

Santri as Global Change Makers: Unleashing Islamic Values for Business, Science, and Innovation in the Perspective of Holistic Education

Amie Primarni, Ajun, Ery Subaeri

Institut Agama Islam Nasional Laa Roiba, Bogor

Abstract

This study aims to understand the role of *santri* as agents of change in business, science, and innovation, particularly through the integration of Islamic values and holistic education. Using a qualitative approach with a case study and a phenomenological design, data were collected through purposive sampling involving 10 successful *santri*, triangulated with literature studies and observations in three entrepreneurial pesantren. The study found that factors such as integrated curricula, supportive ecosystems, professional mentoring, sharia-compliant business capital, and digital adaptation empower *santri*. Limitations include limited generalizability due to qualitative scope, lack of extensive document triangulation, and limited citation of empirical field data. This paper offers a novel synthesis of Islamic values and innovation capacity in *santri*-based leadership models. Empowering *santri* with strategic education and partnerships can redefine their role in the global arena.

Keywords: Santri; Holistic Education; Agent of Change; Islamic Values; Innovation; Business

Abstrak

Penelitian ini bertujuan untuk memahami peran *santri* sebagai agen perubahan dalam bisnis, ilmu pengetahuan, dan inovasi, khususnya melalui integrasi nilai-nilai Islam dan pendidikan holistik. Dengan menggunakan pendekatan kualitatif dengan studi kasus dan desain fenomenologis, data dikumpulkan melalui purposive sampling yang melibatkan 10 santri yang berhasil, triangulasi dengan studi literatur dan pengamatan pada tiga pesantren kewirausahaan. Studi tersebut menemukan bahwa faktor-faktor seperti kurikulum terintegrasi, ekosistem yang mendukung, pendampingan profesional, modal usaha yang sesuai syariah, dan adaptasi digital memberdayakan *santri*. Keterbatasan termasuk generalisasi yang terbatas karena ruang lingkup kualitatif, kurangnya triangulasi dokumen yang ekstensif, dan kutipan terbatas data lapangan empiris. Makalah ini menawarkan sintesis baru tentang nilai-nilai Islam dan kapasitas inovasi dalam model kepemimpinan berbasis santri. Memberdayakan *santri* dengan pendidikan dan kemitraan strategis dapat mendefinisikan kembali peran mereka di arena global.

Kata kunci: Santri; Pendidikan Holistik; Agen Perubahan; Nilai-nilai Islam; Inovasi; Bisnis

Introduction

The role of *santri* in Indonesia's history of social and economic change is significant, particularly in the context of education and community empowerment. *Santri*, as an individual educated at a boarding school, possesses substantial foundational capital, including proficiency in foreign languages, resilience, and Islamic character. This capital not only equips them with religious knowledge but also relevant skills in facing challenges in the era of globalization and Industry 5.0.¹

¹ Amie Primarni, *Pendidikan Holistik: Format Baru Pendidikan Islam Membentuk Karakter Paripurna* (Al-Mawardi Prima, 2016), <https://books.google.co.id/books?id=6GjyDwAAQBA>.

Students possess foreign language skills that enable them to communicate and interact with the outside world, which is particularly important in the context of globalization. This ability also allows them to access new information and technology that can enhance the quality of their education and skills.² In addition, the resilience possessed by students, often developed through experiences in Islamic boarding schools, makes them individuals who can adapt quickly to social and economic changes. A strong Islamic character also plays a role in shaping a positive work ethic and social values, which are urgently needed in a rapidly changing society.

However, students also face various challenges in the era of globalization and Industry 5.0. One of the primary challenges is the intensifying competition in the workforce, where technical and digital skills are becoming increasingly crucial³. Students need to develop these skills to compete in an increasingly competitive job market.⁴ In addition, they also face changes in values and norms that occur in society due to the influence of global culture, which is often contrary to Islamic values. However, there are great opportunities for students to contribute to social and economic development, especially through innovation and entrepreneurship that can lift the welfare of the community⁵

In this context, education in Islamic boarding schools can play a role as a driver of social and economic change. By integrating formal and non-formal education, pesantren can create students who not only possess strong religious knowledge but also acquire practical skills relevant to the needs of society. Therefore, Islamic boarding schools need to continue to adapt and develop a curriculum that is in line with the demands of the times, including digital skills training and entrepreneurship⁶

Santri, students of Islamic boarding schools (pesantren), have historically played a significant role in Indonesia's social and economic development. Their education, which combines religious knowledge and character building, has positioned them as moral leaders in their communities. However, the dynamics of globalization and the demands of the Industrial Revolution 5.0 necessitate a reevaluation of their roles and capacities.

The 21st century has presented complex challenges that require not only technical skills but also ethical leadership grounded in cultural and spiritual values. Santri possess a unique combination of traits: resilience, discipline, multilingual ability, and a strong Islamic ethos. These qualities position them as potential agents of change in business, science, and innovation. However, despite this potential, a notable gap exists in the literature that specifically addresses how pesantren education equips santri to navigate and contribute to modern global systems, especially in areas such as entrepreneurship and technology.

² Redi H Redi, "Mewujudkan Kemandirian Pesantren Darul Falah Cimenteng Subang Dengan Konsep Wakaf Produktif Dan Penerapan Prinsip Hukum Islam," *Jurnal Ilmiah Ekonomi Islam* 8, no. 3 (2022): 3613, <https://doi.org/10.29040/jiei.v8i3.6192>.

³ Agus Suherman, "Strategi Pengembangan Diri: Inovasi Dunia Pendidikan Indonesia - Sebuah Review Literasi," *Buana Ilmu* 8, no. 1 (2023): 106–17, <https://doi.org/10.36805/bi.v8i1.6007>.

⁴ Amie Primarni, "Konsep Pendidikan Islam Holistik Dalam Memenangkan Persaingan Di Era Mileneal,"

Jurnal Dirosah Islamiyah 1, no. 1 (2019): 35–50, <https://doi.org/10.47467/jdi.v1i1.61>.

⁵ Siti Napsiyah, "Peran Mahasiswa Sebagai Agent of Change Dalam Mengembangkan Potensi Pemuda Di Kampung Krajan Desa Simpang," *Jurnal Kesejahteraan Dan Pelayanan Sosial* 4, no. 2 (2023): 182–96, <https://doi.org/10.52423/jkps.v4i2.18>.

⁶ I Gusti Ayu Sundari Meyanti, "Tuntutan Digital Literasi Pada Kurikulum Pendidikan IPS," *Media Komunikasi Fpips* 22, no. 2 (2023): 115–22, <https://doi.org/10.23887/mkfis.v22i2.62514>.

Previous studies have primarily focused on the religious and moral contributions of *santri*, with limited exploration of their strategic roles in digital economies and innovative industries. There is a lack of empirical research that connects holistic Islamic education to measurable outcomes in economic empowerment and social innovation. Moreover, the readiness of pesantren to adapt their curricula to include digital literacy, entrepreneurial training, and technological fluency remains underexplored.

This study addresses this gap by examining the enabling factors, lived experiences, and institutional strategies that support *santri* as global change makers. It seeks to provide theoretical insight and practical recommendations for optimizing pesantren as incubators of innovation grounded in Islamic values.

Overall, the role of students in social and economic change is crucial, and they possess great potential to become agents of change in society. By utilizing their basic capital and addressing existing challenges, students can make significant contributions to building a better society in the era of globalization and Industry 4.0.

Method

This study employed a qualitative research approach using a combination of case study and phenomenological analysis to explore the role of *santri* as global change makers in business, science, and innovation. The case study design allowed for an in-depth investigation of institutional practices at selected pesantren, while phenomenological analysis enabled a deeper understanding of *santri's* lived experiences in integrating Islamic values with entrepreneurial and technological initiatives.

Participants were selected through purposive sampling based on three criteria: (1) being active in entrepreneurial or technological innovation, (2) having a pesantren educational background, and (3) providing informed consent for in-depth participation. The final sample consisted of 10 *santri* (four male, six female) from Depok and Bogor.

Data collection was conducted through three primary techniques: (1) semi-structured in-depth interviews with the *santri*, (2) non-participant observation at three pesantren—Nurul Iman (Bandung), Qotrun Nada (Depok), and Al Hamidiyah (Bogor)—which integrate entrepreneurship and digital modules, and (3) document analysis of curricula and training programs relevant to innovation and Islamic values.

To ensure credibility and validity, data triangulation was implemented by cross-verifying findings from interviews, observations, and documents. Thematic analysis was applied using NVivo software to identify emerging codes and themes related to transformation, leadership, and ethical innovation. Ethical standards, including participant confidentiality, voluntary participation, and the right to withdraw, were strictly upheld throughout the study. This methodological framework enabled the integration of both conceptual and practical insights into how holistic Islamic education fosters *santri* as ethical and innovative agents of change.

Results

The results of this study reveal that *santri* possess strong potential to become transformative agents of change in the fields of business, science, and innovation—particularly when supported by adaptive educational environments. The data analysis generated three major themes that illustrate this transformation: personal strengths, institutional innovation, and external collaboration.

First, *santri* demonstrate foundational strengths rooted in the pesantren tradition, including multilingual ability, spiritual resilience, and a disciplined work ethic. These qualities are cultivated through pesantren practices that emphasize moral integrity, self-reliance, and communal responsibility. Respondents consistently highlighted how this foundation equipped them to navigate both religious and modern socio-economic challenges.

Second, institutional support plays a vital role. Pesantren that have successfully integrated religious teachings with entrepreneurship, digital literacy, and project-based learning show higher levels of *santri* engagement in innovation. For instance, structured programs such as digital marketing classes, technology clubs, and business incubators provided practical platforms for *santri* to experiment and build ethical enterprises. As one participant (S3) explained, “Our pesantren taught us Fiqh and coding in one semester. It built our confidence in both worlds.”

Third, external collaborations significantly enhance *santri*'s exposure and capabilities. Partnerships with universities, government institutions, and the private sector offer access to mentorship, sharia-compliant funding, and real-world business environments. According to Respondent S6, “Without my teacher guiding my startup steps, I wouldn't know how to pitch my product ethically.” Additionally, modules on “Fiqh Muamalah 4.0” found in two pesantren emphasized digital-era Islamic finance and ethics.

Together, these findings indicate that the transformation of *santri* into global change-makers emerges from the synergy of character, curriculum innovation, and strategic networks. Through this integrated model, *santri* not only uphold Islamic values but also lead ethically in shaping future socio-economic landscapes.

NVivo Results Table

Theme	References Coded	Key Sources	Example Quote	Sub-themes
Curriculum Integration	26	Interviews (S1, S2, S3, S7), Observations at Nurul Iman & Qotrun Nada	We learned sharia economics and directly practiced with the mini market program at the pesantren. (S2)	Integration of Fiqh with technology modules; Project-based business learning
Mentorship and Institutional Ecosystem	19	Interviews (S4, S6, S9), Document analysis (curricula)	My ustadz assistance became a turning point for me to dare to open my own business. (S6)	Alumni-led mentoring networks; Entrepreneurial ecosystem within pesantren
Sharia-Compliant Digital Innovation	21	Interviews (S5, S8, S10), Observation at Al Hamidiyah	My ustadz assistance became a turning point for me to dare	Use of halal digital platforms; Modules on muamalah 4.0

Character Values in Practice	17	All interviews, particularly S3, S7, S10	to open my own business. (S6) Trust and honesty are the main principles when interacting with customers. (S3))	and fintech ethics Implementation of shiddiq, amanah, fathanah, tabligh; Business trust impact
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Discussion

The findings of this study affirm that santri are well positioned to become ethical and transformative leaders in the global context. This potential is strongly supported by their foundational strengths particularly their spiritual resilience, multilingual capabilities, and disciplined work ethic which are nurtured through pesantren traditions that emphasize moral integrity and communal responsibility. These intrinsic attributes are further amplified by pesantren that innovate their educational models through curriculum integration. As observed in Pesantren Nurul Iman and Qotrun Nada, combining religious instruction with practical modules such as digital marketing and business incubation has shifted santri from being passive recipients of knowledge to proactive innovators. This supports the participants' reflections, such as that of S3 who noted the impact of learning "Fiqh and coding in one semester."

Equally significant is the role of mentorship and external collaboration. Guidance from teachers, exposure to real world entrepreneurship, and access to sharia compliant financial tools have enabled santri to implement Islamic ethical values shiddiq, amanah, fathanah, and tabligh within business contexts. For instance, S6's journey into ethical entrepreneurship was catalyzed by his teacher's mentoring, highlighting the importance of interpersonal support within the pesantren ecosystem.

Therefore, the transformation of santri emerges from the synergy of internal character, institutional curriculum reform, and external engagement. Empowering santri through spiritually rooted and skill oriented education can foster a generation of ethical leaders who bring Islamic values into contemporary arenas of innovation, business, and community development.

Santri in the Contemporary Context

Santri, in a social and economic context, can be defined as an individual who is educated at a pesantren, which is a traditional Islamic educational institution in Indonesia. They not only learn religious science but also acquire practical skills that can be applied in daily life, including those relevant to entrepreneurship. Santri has the potential to become a significant agent of change in society, particularly in the context of local economic development and community empowerment.

The role of students in the history of Islamic scientific and business development is very important. Since ancient times, pesantren has been a center for

teaching and disseminating knowledge, including religious and social sciences.⁷ In the context of business, students have contributed to entrepreneurial development through various initiatives, such as establishing small and medium-sized businesses based on Islamic values. For example, the "Cipta Cantin Mini An-Najah" program at the Al-Amaliah Islamic Boarding School demonstrates how students can develop their entrepreneurial potential through digital-based training and mentoring⁸. In addition, the application of feasibility studies in the development of business units in Islamic boarding schools also demonstrates that students can play an active role in creating jobs and enhancing the local economy⁹.

Santri also plays a role in maintaining and developing Islamic values in business. They are taught to run businesses with ethical principles based on Islamic teachings, such as honesty, justice, and social responsibility¹⁰. This not only helps them in achieving business success but also contributes to the development of a better society. Thus, santri not only functions as the successor to the Islamic scientific tradition, but also as a pioneer in business innovation based on religious values¹¹.

In facing the challenges of modernity and globalization, students must continue to adapt and develop relevant skills, including digital and managerial competencies. This is crucial so that they can compete in an increasingly competitive market and make a meaningful contribution to economic development. Thus, students play a very strategic role in creating positive social and economic changes in society.

Islamic Values

Islamic values play a crucial role in shaping ethical business practices, scientific endeavors, and innovative approaches across various fields. The principles of shiddiq (honesty), amanah (trust), fathanah (intelligence), and tabligh (communication) are fundamental in guiding business behavior. These values not only foster integrity and accountability but also improve relationships with stakeholders, thereby contributing to sustainable business practices. For example, businesses that embody these principles are more likely to build trust with customers and partners, leading to long-term success and a positive reputation in the market¹².

In the context of science and technology, the integration of Islamic ethics is crucial to ensure that progress aligns with moral and ethical standards. The

⁷ Kardina Engelina Siregar, "Islamic Boarding School Education in the Digital Era; Literature Review About Building a Relevant and Adaptive Curriculum," n.d., <https://ejournal.darunnajah.ac.id/index.php/edukasiana>.

⁸ Iin Suryaningsih et al., "Perberdayaan Santri Pondok Pesantren Al-Amaliah Desa Cikidang-Sukabumi Dalam Pengembangan Potensi Wirausaha Melalui 'Cipta Kantin Mini an-Najah,'" *PSN* 2, no. 1 (2022): 109, <https://doi.org/10.36722/psn.v2i1.1614>.

⁹ Mohammad A Mas'ud, "Penerapan Feasibility Study Dan Strategi Pengembangan Unit Usaha Di Pondok Pesantren AN-Nidhomiyah Pamekasan," *Sains.Data.J.Stud.Math.Tech* 1, no. 2 (2023): 51-59, <https://doi.org/10.52620/sainsdata.v1i2.9>.

¹⁰ Mhd Saleh et al., "Pesantren Education in the Digital Era: Concepts and Opportunities for Moral Education from a Virtue Ethics Perspective," n.d., <https://ejournal.darunnajah.ac.id/index.php/edukasiana>.

¹¹ Ayesha L Shaikh and Muhammad Z Rashidi, "Religious Business Leaders in Pakistan: Theorising the Phenomena of Religiosity-Driven Business Practices," *International Journal of Islamic Marketing and Branding* 4, no. 1 (2019): 27, <https://doi.org/10.1504/ijimb.2019.10021633>.

¹² Pandu Hyangsewu, "Tantangan Dan Antisipasi Pendidikan Agama Islam Di Tengah Arus Globalisasi," *Jurnal Kajian Peradaban Islam* 2, no. 2 (2019): 1-5, <https://doi.org/10.47076/jkps.v2i2.27>.

application of Islamic values in scientific research and technological innovation encourages responsible practices that prioritize human welfare and environmental sustainability.¹³ This integration can be seen in various initiatives that aim to develop technologies that are not only efficient but also ethically healthy, reflecting the teachings of Islam.¹⁴ For example, the emphasis on ethical leadership in the use of data and the promotion of multicultural teams in the digital environment highlights the importance of maintaining ethical standards in a rapidly evolving technology landscape.¹⁵

Furthermore, the challenges presented by globalization and rapid technological advancements necessitate a reevaluation of how Islamic values can be applied in contemporary contexts. Educational institutions, especially those focused on Islamic studies, are increasingly aware of the need to adapt their curricula to include discussions about the ethical implications of modern technology and business practices.¹⁶ This approach not only prepares students to navigate the complexities of the modern world but also empowers them to become agents of change, advocating for ethical practices in their respective fields.¹⁷

In conclusion, the principles of shiddiq, amanah, fathanah, and tabligh are essential in encouraging ethical business practices and guiding the advancement of science and technology. By integrating these Islamic values into various sectors, individuals and organizations can contribute to a more ethical and sustainable future, ensuring that progress is aligned with the moral teachings of Islam.

Innovation and Transformation Model of Santri

The model of innovation and transformation of students in the context of leadership and business is essential to understanding how Islamic values can be applied in the modern world. The Islamic value-based transformational leadership theory emphasizes four main principles: shiddiq (honesty), amanah (trustworthiness), fathanah (intelligence), and tabligh (communication). These principles not only form the character of an ideal leader but also create an environment that supports innovation and collaboration in organizations, including in Islamic boarding schools and businesses managed by students.¹⁸

In the business world, students who apply these principles can create a sustainable model of success. Research indicates that implementing digital marketing by Sharia values can enhance the visibility and success of Sharia-

¹³ Muhammad Nasir et al., "Philosophical Foundations of Holistic Education in the 21st Century," *International Journal of Educational Narratives* 2, no. 6 (2024): 471–82, <https://doi.org/10.70177/ijen.v2i6.1610>.

¹⁴ Desy C Wulandari, "Kepemimpinan Adaptif Dalam Dunia Digital: Mengatasi Tantangan Dan Peluang Di Era 4.0," *Transformasi Journal of Economics and Business Management* 3, no. 1 (2024): 207–20, <https://doi.org/10.56444/transformasi.v3i1.1682>.

¹⁵ Wulandari.

¹⁶ A Primarni et al., "Transformasi Filosofi Pendidikan Islam Pada Pondok Pesantren Di Era Society 5.0," *Edukasi Islami* 11, no. 01 (2022): 1177–92, <https://doi.org/https://doi.org/10.30868/ei.v11i01.2812>.

¹⁷ Erikafatul Insani, Fathor Rozi, and Hasyim Asy'ari, "Program MBKM Santri Sebagai Pondasi Penguatan Nilai Religius Di Era Society 5.0," *Tarbiyah Wa Ta Lim Jurnal Penelitian Pendidikan Dan Pembelajaran*, 2023, 59–69, <https://doi.org/10.21093/twt.v10i1.5617>.

¹⁸ Anisa A D Lestari, "Peran Teknologi Dalam Perubahan Bisnis Di Era Globalisasi," *Syntax Literate Jurnal Ilmiah Indonesia* 7, no. 11 (2023): 16706–11, <https://doi.org/10.36418/syntax-literate.v7i11.13517>;

Mersi Hayati, "Perkembangan Fikih Muamalah Konteks Transaksi Elektronik," *Al-Fiqh* 2, no. 1 (2024): 18–28, <https://doi.org/10.59996/al-fiqh.v2i1.370>.

compliant businesses in the digital era.¹⁹ Platforms such as YouTube and Instagram have proven effective in reaching a wider audience, allowing students involved in business to leverage this technology to develop their businesses. In addition, innovations in management and entrepreneurship in Islamic boarding schools also show that students can play an active role in creating new and sustainable economic opportunities²⁰

The integration of Islamic ethics into science and technology is also an essential aspect of the Student Innovation Model²¹. In this context, muamalah fiqh, which has evolved along with technological advances, such as electronic transactions, provides a relevant legal framework to ensure that business practices remain by Islamic principles²² This shows that students not only play the role of business people but also as innovators who can adapt Islamic values in the modern context.

Thus, a model of innovation and transformation for students based on transformational leadership and Islamic ethics can create a significant, positive impact in the world of business and technology. Students who are equipped with these values are not only able to contribute to the development of the local economy but also become agents of change, promoting ethical and sustainable business practices.

Potential and Basic Capital of Santri

Santri has great potential to face global challenges, primarily through mastery of foreign languages, resilience in adapting, and an Islamic character, which provides a competitive advantage. The mastery of foreign languages by students not only opens access to global knowledge but also expands their social and professional networks²³. With foreign language skills, students can communicate with various parties abroad, participate in international forums, and access the latest information and technology that can be applied in a local context²⁴ This is especially important in an increasingly connected world, where cross-border collaboration is key to innovation and development.

The resilience and persistence of students in adapting to change are also valuable basic capital. In the world of business and innovation, students frequently encounter diverse challenges, including market competition and technological advancements. This resilience, often formed through experiences in Islamic boarding schools, enables them to survive and thrive even in challenging situations. Students who possess a high fighting spirit and the ability to adapt quickly can create innovative solutions that address the community's needs, thereby contributing to local economic growth.

¹⁹ Zulkifli Musthan et al., "The Distribution of Good Character Components in the Education System in the Society 5.0 Era," *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)* 5, no. 3 (2022): 22501–13, <https://doi.org/10.33258/birci.v5i3.6258>.

²⁰ Mohammad Ridwan, "Optimalisasi Kemandirian Dan Jiwa Interpeunership Santri: Inovasi Manajemen Peserta Didik Di Pesantren Terpadu," *Kaipi* 2, no. 1 (2024): 1–7, <https://doi.org/10.62070/kaipi.v2i1.46>. ²¹ Ida Zahara Adibah et al., "Revitalisasi Pendidikan Islam Pondok Pesantren Sebagai Rumah Moderasi Beragama Di Indonesia," *Edukasi Islami: Jurnal Pendidikan Islam* 12, no. 01 (2023).

²² Hayati, "Perkembangan Fikih Muamalah Konteks Transaksi Elektronik."

²³ Alfian Eko Rochmawan et al., "The Use of Design Sprint Method in Developing the Excellence Program of Integrated Islamic Elementary School (SDIT) Nur Hidayah Surakarta," *International Journal of Post Axial: Futuristic Teaching and Learning*, 2023, 23–33.

²⁴ A C H CHAIRY, "Optimalisasi Dan Mengeksplorasi Kelebihan Serta Kekurangan Pembelajaran Berbasis Teknologi Informasi Dan Komunikasi (Tik) Di Sd/Mi," *Jurnal Ilmu Pengetahuan Dan Teknologi* 1, no. 3 (2023): 118–25, <https://doi.org/10.61116/jp3t.v1i3.277>.

The Islamic character possessed by students also provides a competitive advantage in the business world. Values such as honesty (shiddiq), trust (amanah), intelligence (fathanah), and the ability to communicate (tabligh) form a strong work ethic. Students who apply these principles in their business tend to build a good reputation and gain the trust of customers and business partners. In this context, Islamic character is not only a moral foundation but also an effective business strategy for achieving long-term success.

Thus, the potential and basic capital of students, comprising mastery of foreign languages, resilience in adaptation, and Islamic character, can be the primary driver of innovation and transformation in various fields, including business and technology. Students who can effectively utilize this capital will have a greater chance of success in the challenging era of globalization²⁵.

The Role of Students in Business, Science, and Technology

Students educated in Islamic boarding schools possess great potential in business, science, and technology. In this context, case studies of successful business students, often referred to as "santripreneurs," demonstrate how they can apply Islamic values in entrepreneurial practices. Successful students typically utilize their foundational assets, such as foreign language proficiency and managerial skills, to establish a business that is not only financially profitable but also beneficial to the community. For example, some students have successfully established technology-based businesses that integrate Sharia principles, such as e-commerce platforms that sell halal products and application-based services that support social activities.

Santri also plays an innovative role in Islamic value-based technology. They not only keep up with technological developments but also strive to create solutions that align with Islamic ethics²⁶. For example, several Islamic boarding schools have developed applications that help the public access religious and educational information, as well as facilitate transactions under sharia principles²⁷. This innovation shows that students can be agents of change who utilize technology to improve the quality of life of the community and strengthen Islamic values in the modern context.

The model of student contribution in scientific research and development is also very important. Many students are involved in research that focuses on social, economic, and environmental issues, with an approach based on Islamic values. This research not only contributes to the advancement of science but also helps create relevant solutions to the challenges faced by society. For example, research on halal product development and sustainability in business shows how Santri can contribute to creating a more ethical and sustainable industry.

Overall, the role of students in business, science, and technology is significant. They are not only successful business actors, but also innovators who can integrate Islamic values into every aspect of their lives. By utilizing their potential and basic capital, students can make a positive contribution to community development and scientific advancement.

²⁵ Shaikh and Rashidi, "Religious Business Leaders in Pakistan: Theorising the Phenomena of Religiosity- Driven Business Practices."

²⁶ M. Guerci et al., "The Impact of Human Resource Management Practices and Corporate Sustainability on Organizational Ethical Climates: An Employee Perspective," *Journal of Business Ethics* 126, no. 2 (January 1, 2015): 325–42, <https://doi.org/10.1007/S10551-013-1946-1>.

²⁷ Jabran Jasni, "Uncovering the Significance of Transformational Leadership in Islamic-Based Institutions: A Systematic Exploration," *Information Management and Business Review* 16, no. 1(I) (2024): 197–212, [https://doi.org/10.22610/imbr.v16i1\(i\).3677](https://doi.org/10.22610/imbr.v16i1(i).3677).

Student Empowerment Strategy

The strategy of empowering students in the context of education and business is crucial for enhancing their competitiveness in the era of globalization. One of the main steps is to strengthen the curriculum of Islamic boarding schools based on business and technology. By integrating entrepreneurship and information technology materials into the curriculum, students will be better prepared to face challenges in the business world²⁸. For example, training programs that teach digital and managerial skills can help students understand market dynamics and utilize technology to enhance their business development. Research indicates that education that emphasizes practical skills and the application of technology can improve students' ability to innovate and adapt in the business world²⁹.

Additionally, increasing access to sharia-based business training and incubation is a crucial aspect of student empowerment. Incubation programs that provide guidance and financial support can help students develop their business ideas into sustainable ventures. Research shows that support from mentors and access to resources can increase students' chances of success in entrepreneurship. With training focused on Sharia principles, students can build a business that is not only profitable but also ethical and by Islamic values.³⁰

The synergy between Islamic boarding schools, the government, and the industrial sector is also very important to enhancing the competitiveness of students. This collaboration can create programs that support skills development and access to markets. For example, collaboration with industry can provide students with opportunities for internships and gain valuable practical experience³¹. In addition, government support in the form of policies that promote the development of Sharia-based small and medium-sized enterprises (SMEs) can strengthen the position of students in the business world.

Overall, the strategy of empowering students through strengthening the curriculum, increasing access to training, and synergy with the government and roles profession can create an ecosystem that supports the success of students in business and technology. With this comprehensive approach, students will not only become successful business actors but also professional actors who can make a positive contribution to society.

Conclusion

This study concludes that santri hold significant potential to serve as ethical, resilient, and innovative agents of change in the global context. Their transformation from traditional religious learners into impactful contributors in business, science, and technology is not only possible but also necessary in the era of globalization and Industrial Revolution 5.0.

²⁸ Armin P Verdorfer and Claudia Peus, "Leading by Example: Testing a Moderated Mediation Model of Ethical Leadership, Value Congruence, and Followers' Openness to Ethical Influence," *Business Ethics a European Review* 29, no. 2 (2019): 314–32, <https://doi.org/10.1111/beer.12255>.

²⁹ Wiwik Wiyanti, "Edukasi Peran Statistika (Data Sains) Dalam Dunia Entrepreneur Di SMKN 1 Sedan, Rembang," *Abdimas Galuh* 6, no. 1 (2024): 492, <https://doi.org/10.25157/ag.v6i1.13282>.

³⁰ Nurul Huda et al., "Membaca Kurikulum Merdeka Belajar Dalam Perspektif Islam," *Edukatif Jurnal Ilmu Pendidikan* 5, no. 4 (2023): 1718–26, <https://doi.org/10.31004/edukatif.v5i4.4287>.

³¹ Ryan P Sumarta et al., "Pengaruh Motivasi Dan Sikap Taruna Terhadap Bahasa Inggris Dan Ukuran Kosakatanya," *JPB Jurnal Patria Bahari* 2, no. 2 (2023), <https://doi.org/10.54017/jpb.v2i2.61>; Lestari, "Peran Teknologi Dalam Perubahan Bisnis Di Era Globalisasi."

Key findings affirm that santri's foundational strengths, namely multilingual proficiency, adaptability, and strong Islamic values, can be further amplified through institutional innovation. Pesantren that integrate entrepreneurial education, digital skills, and value based leadership development have proven more effective in preparing santri for complex societal roles.

The research emphasizes that Islamic values such as shiddiq, amanah, fathanah, and tabligh are not only compatible with modern innovation but are also essential in guiding it ethically. These principles, when embedded in educational practices and entrepreneurial ecosystems, foster a new generation of leaders who prioritize integrity and community welfare.

However, to fully harness this potential, a comprehensive empowerment strategy is needed, one that includes curriculum transformation, access to mentoring and capital, and strong collaboration between pesantren, universities, and industry players.

In conclusion, santri should no longer be viewed solely as custodians of religious knowledge. With the right support systems and strategic orientation, they can become trailblazers in shaping a future where innovation, ethics, and faith coexist harmoniously. Their role is vital in building a just, sustainable, and spiritually grounded society.

Recommendations

Based on the findings and discussions of this study, the following strategic recommendations are proposed to optimize the role of santri as global change makers in the fields of business, science, and innovation:

1. Curriculum Transformation in Pesantren

Pesantren should integrate entrepreneurship, digital literacy, and project-based learning into their formal and non-formal curricula. A value-driven, interdisciplinary approach will better prepare santri to navigate the challenges of the modern world while upholding Islamic ethics.

2. Development of Innovation and Business Ecosystems

Institutions should create dedicated spaces for innovation such as startup incubators, digital workshops, and collaborative labs. These platforms must be aligned with Sharia principles to promote ethical entrepreneurship and socially responsible innovation.

3. Strengthening Strategic Partnerships

Building partnerships between pesantren, universities, industries, and government bodies is essential. Joint programs such as internships, business mentorships, and collaborative research will enhance santri's practical skills and exposure to real-world challenges.

4. Access to Sharia-Compliant Financial Support

Financial institutions and policymakers should design and provide accessible funding schemes that align with the principles of Islamic finance. This will enable santri-led enterprises to grow sustainably and ethically.

5. Capacity Building for Educators and Leaders

Teachers, ustadz/ustadzah, and pesantren leaders must be trained in modern pedagogical approaches, leadership models, and technology integration to mentor and guide students on their transformation journeys effectively.

Implementing these recommendations requires a collaborative and long-term commitment from all stakeholders. When carried out effectively, these strategies

can position pesantren as dynamic centers of innovation, and santri as leading contributors to a more ethical and sustainable future.

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