two main research questions, including the steps that have been taken by the pesantren in improving the entrepreneurial skills of students, as well as the challenges faced by administrators in improving entrepreneurial skills. The answers to these questions are important to identify effective strategies and policies in advancing the entrepreneurial skills of Santri and formulate relevant recommendations for other pesantren in facing the challenges of the industrial era 4.0 (Rymarczyk, 2021).

By using a qualitative approach, this study is very different from previous research. We believe this effort will go in-depth into the context, process, and impact. Given the shift towards the Industrial Revolution 4.0, where entrepreneurship and related skills are increasingly important, a comprehensive understanding of how pesantren integrate entrepreneurship education is crucial. Qualitative can help in capturing the nuances, values, and cultural factors that influence the practice of entrepreneurship education in pesantren, which in turn can shape a more effective preparation for the alumni to adapt and thrive in the changing economic context. It also provides valuable insights for pesantren themselves to refine and optimize their approach in addressing the demands of the Industrial Revolution 4.0, ensuring the relevance and sustainability of such educational institutions in equipping their students with relevant skills for the future.

RESEARCH METHODS

This research aims to find out the proactive steps taken by Pondok Pesantren Al-Mawadah Honggo Suco Kudus in improving the entrepreneurial skills of its students as a response to the Industrial Revolution 4.0. This pesantren was chosen for its reputation in integrating religious education with entrepreneurship training. The research method used was a case study, which allows researchers to delve into the specific context of the pesantren (Baskarada, 2014). Data were collected through interviews with five pesantren administrators, a documentation study that included entrepreneurship education materials, and observation of activities that support entrepreneurship development in pesantren (Bachiochi & Weiner, 2004). To ensure data validity, triangulation was used by combining different data sources and viewpoints. Each informant's name was changed to its initial form to maintain the privacy and security of the data provider (Flick, 2004).

Table 1: Profile Informan.

No	Name Initials	Position	Age	Years of service
1	M1	Chairman of the Board	35 years	12 years
2	M2	Islamic boarding school curriculum coordinator	28 years	10 years
3	M3	Member of the Islamic boarding school curriculum field	23 years	5 years
4	M4	Coordinator for student resources	29 years	9 years
5	M5	Member of the Student Resources sector	24 years	4 years

Once the data is collected, the next step is a meticulous and systematic analysis process. The qualitative approach with thematic analysis techniques was chosen because it can explore the depth of meaning of the collected data (Castleberry & Nolen, 2018). Researchers will reread interview transcripts, field notes, and other materials related to the research. During this process, researchers noted general patterns, significant differences, and similarities that emerged from the data (Sundler et al, 2019). Each finding will be further analyzed to identify key emerging themes. It involves the process of classifying and grouping data based on the similarity of concepts or ideas (Attride-Stirling, 2001). In this way, researchers can gain a deeper understanding of how the Al-Mawadah Honggo Suco Kudus boarding school prepares students to face the demands of the Industrial Era 4.0. Through careful thematic analysis, proactive steps taken by pesantren will be illustrated in advancing the entrepreneurial ability of students. Each theme and sub-theme identified will form a cohesive and representative narrative framework.

RESULTS AND DISCUSSION

Result

The research found that Pesantren Al-Mawadah Honggo Suco Kudus has four main programs to support the entrepreneurial skills of its students. First, they organize training and workshops aimed at improving digital skills such as programming, graphic design, and social media management. Second, they enhance technology-based education by incorporating curriculum that is Industry 4.0 compliant, such as artificial intelligence, data analysis, and the Internet of Things (IoT). Third, they cooperate with related companies and institutions to provide access to pesantren and students to understand the latest industry needs and build networks that are useful in the business world. Fourth, they implement a learning approach that focuses on experiential learning to teach students how to think creatively, innovatively, and adaptively.

The M1 informant explained that training activities and workshops aimed at improving digital skills had been carried out at the Al-Mawadah Honggo Suco Kudus Islamic Boarding School. It focuses on programming training, graphic design, and social media management. M1 explained that the programming training equips participants to

build and develop innovative applications and technological solutions. This is an important aspect in facing modern business challenges. Meanwhile, graphic design plays a key role in building brand image and effective visual communication, helping pesantren to gain traction and communicate messages clearly to their audiences. M1 informants also emphasized that social media management training provides capital for students with tools to expand their reach, build relationships with the community, and promote their services and products effectively in the digital era, all of which support entrepreneurial abilities by utilizing digital platforms as a means of marketing and interaction with customers. Thus, the combination of programming, graphic design, and social media management skills helps strengthen the entrepreneurial capabilities of pesantren in the face of modern business dynamics. M1 revealed,

"At the boarding school, our students are trained to build innovative technology applications and solutions that are essential in meeting modern business challenges. Graphic design plays a role in building brand image and visual communication. Social media management training helps expand reach and promote services and products effectively in the digital age while supporting entrepreneurial skills by utilizing digital platforms for marketing and customer interaction."

Meanwhile, analysis of documents seen from weekly, monthly, and yearly activity plans on the special calendar of Al-Mawadah Honggo Suco Kudus Islamic boarding school, this study managed to find various forms of training provided apart from programming, graphic design, and social media management training. Table 2 below is a collection of activity plans implemented in the period 2010-2023.

Table 2: List of entrepreneurship training given to students

No	Training Name	Organizers	Year
1	Cooperative training for Islamic boarding schools	Ministry of Cooperatives and SMEs	2018
2	Agribusiness Economic Independence Islamic Boarding School	BAPELTAN Jawa Tengah	2023
3	Store Retail Business and Marketing Management	Central Java Cooperative Office	2020
4	Training Personnel Development Training	Ministry of Labour RI	2019
5	BLKK Instructor Training	Ministry of Labour RI	2019
6	Instructor Training and Certification	National Professional Certification Agency of the Republic of Indonesia	2020
7	Training and Certification of Job Training Center Managers	National Professional Certification Agency of the Republic of Indonesia	2020
8	<i>International Seminare of Development of Incubator, Science Center and Techno Park.</i>	Central Java Provincial Government	2016

9	Capacity Building Training P4S Institutionalilty	Great Center for Agricultural Training Poor Stack	2016
10	Multimedia-Based Agricultural Training	Ciawi Bogor Agricultural Training Center	2020
11	Picker Construction Training Self-Help Agriculture	BPSDM Agriculture Ministry Agriculture	2011
12	Utilization of Information and Communication Technology to support increased food production and productivity	BPSDM Agriculture Ministry of Agriculture	2011
13	<i>Get out of your confort zone to success</i>	IAIN Kudus	2011
14	Wisely educating children in the digital age	Kita Foundation and Buah Hati Jakarta	2010
15	Training on Foodstuff-based Functional Program Development Local For Nutritional Improvement	UPT Center for Process Development &; Chemical Technology LIPI	2012
16	<i>National High Motivational Coaching</i>	Indonetrix Consulting	2010
17	National Seminar on Cooperatives and Business	KOPMA STAIN Kudus	2017
18	<i>Business Rich Class</i>	Indonesia Islamic Business Forum (IIBF)	2009
19	<i>Workshop life mastery bersama IIBF President</i>	Indonesia Islamic Business Forum (IIBF)	2010
20	Role & Function Empowerment Public Relations as an Effective Communication Strategy	International Public Relation Association (IPBA)	2010
21	<i>Workshop Self Mastery Business Coaching</i>	Indonesia Islamic Business Forum (IIBF)	2009
22	<i>Financial Litaracy (Business Coaching)</i>	Indonesia Islamic Business Forum (IIBF)	2010
23	Shaping Youth into Farmers Tough	IAIN KUDUS	2018
24	Cultural Training an Catfish	Marine and Fisheries Service Prov. Jateng	2016
25	Tematic Academy Training	Ministry of Religious Affairs	2021
26	<i>Digital Entrepreneurship Academy dan Google</i>	Kominfo	2022

Table 2 lists the entrepreneurship training given to students at Al-Mawadah Honggo Suco Kudus Islamic Boarding School. These trainings vary from cooperatives, agribusiness, marketing management, to information and communication technology. Among the trainings, some were held by the central government such as the Ministry of Cooperatives and SMEs, the Ministry of Manpower of the Republic of Indonesia, and the National Professional Certification Agency of the Republic of Indonesia, while others

were organized by regional and local institutions such as BAPELTAN Central Java, the Central Java Cooperative Office, and the Center for Agricultural Training. From the registered training, it can be seen that Al-Mawadah Islamic Boarding School has actively involved its students in various entrepreneurship training programs from 2009 to 2023.

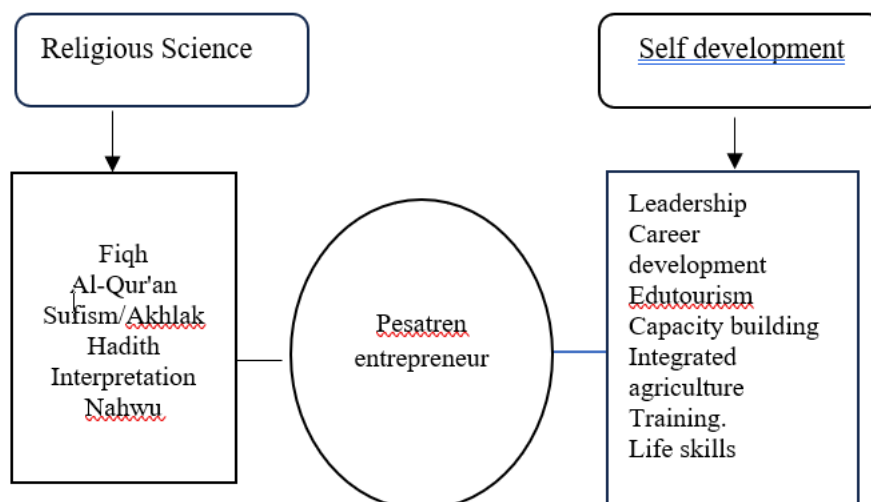
Some of the standout trainings include Multimedia-Based Agricultural Training by the Ciawi Bogor Agricultural Training Center, as well as the Digital Entrepreneurship Academy and Google organized by the Ministry of Communication and Information in 2022. In addition, other trainings such as marketing management training, development of functional programs based on local foodstuffs, and the use of information technology are also part of efforts to improve entrepreneurial skills and understanding among students. With various trainings spread from various organizers, Al-Mawadah Honggo Suco Kudus Islamic Boarding School shows its commitment to supporting the development of entrepreneurship and economic independence among its students.

Meanwhile, M2 informants reported that Pesantren Al-Mawadah Honggo Suco Kudus adopts a progressive approach in technology-based entrepreneurship education by designing a curriculum that is in accordance with the demands of Industry 4.0. The curriculum includes modules on artificial intelligence, data analysis, and the Internet of Things (IoT) needed to prepare students to become reliable future leaders in the realm of technology. He emphasized that the integration of these concepts, pesantren not only teaches the latest technological knowledge, but also encourages creativity, innovation, and critical thinking skills in facing global challenges. M2 informant admitted that the Al-Mawadah Honggo Suco Kudus boarding school opened the door for students to become agents of change who were able to face the dynamics of ongoing industrial and economic changes.

"In technology-based entrepreneurship education in our pesantren, a progressive approach requires us (the administrators) to design a curriculum that is in accordance with Industry 4.0. It includes modules on artificial intelligence, data analytics, and the Internet of Things (IoT) to prepare future leaders in technology."

Despite having a high concern on improving technological capabilities, M3 informants admitted that the implementation of entrepreneurship education programs at Ponpes Al-Mawadah Honggo Suco Kudus always tried not to leave Islamic values. The curriculum of Pesantren Entrepreneur at Pesantren Al-Mawadah Honggo Suco Kudus is a harmonious integration between aspects of religious science and self-development. In the aspect of religious science, this curriculum emphasizes a deep understanding of Fiqh, the Qur'an, Tasawwuf/Akhlak, Hadith, Tafsir, and Nahwu. Meanwhile, in the aspect of self-development, this pesantren offers holistic learning, including Leadership, Career Development, Edutourism, Capacity Building, Integrated Agriculture, Training, and Life Skills. With a comprehensive approach like this, pesantren not only equip their students with strong religious skills, but also help them develop their overall potential to become qualified and competitive entrepreneurs.

Figure 1: Entrepreneur Boarding School Curriculum



In addition, IM5 informants explained that learning in pesantren focuses on improving important characters that support the improvement of entrepreneurship. First, self-confidence is at the core of constancy, non-dependence, and optimism that reflects a steady personality. Second, orientation to tasks and results shows a drive for achievement, a desire for results, as well as fortitude and perseverance in an effort to achieve goals with full initiative. Third, the ability to take risks and the tendency to challenge mark an adventurous soul. Fourth, leadership is the ability to lead, interact with others, and accept input and criticism. Finally, originality is reflected in innovation, creativity, and flexibility that allows one to give birth to new ideas from various sources of inspiration. The IM5 revelations are summarized in the table below,

Table 3: Main characteristics for students to improve entrepreneurial skills

No	Karakteristik	Character
1	Confident	Trust (constancy) Non-dependence, steady personality, optimesm
2	Task and result oriented	Need or thirst for achievement Profit-oriented or result-oriented Diligent and steadfast Determination, hard work, motivation, energetic Full of initiative.
3	Risk takers	Mammpu takes risks, loves challenges
4	Leadership	Able to lead, able to get along with others, handle suggestions and criticism.
5	Keorisinilan	Innovative (update), creative, flexible, multiple sources

On another aspect, the IM5 informant explained that the pesantren has established partnerships with various companies and related institutions to provide access to pesantren and students in understanding the latest industry needs and building useful networks in the business world. IM5 provides one example of a concrete activity from this collaboration is the regular industry visits held for students to get to know firsthand the production and management processes in various leading companies. In

addition, pesantren also organizes seminars and workshops with industry practitioners to broaden students' horizons on the latest trends and developments in various business sectors.

"Pesantren has established a hub with companies, bro. So, we can enter the business world directly from pesantren. For example, we are often invited to take a walk to the factory to see the production process, how the management is in top companies. Then, there are seminars and workshops with business practitioners to let us know the latest trends in various business sectors."

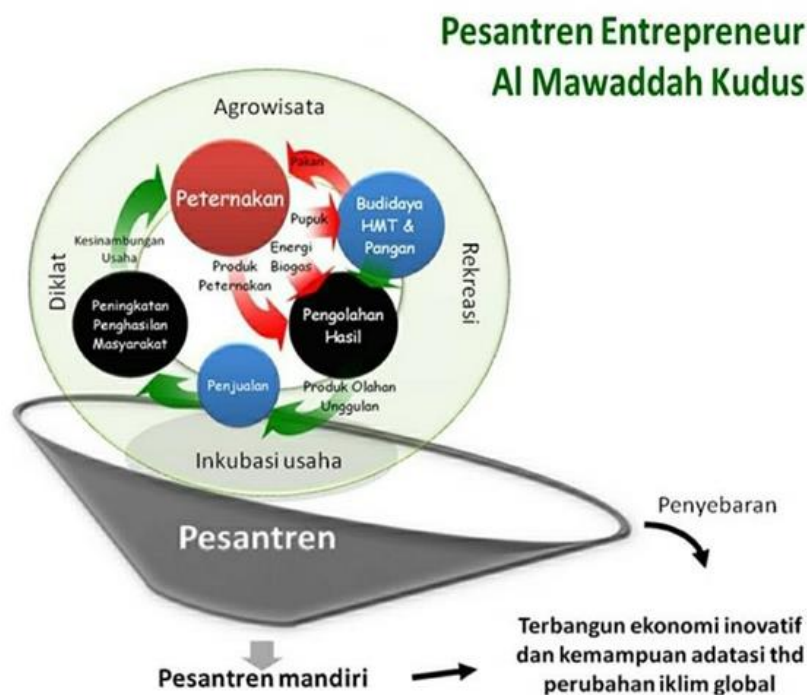
The partnership between pesantren and various related companies and institutions not only provides access to pesantren and students to understand the latest industry needs, but also expands networks that are beneficial in the business world. Based on information from IM5, regular industry visits have become part of this collaboration, enabling students to gain a first-hand understanding of production and management processes in leading companies. In addition, pesantren also actively organizes seminars and workshops with industry practitioners to broaden students' horizons on the latest trends and developments in various relevant business sectors. Thus, such partnership efforts not only enrich students' learning experience, but also prepare them for the demands of an increasingly complex world of work.

The human resource capacity building and development program carried out by the Al Mawaddah Honggosuco Kudus Islamic boarding school includes both education that increases general knowledge and understanding of the environment as well as training that increases skills in carrying out specific tasks. Training education as one of the learning processes to acquire and improve applicable skills in a relatively short time and using methods that prioritize practice rather than theory. Practice-oriented, carried out in the field, it is hoped that the work productivity of students and the community will increase, the quality and quantity of production will improve. Education and training activities carried out by pesantren by cooperating with several competent institutions in each of these fields are carried out to provide experience to teaching staff (*sutadz*), students and also the community so that they can work skillfully and productively to support the success of Islamic boarding schools and the economic productivity of the community, especially in the era of the industrial revolution 4.0. The IM3 informant said:

"To increase the capacity of Human Resources (HR) of pesantren we must involve students for digital literacy and entrepreneurship (entrepreneur). This is done by pesantren not only to know but also to master, utilize, and control digital technology. Of course, mastery of technology must be based on the teachings that have been given in the pesantren environment, so that we will not be separated from the roots and culture of students. That way the students can be digitally productive in responding to the era of the industrial revolution 4.0 in accordance with the characteristics of the pesantren and in order to market the products produced by the pesantren to the community such as making cakes and other culinary types from the production of the store."

Pesantren entrepreneur Al Mawaddah Honggosuco Kudus integrates all activities in various integrated fields of cultivation, ranging from agrotourism, animal husbandry, business incubation, training and at the same time fun recreation which can be described as follows:

Figure 2: Pesantren Productivity Integration System



Entrepreneurship education in pesantren applies a learning approach oriented to experiential learning to guide students in developing creative, innovative, and adaptive thinking skills. Through this approach, students not only learn theory, but also engage in practical experiences that allow them to apply the knowledge and skills they learn directly in a real context. Thus, they can develop the ability to solve problems, identify opportunities, and adapt to changes that occur in the world of entrepreneurship more effectively.

"We have tried to use an experiential learning approach to develop students' creative, innovative, and adaptive skills. They not only learn theory but also engage in practical experience to apply knowledge and skills in real situations. It helps them solve problems, recognize opportunities, and adapt to changes in the world of entrepreneurship.

With this hands-on experience, students can hone their skills in managing risk and making smart strategic decisions in various business situations. In addition, they also learn to work collaboratively and appreciate their important role in teams, thus strengthening interpersonal skills needed in the world of entrepreneurship. During this learning process, students are also encouraged to be independent and proactive in seeking opportunities and overcoming challenges that may arise in running their own businesses. Thus, entrepreneurship education in pesantren not only provides practical

knowledge but also forms a strong character and mental attitude in facing the dynamics of the ever-evolving business world.

IM4 informant explained that the implementation of entrepreneurship education in pesantren is often faced with several challenges that need to be overcome. One of them is the integration between religious curriculum and entrepreneurship so that they do not conflict with each other. Pesantren tends to focus on religious education and Islamic science, so including entrepreneurship subjects can cause tension in prioritizing priorities. In addition, the lack of supporting resources and infrastructure such as internet access and adequate training materials is also a serious obstacle in implementing entrepreneurship education. Further strengthened by the recognition of IM2, efforts to gain support and understanding from scholars and religious leaders about the importance of entrepreneurship as part of developing the pesantren community are also a challenge. Therefore, stakeholders need to work together to create a conducive and supportive environment for the implementation of entrepreneurship education in pesantren.

Discussion

This research succeeded in revealing that at Pesantren Al-Mawadah Honggo Suco Kudus, four main programs aim to support the entrepreneurial ability of students. First of all, pesantren organizes training and workshops aimed at improving digital skills, such as programming, graphic design, and social media management. Second, they enhance technology-based education by incorporating curricula relevant to Industry 4.0, such as artificial intelligence, data analytics, and the Internet of Things (IoT). This study has similarities with the analysis of Puspitasari and Priatmoko (2022), he sees that challenges in implementing entrepreneurship programs include access to adequate technological infrastructure and the provision of facilities that are under digital learning needs. Third, pesantren works with related companies and institutions to provide access to Pesantren and students to understand the latest industry needs and build useful networks in the business world. Samsudin Arif's opinion (2019) supports this research because of the challenges in creating sustainable partnerships and ensuring that pesantren and students can keep up with industry developments quickly. Fourth, pesantren applies a learning approach that focuses on experiential learning to teach students how to think creatively, innovatively, and adaptively. This is in line with the study of Moses and Mosunmola (2014) which explains that integrating active learning methods into the entrepreneurship curriculum has a major role in ensuring that teaching staff have the necessary skills to support the abilities of students.

These excellent programs have succeeded in creating a dynamic and progressive learning environment at Pesantren Al-Mawadah Honggo Suco Kudus. In addition, their efforts in improving digital skills and technology show similarities with the study of Oosterbeek, Van Praag, and Ijsselstein (2010) because it succeeded in having a significant positive impact on the students. The existence of training and workshops focused on developing digital skills has broadened their horizons and understanding of the world of information technology (Akinwale & Akinwale, 2019). In the opinion of Duval-

Couetil, N. (2013), this not only prepares students to enter an increasingly digitalized job market but also gives them a competitive advantage in facing future challenges. Furthermore, collaboration with related companies and institutions has opened opportunities for pesantren and students to be directly involved in the business and industrial world (Yi & Duval-Couetil, 2021). Thus, this pesantren not only functions as a traditional educational institution but also as a center of innovation and development to produce individuals who are ready to compete in this digital era. With a learning approach oriented to experiential learning, students not only gain knowledge but also practical skills and a deep understanding of how to apply these concepts in real-world situations (Von Graevenitz, 2010). Thus, the Islamic boarding school Al-Mawadah Honggo Suco Kudus continues to be an example of facing the challenges of the times by equipping the younger generation with skills and knowledge relevant to technological and industrial developments.

This study managed to find a fit with David McClelland's entrepreneurship education theory. David highlighted the importance of developing entrepreneurial skills and achievement motivation in creating an environment that supports business growth. Through excellent programs organized by the Al-Mawadah Honggo Suco Kudus boarding school, concrete efforts can be seen to apply McClelland's principles in the context of Islamic education (Muhammad, (2020). Digital skills training, technology-based education, collaboration with industry, and experiential learning approaches are the foundation for building entrepreneurial spirit in students (Chamard, Catano & Howell, 1983). Despite challenges such as a lack of understanding of entrepreneurship among teachers and limited access to resources, the school's efforts are in line with McClelland's theory which emphasizes the importance of an educational environment that stimulates achievement motivation and the development of entrepreneurial skills (Redlich, 1963).

On the other hand, Joseph Schumpeter's creative destruction theory approaches that the excellent programs implemented at the Al-Mawadah Honggo Suco Kudus boarding school can face some fundamental weaknesses. Although their efforts in introducing digital skills, technology-based education, industry collaboration, and experiential learning approaches seem innovative, the fundamental weakness lies in the lack of understanding and integration of entrepreneurial concepts and practices among teachers and boarding school managers (McCraw & Audretsch, 2008). This can hinder the ability of pesantren to truly create innovation and trigger sustainable economic development among students and the surrounding community. In addition, access to resources and capital is also a significant challenge, which can hinder the development of entrepreneurial activities carried out by the pesantren (Nicholas, 2003). Therefore, while these programs offer great potential, they need to be addressed seriously so that pesantren can become more effective agents in driving innovation and economic growth in their neighborhoods.

To overcome the fundamental weaknesses in the excellent programs at the Al-Mawadah Honggo Suco Kudus boarding school, certain steps need to be taken. First of all, pesantren managers need to improve understanding and integration of entrepreneurial concepts and practices among teachers and staff. This can be achieved through special training, workshops, and curriculum development that emphasizes entrepreneurial aspects (Puspitasari & Priatmoko, 2022). Furthermore, to overcome the challenges of access to resources and capital, pesantren can establish partnerships with financial institutions or non-profit organizations that support entrepreneurial initiatives. In addition, garnering support from local governments and related agencies can also help facilitate access to the necessary resources and capital (Arif, 2019). With this approach, Al-Mawadah Honggo Suco Kudus Islamic boarding school can be more effective in encouraging innovation and economic growth among students and the surrounding community, following the principles of creative destruction introduced by Joseph Schumpeter.

CONCLUSION

This research succeeded in finding that it turned out that Al-Mawadah Honggo Suco Kudus Islamic Boarding School had succeeded in developing four main programs that were revolutionary in supporting the entrepreneurial ability of students. By organizing digital training, enriching the curriculum with Industry 4.0 materials, establishing partnerships with industry, and applying innovative learning approaches, this pesantren has presented an educational model that challenges conventional paradigms. Despite the challenges of infrastructure and sustainable partnership development, the success of these pesantren in creating a dynamic and relevant learning environment marks an important step in facing the digital era and global change.

One of the weaknesses of this study is the lack of focus on an in-depth analysis of the long-term impact of the programs implemented by Pesantren Al-Mawadah Honggo Suco Kudus. Although it has identified the success of pesantren in developing innovative educational models, this study has not investigated in depth the long-term effectiveness of these programs on the entrepreneurial ability of students and their impact on local communities. For future research, it is important to conduct continuous monitoring and evaluation of the development of these programs over a longer period. In addition, future research also needs to expand the scope of analysis of external factors that can affect the sustainability of the program, such as changes in government policies, local industry dynamics, and infrastructure challenges that are still being faced. With this approach, future research can provide a more holistic and in-depth understanding of the implementation of innovative programs in the context of entrepreneurship education in pesantren, as well as provide valuable insights for the development of relevant and sustainable educational models.

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