

From Tafaqquh Fiddin to Applied Sciences: The Transformation of Islamic Education in Indonesia

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Abstract

In facing the demands of globalisation and the Fourth Industrial Revolution, Islamic education in Indonesia encounters challenges to remain relevant by preserving religious values while responding to the need for practical skills. This study aims to explore the transformation of Islamic education in Indonesia, particularly in the context of the shift from the scholarly tradition of *tafaqquh fiddin* (*deep understanding of religion*) to applied sciences. The research evaluates how Islamic boarding schools (*pesantren*), Islamic schools (*madrasah*), and Islamic higher education institutions (*PTKI*, or Perguruan Tinggi Keagamaan Islam) adapt to the demands of globalisation and modern economic developments requiring practical and professional skills. This study employs a qualitative approach by analysing literature, curricula, and policies related to Islamic education in Indonesia. Data were collected from various sources such as journals, books, and policy documents. The findings reveal that Islamic education in Indonesia has undergone significant transformation. *Pesantren* have begun integrating vocational skills such as agribusiness and information technology, *madrasah* have broadened their focus to include academic education and practical skills, while *PTKI* have adopted non-religious programmes such as economics and health sciences. This transformation has produced graduates who not only possess profound religious understanding but also practical skills relevant to the modern job market. The study underscores the importance of integrating religious education with applied sciences to ensure the relevance of Islamic education in the modern era. These findings provide a foundation for the development of adaptive educational policies, such as competency-based curricula and support for vocational education. This research also offers a unique contribution to the literature on Islamic education by highlighting a significant shift in the scholarly tradition in Indonesia, particularly in balancing religious values with applicative skills for success in the professional world.

Keywords: Applied Sciences; Madrasah; Islamic Education; Pesantren; *Tafaqquh Fiddin*

Abstrak

Dalam menghadapi tuntutan globalisasi dan Revolusi Industri 4.0, pendidikan Islam di Indonesia menghadapi tantangan untuk tetap relevan dengan mempertahankan nilai-nilai keagamaan sambil merespons kebutuhan keterampilan praktis. Penelitian ini bertujuan untuk mengeksplorasi transformasi pendidikan Islam di Indonesia, khususnya dalam konteks pergeseran tradisi keilmuan dari *tafaqquh fiddin* (pemahaman mendalam tentang agama) menuju ilmu terapan. Studi ini mengevaluasi bagaimana pesantren, madrasah, dan perguruan tinggi Islam (PTKI) beradaptasi dengan tuntutan globalisasi dan perkembangan ekonomi modern yang memerlukan keterampilan praktis dan profesional. Penelitian ini menggunakan pendekatan kualitatif dengan analisis terhadap literatur, kurikulum, dan kebijakan Pendidikan Islam di Indonesia. Data dikumpulkan dari berbagai sumber seperti jurnal, buku, dan dokumen kebijakan. Hasil penelitian menunjukkan bahwa pendidikan Islam di Indonesia telah mengalami transformasi signifikan. Pesantren mulai mengintegrasikan keterampilan vokasional seperti agribisnis dan teknologi informasi, madrasah memperluas fokusnya pada pendidikan akademik dan keterampilan praktis, sementara PTKI mengadopsi program studi non-keagamaan seperti ekonomi dan kesehatan. Transformasi ini menciptakan lulusan yang tidak hanya memiliki pemahaman agama yang mendalam tetapi juga keterampilan praktis yang relevan dengan pasar kerja modern. Penelitian ini menegaskan pentingnya integrasi antara pendidikan agama dan ilmu terapan untuk memastikan relevansi pendidikan Islam di era modern. Temuan ini memberikan landasan bagi pengembangan kebijakan pendidikan yang adaptif terhadap kebutuhan pasar kerja, seperti penyusunan kurikulum berbasis kompetensi dan dukungan terhadap pendidikan vokasi. Penelitian ini juga berkontribusi unik dalam literatur pendidikan Islam dengan menyoroti pergeseran signifikan dalam tradisi keilmuan di Indonesia, khususnya dalam

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upaya menyeimbangkan antara nilai-nilai agama dan keterampilan aplikatif untuk keberhasilan di dunia kerja.

Kata kunci: Ilmu Terapan; Madrasah; Pendidikan Islam; Pesantren; *Tafaqquh Fiddin*

BACKGROUND

In recent decades, significant changes in the social structure and educational needs of the global Muslim community, including in Indonesia, have become increasingly evident. This phenomenon is marked by growing public demand for education that not only focuses on deep religious understanding (*tafaqquh fiddin*, meaning a profound comprehension of religion) but also equips students with practical skills relevant to an increasingly competitive job market. Globalisation and the Fourth Industrial Revolution have triggered major transformations in education systems, where technical skills, technological proficiency, and innovation have become essential for thriving in the modern world (Bungawati, 2022).

Additionally, a study conducted by the Institute for Research and Community Service (*LPPM*, or *Lembaga Penelitian dan Pengabdian kepada Masyarakat*) at the State Islamic University (*UIN*) Jakarta in 2022 revealed that 60% of *pesantren* (Islamic boarding school) graduates felt unprepared to face challenges in the workforce due to curricula that fail to meet current industry demands (LPPM UIN Jakarta, 2022). Further findings from the 2023 National Education Survey indicated that only 40% of *pesantren* have adequate educational facilities, such as fully equipped laboratories and libraries (Survei Pendidikan Nasional, 2023). This shift reflects a change in societal mindset that increasingly emphasises the importance of applicative education, which aims not only to produce religious scholars or experts but also professionals competent in fields such as science, technology, economics, and business. This condition highlights the need for education to respond effectively to contemporary challenges and meet the needs of a dynamic society. Islamic educational institutions in Indonesia are thus expected to adapt to rapid social changes and technological advancements (Nursalim & Hasan, 2023). This transformation is critical and warrants deeper examination, as it significantly influences public perceptions of the role of Islamic education and how these institutions can remain relevant amidst global challenges.

Research on the transformation of Islamic education has become a significant topic in various studies, particularly regarding efforts to integrate traditional religious education with modern applied sciences. Previous studies can be categorised into three main themes: curriculum development, pedagogical approaches, and institutional transformation. The first category is Curriculum Development. Research by Hashim (2017) highlights that many *pesantren* (Islamic boarding schools) and *madrasah* (Islamic schools) in Indonesia have begun incorporating science and technology subjects into their curricula while maintaining traditional religious studies. However, this study does not elaborate in detail on how this integration enhances the relevance of graduates in the job market. Similarly, Muqowim and Lessy (2021) discuss the integration of science and religion in Islamic higher education institutions, yet their research lacks an evaluation of its impact on graduates' job readiness, leaving a gap to be addressed.

The second category is Pedagogical Approaches. Studies by Hashim (2017) and Skinner (2013) emphasise changes in teaching methodologies in Islamic educational institutions, shifting from traditional rote memorisation methods to more interactive, critical-thinking-based approaches. However, these studies reveal challenges, particularly the limited capacity of educators to effectively implement these new methods—a topic that remains insufficiently explored. The lack of teacher training to adopt interactive methods also emerges as a major obstacle.

The third category is Institutional Transformation. Studies such as that by Subhan (2023), indicate that institutional transformation in Islamic education, particularly in Indonesia, has involved changes in the status of institutions, such as the conversion of State Institutes for Islamic Studies (*IAIN*, or *Institut Agama Islam Negeri*) into State Islamic Universities (*UIN*, or *Universitas Islam Negeri*). However, these studies tend to be descriptive and do not adequately explore the long-term impact of such transformations on the international competitiveness of graduates.

Despite numerous studies examining the transformation of Islamic education from the perspectives of curriculum development, pedagogical approaches, and institutional transformation, significant gaps remain in the literature regarding the effectiveness of integrating applied sciences into enhancing graduates' competitiveness. No study has specifically addressed the shift in Islamic education from focusing on *tafaqquh fiddin* (*deep understanding of religion*) towards education that prioritises applied sciences. This transformation entails a fundamental change in educational objectives, moving from solely producing religious scholars (*ulama*) to adopting a more applicative approach aligned with modern societal needs. The lack of in-depth studies on the impact of this transformation on graduates and educational institutions highlights the necessity of this research.

This study aims to deeply explore the shift in the scholarly tradition of Islamic education in Indonesia, particularly in the transition from *tafaqquh fiddin* (*deep understanding of religion*) to education based on applied sciences. By addressing gaps in previous research, this study provides a comprehensive analysis of the process of integrating applied sciences into the curricula of Islamic educational institutions such as *pesantren* (Islamic boarding schools), *madrasah* (Islamic schools), and Islamic higher education institutions (*PTKI*, or Perguruan Tinggi Keagamaan Islam). Furthermore, this research seeks to offer new contributions to the development of a more holistic Islamic education curriculum in Indonesia. Such a curriculum would balance in-depth religious learning with applied skills required in the era of globalisation and the modern economy.

LITERATURE REVIEW

The Concept of *Tafaqquh Fiddin*

Tafaqquh fiddin, lexically, means gaining a profound understanding of religion, particularly within the context of Islamic jurisprudence (*fiqh*) and other religious studies. The concept is derived from the term *fiqh*, which refers to knowledge obtained through in-depth observation and exploration of religious teachings. As a dynamic discipline, *fiqh* has become a key reference in addressing various social issues that evolve over time (Affan, 2016). *Pesantren* (Islamic boarding schools), as traditional Islamic educational institutions, play a central role in the development of *tafaqquh fiddin*. These institutions teach *santri* (students) to master religious texts such as the Qur'an and Hadith with the aim of producing *ulama* (Islamic scholars) capable of addressing contemporary religious issues amidst changing times (Ridawati, 2020). *Tafaqquh fiddin* encompasses not only theoretical understanding but also the practical application of religious teachings in everyday life.

Moreover, *tafaqquh fiddin* aims not merely to cultivate narrow religious understanding but also a broad comprehension encompassing disciplines relevant to both worldly and spiritual well-being (Shidiq, 2017). According to Ibn Kathir, *tafaqquh fiddin* involves reflecting upon and deeply exploring religious knowledge as a holistic guide to life, encompassing spiritual, social, and intellectual aspects (Katsir, n.d., p. 524). Traditional institutions like *pesantren*, as centres of *tafaqquh fiddin*-based education, have played a significant role in providing religious knowledge while enhancing literacy and social skills among *santri*

since the fifteenth century (Ismail, 2011). These *pesantren* aim to produce individuals who can address contemporary challenges while preserving Islamic values.

Tafaqquh fiddin involves an in-depth understanding of religious teachings, covering both worship (*ibadah*) and interpersonal relations (*muamalah*), which form the core of education in Islamic institutions. Its scope includes teaching and learning processes that internalise religious values comprehensively, such as *aqidah* (Islamic creed), *syariah* (Islamic law), and *tasawuf* (Islamic mysticism), which are subsequently applied in daily life. Islamic educational institutions focus not only on transmitting religious knowledge but also on shaping the character of students by instilling Islamic values in their everyday lives (Affan, 2016; Yahya, 2015). Moral character (*akhlak*) serves as the foundation for developing students' personalities, which are expected to be consistently applied in broader social contexts, both within educational settings and in the wider community (Rofiq, 2012, pp. 15–16). Additionally, Islamic educational institutions that emphasise *tafaqquh fiddin* aim to produce graduates capable of addressing contemporary challenges while maintaining moral integrity and Islamic values (Ismail, 2011).

In this study, *tafaqquh fiddin* is understood as a fundamental aspect of Islamic education that emphasises moral character development and profound religious understanding. The research explores how *tafaqquh fiddin* is implemented in the curricula of Islamic educational institutions, particularly in *pesantren*, and how this concept can be adapted for general schools, especially vocational schools. The focus of this research is to examine the role of *tafaqquh fiddin* in shaping students' moral character as a response to modern social challenges, with the aim of creating a holistic education system that integrates religious and applied sciences.

Applied Sciences

Applied sciences refer to disciplines that focus on the practical application of scientific knowledge to solve real-world problems, as opposed to pure sciences, which prioritise the development of theory and understanding without direct application. Applied sciences encompass various fields such as technology, medicine, engineering, and economics, aimed at achieving practical goals and contributing to innovation and technological advancement (Gaukroger, 2023). These sciences involve the direct utilisation of scientific principles in practical contexts, often producing new knowledge that can further drive technological development (Morrison, 2011). While the distinction between pure and applied sciences is often debated, historical studies highlight the crucial role of applied sciences in bridging scientific theory with real-world applications, thereby generating direct benefits for society (Roll-Hansen, 2013).

The integration of applied sciences into education has emerged as a significant approach, particularly through STEM (science, technology, engineering, and mathematics) frameworks, which have been shown to enhance students' critical thinking and problem-solving abilities. STEM approaches enable students to connect academic knowledge with real-world applications, fostering collaboration and communication skills that are highly valued in modern workplaces (Aguilera & Ortiz-Revilla, 2021; Pratama, Pratiwi, Saputra, & Sumargono, 2022). For instance, in agricultural education, incorporating applied sciences into the curriculum not only meets educational standards but also promotes educational reform through innovation and hands-on practice (Cross & Kahn, 2018). Education based on applied sciences also emphasises innovation through collaborative and project-based learning, enhancing students' technical skills while encouraging creative thinking in solving complex problems (Kettunen, 2011). At the higher education level, universities prioritising applied sciences play a critical role in bridging research with industry needs, producing graduates who are well-prepared for workforce challenges (Kantola & Kettunen, 2012).

Islamic educational institutions in Indonesia, including *pesantren* (Islamic boarding schools) and *madrasah* (Islamic schools), have undergone significant transformations by integrating applied disciplines such as science, technology, and vocational skills into their curricula. Modern *pesantren* now offer skills-based programmes such as information technology, business management, and agribusiness, aiming to prepare students for an increasingly competitive job market (Abdillah, Abdurakhman, & Maryani, 2018). Furthermore, State Islamic Universities (*UIN*, or Universitas Islam Negeri) in Indonesia have incorporated applied sciences such as Islamic economics and health sciences into their religious studies programmes, creating a synergy between profound religious understanding and the professional competencies required in the globalised era (Khozin & Umiarso, 2019). This transformation reflects the adaptation of Islamic educational institutions to modern demands, where graduates are expected to possess not only religious insight but also practical skills relevant to the job market (Murhayati et al., 2023). Thus, Islamic education in Indonesia serves not only as a means of transmitting religious knowledge but also as a platform for equipping students with the skills necessary to contribute to a rapidly evolving society (Syaifudin, Mujahidin, Rahman, Saleh, & Halim, 2021).

In the context of this research, applied sciences are understood as disciplines that focus not only on mastering scientific knowledge but also on the practical application of that knowledge to solve real-life problems. The conception of applied sciences in this study encompasses the integration of theoretical knowledge with technical skills relevant to modern labour market demands, particularly within Islamic education. Applied sciences, in this sense, serve as a vital instrument for preparing graduates of Islamic educational institutions to adapt to global challenges while adhering to strong religious values. Consequently, applied sciences are expected to bridge the gap between religious theory and practical needs, contributing more broadly to societal and economic development and ensuring that Islamic education remains relevant both spiritually and practically in a modern context.

Islamic Education

Islamic education has varying definitions depending on scholars' perspectives but fundamentally centres on instilling Islamic values based on the Qur'an and Sunnah. According to Abdul Mujib, while the term *altarbiyah* (education) is not explicitly found in the Qur'an and Sunnah, there are terms derived from the root word *rabb* (Lord) that are closely associated with the concept of education (Mujib & Mudzakkir, 2008, p. 10). Imam Zarkasyi, a prominent figure in Islamic education in Indonesia, defines Islamic education as the integration of religious and general sciences, wherein both types of knowledge are considered equally important and complementary (Zarkasyi, 1996, p. 51). This perspective asserts that Islam does not separate worldly and spiritual knowledge but views them as interconnected entities that mutually enrich each other.

Furthermore, Mohammad Athiyah Al-Abrasy and Omar Mohammad Al-Toumy Al-Syaibany argue that Islamic education is a holistic endeavour to prepare individuals to live a complete and fulfilling life, encompassing physical, intellectual, moral, and spiritual aspects (Langgulung, 1996, p. 102; Said, 2005, p. 39). Islamic education aims to fully develop human potential for the benefit of both individuals and society, guided by the Qur'an, Sunnah, and the traditions of Islamic scholars (Langgulung, 1996). Hence, Islamic education is understood as the transmission of Islamic values not only related to religious knowledge but also incorporating social, cultural, and political dimensions, all of which aim to mould individuals with noble character who can positively contribute to society (Yunus, 1995, p. 6).

In the context of this study, Islamic education is conceived as an educational system that extends beyond teaching religious doctrines to encompass all aspects of life required by a Muslim, both in worldly

and spiritual dimensions. Islamic education in this research highlights the integration of religious sciences and applied sciences, creating a balance between the spiritual and intellectual development of learners. Grounded in the Qur'an and Sunnah, Islamic education seeks to shape individuals who are morally upright, knowledgeable, and capable of making positive contributions to modern society. This concept aligns with the views of scholars such as Imam Zarkasyi and Al-Syaibany, who emphasise that Islamic education is a means to prepare holistic individuals—morally, intellectually, and socially—enabling graduates to face contemporary challenges without losing their religious identity.

RESEARCH METHOD

This study employs a qualitative approach using literature review and document analysis methods. This approach was chosen as it enables an in-depth exploration of the shift in the scholarly tradition of Islamic education from *tafaqquh fiddin* (*deep understanding of religion*) to applied sciences. A qualitative method is considered relevant for understanding the social, cultural, and policy contexts underlying the transformation of Islamic education, particularly due to its focus on interpreting complex and diverse phenomena.

The research focuses on Islamic educational institutions in Indonesia, namely *pesantren* (Islamic boarding schools), *madrasah* (Islamic schools), and Islamic higher education institutions (*PTKI*, or Perguruan Tinggi Keagamaan Islam). It emphasises changes in curricula, teaching methodologies, and educational policies supporting the integration of applied sciences. Policies such as the *Pesantren Independence Programme* and vocational education initiatives in *PTKI* are also key points of analysis. Data collection involves document analysis and participatory observation. Document analysis includes literature on curriculum transformation in Islamic educational institutions, government policies such as Ministerial Decrees, and official reports discussing the implementation of vocational education in *pesantren* and *PTKI*. Meanwhile, participatory observation is conducted at Islamic educational institutions integrating applied sciences, such as *pesantren* with agribusiness programmes or skills-based *madrasah*.

Data analysis utilises content analysis and discourse analysis approaches. Content analysis is employed to identify key themes from documents, such as curricula, policies, and relevant literature. This process involves thoroughly reading documents, marking sections relevant to the research focus, and grouping data into categories such as curriculum transformation, vocational skills, and educational policies. Meanwhile, discourse analysis explores how the transformation of the scholarly tradition is articulated in policies and institutional practices. This technique includes identifying linguistic patterns and terminology used in policies, analysing the relationship between policy narratives and practical implementation, and comparing the findings with other literature to ensure consistency.

RESEARCH FINDINGS

This study identifies the transformation of the scholarly tradition from *tafaqquh fiddin* (*deep understanding of religion*) to applied sciences within Islamic education in Indonesia through three types of educational institutions: *pesantren* (Islamic boarding schools), *madrasah* (Islamic schools), and Islamic higher education institutions (*PTKI*, or Perguruan Tinggi Keagamaan Islam). This shift is driven by the demands of globalisation, technological advancements, and government policies supporting the integration of applied sciences.

The shift in the scholarly tradition within Islamic education in Indonesia can be observed across the three models of Islamic education: *pesantren*, *madrasah*, and Islamic universities. Historically, *pesantren*,

as the oldest educational institutions in Indonesia, have focused on deep religious education. However, over time, many *pesantren* have begun integrating applied sciences and vocational skills into their curricula. Similarly, *madrasah*, particularly at the *Aliyah* (senior high school) level, have diversified their education to include general academic subjects and practical skills. At the higher education level, significant transformations have occurred with the transition of Islamic institutions such as *Sekolah Tinggi Agama Islam (STAI*, or Islamic Higher Education Colleges) and *Institut Agama Islam (IAI*, or Islamic Institutes) into *Universitas Islam Negeri (UIN*, or State Islamic Universities). These universities now offer not only religious programmes but also non-religious, application-oriented study programmes that are more relevant to the modern job market. These three educational models reflect a critical evolution in Islamic education in Indonesia, striving to balance religious education with applied skills. The goal is to prepare a generation of Muslims equipped not only with profound religious knowledge but also the ability to contribute effectively across various economic and industrial sectors.

Transformation of Islamic Education in Pesantren

Pesantren (Islamic boarding schools) have a long history in Indonesia, tracing back more than 600 years as Islamic educational institutions focused on *tafaqquh fiddin* (deep understanding of religion). Traditionally, *pesantren* have played a pivotal role in teaching classical Islamic sciences such as the Qur'an, Hadith, *fiqh* (Islamic jurisprudence), and *tasawuf* (Islamic mysticism), with the primary goal of educating *ulama* (Islamic scholars) and intellectuals well-versed in Islamic law and moral values (Hussin, Mohamad, & Ghanad, 2017). Beyond education, *pesantren* have also served as centres for social transformation, promoting Islamic values in society and supporting local socio-economic development (Isbah & Sakhiyya, 2023). Traditional *pesantren* are known for their curriculum centred on *kitab kuning* (classical Islamic texts), which have produced many prominent religious leaders in Indonesia (Nurtawab, 2019). However, with the dynamics of globalisation and social change, *pesantren* have begun addressing new challenges by integrating knowledge and practical skills to better equip students for the modern world.

Today, modern *pesantren* in Indonesia have started incorporating applied sciences into their curricula to prepare students for the demands of the workforce. These institutions maintain their core focus on religious education while complementing it with practical skills such as information technology, agribusiness, and business management (Yulianeta & Utami, 2019). For example, several modern *pesantren* have successfully implemented agribusiness programmes, which not only teach Islamic agricultural theory but also engage students in hands-on practice through the management of *waqf* (endowment) lands and communal farming. These *pesantren* strive to balance religious education with applied skills, producing graduates capable of thriving in professional fields without compromising their Islamic identity (Asror, 2017). This transformation allows *pesantren* to remain relevant in the era of globalisation while contributing to the economic independence of Muslim communities.

One significant initiative in integrating applied sciences into *pesantren* education in Indonesia is the *Kemandirian Pesantren (Pesantren Independence) Programme* (Kemenag, 2024). This programme aims to enhance the economic independence of *pesantren*, enabling them to optimise their roles in education, Islamic propagation (*dakwah*), and community empowerment. By fostering strong and sustainable economies, *pesantren* are expected to function not only as centres of religious education but also as agents of socio-economic change within their communities. The *Kemandirian Pesantren Programme* has been designated as a priority initiative by the Ministry of Religious Affairs through Ministerial Decree Number 749 of 2021. The programme focuses on developing the economic resources of *pesantren* and improving

the welfare of both the institutions and their surrounding communities by optimising the resources they possess (Kemenag, 2024).

The programme is designed with an inclusive principle, ensuring access for all *pesantren* in Indonesia regardless of their background or size. It is also tailored to the specific needs of each *pesantren*, allowing them to apply for assistance aligned with their business sectors and geographical conditions. This government facilitation enables *pesantren* to engage in various types of enterprises relevant to their resources. Furthermore, the programme adopts a collaborative approach, involving multiple stakeholders such as ministries, local government agencies, religious organisations, and the general public. This collaboration aims to build more independent *pesantren* capable of contributing to local economic development (Kemenag, 2024).

According to data from the Ministry of Religious Affairs (Kemenag, 2024), between 2021 and 2024, the *Pesantren Independence Programme* has supported 2,074 *pesantren* through business incubation assistance, resulting in more than 593 products across 271 different types of businesses, including agribusiness, trade, and services. One tangible outcome of this programme is the establishment of *Badan Usaha Milik Pesantren (BUMPes, or Pesantren-Owned Enterprises)*. To date, 32 enterprises have been created across various *pesantren* to manage sustainable business operations (see Table 1).

Table 1 Data from the *Kemandirian Pesantren (Pesantren Independence) Programme 2021–2024*

Category	Total
Pesantren Receiving Incubation Assistance	2,074
Products Created	593
Types of Businesses	271
Enterprises – BUMPes	32

Source: Kemenag (2024)

These results demonstrate that the *Pesantren Independence Programme* not only enhances the economic competitiveness of *pesantren* but also illustrates how Islamic educational institutions can actively contribute to economic and social development while preserving their deep-rooted Islamic values.

The *Pesantren Independence Programme*, initiated by the Ministry of Religious Affairs of the Republic of Indonesia (*Kementerian Agama, or Kemenag*), has seen significant advancements in recent years. Various policies and initiatives have been implemented to foster the economic independence of *pesantren* (Islamic boarding schools) through *pesantren*-based entrepreneurship. A key milestone was achieved on 25 October 2019, when Kemenag, in collaboration with the Ministry of Cooperatives and Small and Medium Enterprises and PT Bukalapak, signed a Memorandum of Understanding (MoU) in Jakarta (Kemenag, 2019). This MoU aimed to enhance integrated digital entrepreneurship capacities for micro, small, and medium enterprises (*UMKM, or Usaha Mikro, Kecil, dan Menengah*) within *pesantren*. This step marked the beginning of an initiative encouraging *pesantren* to leverage digital technology for their business development.

Furthermore, on 2–4 September 2021, Kemenag, through the Directorate of *Diniyah* Education and *Pesantren*, organised a digital capacity-building programme for *pesantren*-based *UMKM* in Bogor. This programme provided practical training for *pesantren* managers on utilising technology to expand their micro-enterprises (Kemenag, 2021c). Similarly, on 21 October 2021, in Rembang Regency, Central Java, Kemenag hosted an economic empowerment programme for faith-based communities. The event, which

involved 100 participants from among religious leaders, sought to harness the economic potential of faith-based communities (Lazuardi, 2021).

The synergy between Kemenag and the Ministry of Industry was further strengthened on 17 December 2021 through the signing of an MoU supporting the development of independent entrepreneurship within *pesantren*. This collaboration aimed to promote entrepreneurial growth and strengthen *pesantren* contributions to the national economy (Kemenag, 2021c). Entrepreneurial training programmes continued, including face-to-face sessions held on 26 April–1 May 2021 in Yogyakarta. These sessions focused on economic empowerment in agribusiness and entrepreneurship for *pesantren* (Kemenag, 2021a). Lastly, on 27–29 March 2022, Kemenag organised a Training of Trainers (ToT) programme to enhance leadership and entrepreneurial capacities among *pesantren* managers. This initiative, spearheaded by the Directorate General of Islamic Education and the Directorate of *Diniyah* Education and *Pesantren*, involved multiple stakeholders to support economic transformation within the *pesantren* ecosystem (Kemenag, 2022).

The *Community Vocational Training Centres* (*BLK-K*, or *Balai Latihan Kerja Komunitas*) have become a strategic initiative for integrating vocational skills training within *pesantren* (Islamic boarding schools) and other religious communities. These centres are designed as vocational training units operating within *pesantren*, aiming to equip *santri* (students) with skills to prepare them for the workforce. According to data, the majority of *BLK-K* programmes in *pesantren* focus on five main areas (Figure 1): computer skills (68%), communication and information technology (32%), welding (8.1%), motorcycle mechanics (14.5%), and tailoring (5.2%). Computer skills are the most popular choice due to ease of implementation and the availability of instructors. Conversely, welding and automotive training are less favoured due to the high maintenance costs of equipment and the limited availability of competent instructors (Kemnaker, 2021).

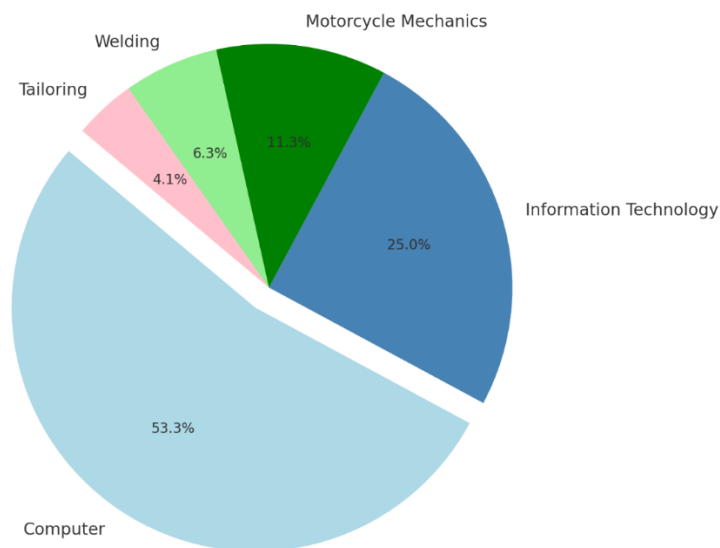


Figure 1 Distribution of Skills Training in Pesantren Community Vocational Training Centres

A notable success story of the *BLK-K* programme is Pesantren Nurul Islam in Jember, East Java. Graduates of this *pesantren's* computer training programme have secured jobs as administrative staff in schools and cooperatives affiliated with the *pesantren*. Another example is Yuli Nur Fadilah, a graduate of the Annadwah *BLK-K* in Cirebon, who obtained a position at her dream company just one month after completing the programme. These successes highlight the high competitiveness of the skills training provided by *BLK-K*, particularly in the fields of administration and information technology (Kemnaker, 2021).

Beyond the technology sector, *BLK-K* centres have also empowered *santri* in the automotive field. In Pesantren Nurul Jadid, Probolinggo, which houses over 9,000 *santri*, the motorcycle mechanics *BLK-K* provides an innovative solution for transportation needs within the *pesantren*. A workshop established by *BLK-K* alumni not only serves the *pesantren's* students and staff but also operates as a competitive business in the surrounding community. With affordable pricing and a strategic location within the *pesantren*, the workshop competes effectively with local businesses. Customers are further attracted by the spiritual values associated with supporting a *pesantren*-based enterprise, as they feel their patronage contributes to the economic development of the *pesantren*, supporting its mission in *dakwah* (Islamic propagation) and education (Kemnaker, 2021).

The tailoring sector has also demonstrated the potential of *BLK-K* in empowering *santri*. In Pondok Pesantren Al-Hikmah, Sukabumi, the tailoring *BLK-K* has evolved into a production centre in addition to providing training. Although it has not yet partnered with major companies, graduates of this *BLK-K* have received various tailoring orders within the *pesantren* community. Their creations are displayed at the *BLK-K* facility, boosting visibility and attracting more clients. Tailoring skills enable *santri* to work independently, open small businesses, and tap into the local market (Kemnaker, 2021).

For *pesantren* hosting *BLK-K* centres, the independent working model aligns well with their culture. Through self-sustained enterprises such as workshops, tailoring services, or other ventures, *pesantren* can not only meet their internal needs but also create job opportunities for *santri* and the surrounding community. From a business perspective, establishing independent enterprises is more advantageous than traditional employment as it engages more individuals in economic activities and strengthens local business networks. Thus, the *BLK-K* programme not only supports economic independence within *pesantren* but also contributes significantly to local and national economic development (Kemnaker, 2021).

The *Pesantren Independence Programme* and *Community Vocational Training Centres* (*BLK-K*, or *Balai Latihan Kerja Komunitas*) have become strategic initiatives in the transformation of Islamic education in *pesantren* (Islamic boarding schools), focusing on economic empowerment through the integration of vocational skills. These programmes include training in various fields such as information technology, agribusiness, automotive mechanics, and tailoring, designed to enhance the economic independence of *pesantren* while preparing *santri* (students) to enter the workforce. Support from the Ministry of Religious Affairs (*Kemenag*) and other governmental institutions has enabled *pesantren* to develop community-based enterprises, such as the establishment of *Badan Usaha Milik Pesantren* (*BUMPes*, or *Pesantren-Owned Enterprises*), which have produced hundreds of products and created new job opportunities within local communities.

The *BLK-K* programme in *pesantren* has demonstrated success in diversifying skills training, with computer skills being the most popular choice (68%), followed by information technology (32%), motorcycle mechanics (14.5%), welding (8.1%), and tailoring (5.2%). The dominance of computer training reflects the growing demand for digital skills in the era of globalisation, while fields like

automotive mechanics and welding face challenges due to high equipment costs and a lack of qualified instructors. The *Pesantren Independence Programme* has also had a significant impact, supporting more than 2,000 *pesantren* through business incubation assistance, producing over 500 products, and establishing 32 *BUMPes*. This transformation has positioned *pesantren* as agents of local economic development.

Notable success stories include Pesantren Nurul Islam in Jember, where *santri* trained in computer skills have secured administrative jobs, and Pesantren Nurul Jadid in Probolinggo, whose alumni established an independent motorcycle workshop based on automotive training. Additionally, strategic collaborations, such as the Memorandum of Understanding between *Kemenag* and PT Bukalapak, highlight efforts to integrate digital technology into *pesantren* entrepreneurship. These initiatives strengthen the economic competitiveness of *pesantren* through community-based micro, small, and medium enterprises (*UMKM*, or *Usaha Mikro, Kecil, dan Menengah*).

Diversification of Madrasah Curricula

The transformation of *madrasah* (Islamic schools) in Indonesia began in response to demands for equal recognition between *madrasah* and general schools in the 1960s. This shift was triggered by a dichotomy within the education system, which divided "schools" and *madrasah* into separate entities. This dichotomy was rooted in Law No. 4/1950, which regulated education and teaching only within general schools. Consequently, *madrasah* graduates lacked access to higher education in general schools, while general school graduates could not transition to *madrasah*. This segregation created social divisions between graduates of the two systems, reinforcing disparities in social status within society. Efforts to address this dichotomy eventually led to significant changes in the *madrasah* system, including formal recognition and the integration of religious and general education.

Madrasah achieved equal status with general schools following the issuance of the *Surat Keputusan Bersama (SKB*, or Joint Decree) of the Three Ministers on 24 March 1979. This decree, issued by the Minister of Religious Affairs, the Minister of National Education, and the Minister of Home Affairs, affirmed that *madrasah* were equal to other formal schools. The decree enabled *madrasah* graduates to pursue higher education at general schools and allowed the transfer of students between *madrasah* and general schools. Moreover, the decree mandated that Islamic religious studies remain a core subject in *madrasah*, with a minimum allocation of 30% of the curriculum, while the remaining 70% comprised general subjects. This policy was a significant step in eradicating the educational dichotomy and enhancing the social mobility of *madrasah* graduates in Indonesia (Mizani, 2013).

However, the *SKB* of the Three Ministers was not universally accepted, particularly among *madrasah* rooted in *pesantren* (Islamic boarding schools). Many traditional *madrasah* opted to retain their previous educational system, known as *Madrasah Diniyah* (religious schools). These schools are divided into levels: *Madrasah Diniyah Awaliyah* (equivalent to primary level), *Madrasah Diniyah Wustho* (equivalent to lower secondary level), and *Madrasah Diniyah Aliyah* (equivalent to upper secondary level). These institutions focus entirely on Islamic religious studies without incorporating general subjects as prescribed by the *SKB*.

The restructuring of the curriculum, with 70% allocated to general subjects and 30% to religious studies, as stipulated by the *SKB*, raised concerns about the diminishing mastery of Islamic sciences among *madrasah* graduates. Critics feared this would undermine efforts to produce *ulama* (Islamic scholars). In response, the Minister of Religious Affairs, H. Munawir Syadzali, introduced the *Madrasah Aliyah Programme Khusus (MAPK*, or Special Programme for Islamic Senior High Schools) in 1987. This

programme allocated 75–80% of the curriculum to religious studies and 20–25% to general subjects. As a pilot project, five *Madrasah Aliyah* were selected for feasibility studies: MAN Darussalam Ciamis, MAN Ujung Pandang, MAN 1 Yogyakarta, MAN Kotobaru Padang Panjang, and MAN Jember. By 1993, the *MAPK* was transformed into *Madrasah Aliyah Keagamaan* (Islamic Religious Senior High Schools) (Mizani, 2013).

The formal recognition of *madrasah* within the national education system was further reinforced with the enactment of the National Education System Law No. 2/1989, which officially integrated *madrasah* into the school system while preserving their religious character. Previously considered separate institutions, *madrasah* were now fully incorporated into the national education framework, granting their graduates equal opportunities with those of general schools. The regulation was further clarified in Article 4, Clause 3 of Government Regulation No. 28/1990, which equated *Madrasah Ibtidaiyah* (*MI*, or Islamic primary schools) and *Madrasah Tsanawiyah* (*MTs*, or Islamic junior secondary schools) with general primary and lower secondary schools. Meanwhile, *Madrasah Aliyah* (*MA*, or Islamic senior secondary schools) were equated with senior high schools but retained their distinct Islamic characteristics. These policies reflect the government's commitment to preserving the religious identity of *madrasah* while ensuring their graduates' competitiveness in the national education system and labour market.

As a consequence of the integration of the national curriculum into *madrasah*, the proportion of general subjects in *madrasah* curricula has become increasingly dominant compared to religious studies. For example, the curriculum at *MI*, *MTs*, and *MA* now allocates 84–89% to general subjects. This policy aims to ensure that *madrasah* graduates possess competencies equivalent to those of general school graduates in foundational disciplines such as mathematics, science, and languages. Nevertheless, the proportion of religious studies remains significant to maintain the Islamic identity of *madrasah*. Thus, *madrasah* continue to fulfil a dual role: providing robust general education while preserving the legacy of religious education that defines their unique character.

In the context of shifting scholarly traditions in *madrasah* (Islamic schools), the Ministry of Religious Affairs (*Kemenag*) has taken significant steps to diversify education, particularly at the *Madrasah Aliyah* (*MA*, or Islamic senior high school) level. This diversification responds to the increasingly varied and modern educational needs. Through these efforts, *madrasah* no longer solely focus on religious education but integrate academic learning and vocational skills essential for preparing younger generations for the workforce. *Kemenag* categorises *madrasah* into three main types: Academic Madrasah, Religious Madrasah, and Vocational Madrasah, each with its distinct characteristics and educational focus.

Academic Madrasah represent the majority, with 813 institutions across Indonesia. These *madrasah* prioritise general academic education, emphasising science, mathematics, and technology, while maintaining Islamic studies as a foundational element. With a balanced curriculum combining religious and general subjects, Academic Madrasah equip students with holistic knowledge, enabling them to excel in various fields.

Religious Madrasah, on the other hand, focus specifically on in-depth Islamic studies. There are 49 institutions in this category, which emphasise *tafaqquh fiddin* (*deep understanding of religion*), preparing students to become *ulama* (Islamic scholars) or religious experts skilled in interpreting classical texts such as the Qur'an, Hadith, and *fiqh* (Islamic jurisprudence). By adopting a more traditional approach, these *madrasah* play a vital role in preserving and perpetuating the Islamic intellectual tradition that has endured for centuries.

Vocational Madrasah, comprising 346 institutions, aim to address the need for practical skills relevant to the workforce. These *madrasah* provide vocational education tailored to impart applicable

knowledge and skills, particularly in technology, agriculture, and creative industries. By focusing on career development, Vocational Madrasah prepare students to better navigate the industrial world while maintaining their Islamic values.

Additionally, Madrasah Aliyah Kejuruan (MAK, or Vocational Islamic Senior High Schools) offer vocational education equivalent to general senior high schools. MAK combines vocational training with Islamic education. For instance, MAKN Bolaang Mongondow offers programmes in agribusiness, particularly in agricultural and fishery product processing. Meanwhile, MAKN Ende provides modern vocational programmes such as Software and Game Development and Visual Communication Design. Another example is MAK Informatics Excellence, which focuses on multimedia and information technology, equipping students with relevant skills for the digital era. These vocational *madrasah* ensure that students receive professional training while continuing to deepen their religious education.

MA Plus Keterampilan (Skills-Enhanced Madrasah Aliyah) is a prototype developed by the government or community to foster students' competitive skills in specific areas. These *madrasah* aim to produce graduates with not only a deep understanding of religion but also vocational skills aligned with workforce demands. Currently, there are 341 Skills-Enhanced Madrasah spread across Indonesia, focusing on vocational training to enhance graduates' competitiveness (see Table 2).

Table 2 Types of Skills in Skills-Enhanced Madrasah

Main Category	Skills Offered
Engineering Technology	Electronics (Audio Video, Industrial Electronics, Communication Electronics, Robotics, Electronic Equipment Maintenance), Electrical Engineering (Power Generation, Network, Installation, Automation), Graphic Design, Automotive
Information & Communication Technology	Software Development, Computer Network Engineering, Multimedia, Information Systems, Web Design, Computer Operations
Agribusiness & Agrotechnology	Crop Agribusiness (Horticulture, Hydroponics, Plantation Management), Livestock Agribusiness, Agricultural Product Processing
Tourism	Hospitality, Culinary Arts, Beauty and Fashion Design
Creative Arts & Industries	Visual Communication Design, Animation, Broadcast and Film Production
Maritime Studies	Fisheries Agribusiness, Nautical Studies, Marine Product Production
Business & Management	Online Business, Office Automation, Islamic Financial Management
Holistic Medicine	Physiotherapy, Acupuncture, Traditional Medicine

Integration of Applied Sciences in Islamic Higher Education Institutions

The shift in the scholarly tradition of Islamic education at the higher education level, particularly in *Perguruan Tinggi Keagamaan Islam (PTKI, or Islamic Higher Education Institutions)*, reflects a significant transformation. This transformation involves the integration of religious studies and applied sciences, aiming to prepare graduates to face the challenges of the modern workforce. Within this context, programmes prioritising the development of practical skills have become increasingly important.

At many *PTKI*, integrating Islamic studies with applied sciences has become a primary focus. For instance, Azzahra and Arif (2021) highlight that faculties and departments within Islamic higher education institutions have expanded the scope of Islamic studies beyond mandatory courses to incorporate broader sociological, empirical, and philosophical approaches. This approach enables students to understand Islam

within a wider and more contemporary context. Fahmi (2016) discusses the challenges of integrating science and religion at IAIN Sunan Ampel, where there is often tension between human resources focusing on religious studies and those prioritising general sciences. Despite these challenges, efforts to establish an interconnected epistemology between the two fields are crucial for building a more integrative framework of knowledge. These developments indicate that *PTKI* not only serve as centres of religious education but also as hubs for advancing knowledge relevant to societal needs.

The transformation of Islamic higher education institutions, particularly the transition from *Sekolah Tinggi Agama Islam (STAI*, or Islamic Higher Education Colleges) and *Institut Agama Islam (IAI*, or Islamic Institutes) to universities, illustrates the effort to accommodate increasingly complex societal demands and labour market requirements. Kafid and Rohman (2018) note that this transformation encompasses not only a change in name but also the diversification of study programmes, including non-religious and more application-oriented disciplines such as economics, management, and information technology. Consequently, *PTKI* aim to produce graduates who are not only well-versed in Islamic teachings but also competitive in the modern workforce.

The upgrade of *Sekolah Tinggi Agama Islam Negeri (STAIN*, or State Islamic Higher Education Colleges) and *Institut Agama Islam Negeri (IAIN*, or State Islamic Institutes) to *Universitas Islam Negeri (UIN*, or State Islamic Universities) is a strategic step to expand the scope of Islamic higher education in Indonesia. This transition seeks to enhance the capacity and quality of education by integrating more applied, non-religious programmes into the curricula of Islamic universities. The implications of this change extend beyond improving teaching and research quality to include the development of new, market-relevant study programmes. As a result, *UIN* institutions now produce not only *ulama* (Islamic scholars) or academics proficient in religious studies but also professionals ready to compete across various industries through mastery of applied sciences such as information technology, engineering, healthcare, and economics (Samsudin, Heriadi, Fauzan, & Haryati, 2023).

To support these changes, *Fakultas Sains dan Teknologi (FST*, or Faculties of Science and Technology) have been established at 14 *UIN* campuses across Indonesia, including *UIN Ar-Raniry Banda Aceh*, *UIN Sumatera Utara*, and *UIN Sunan Gunung Djati Bandung*. Each *FST* offers programmes in information technology, engineering, and applied sciences, designed to meet the demands of modern industries. The diversification of study programmes within *PTKI* is particularly evident from the significant proportion of applied sciences. Out of 578 study programmes, the majority—369—are categorised under Applied Sciences, reflecting a growing focus on practical skills and knowledge relevant to the modern labour market. Meanwhile, Humanities account for 90 programmes, Social Sciences for 77, Natural Sciences for 28, and Formal Sciences for 14 (see Table 3). This distribution illustrates the effort to combine religious scholarship with more modern and applicative disciplines in *PTKI* curricula.

Table 3 Study Programmes in Islamic Higher Education Institutions

Discipline Cluster	Number of Programmes
Humanities	90
Natural Sciences	28
Formal Sciences	14
Social Sciences	77
Applied Sciences	369

These changes have significantly impacted the academic and research landscape of Islamic higher education institutions. The focus has shifted to improving the quality of faculty members, educational infrastructure, and the number and calibre of study programmes. New programmes, such as Informatics Engineering, Islamic Economics, and Healthcare Sciences, have been introduced to address contemporary challenges by offering more applicative education. This transformation also creates opportunities for *UIN* institutions to enhance their contributions to the broader development of knowledge, both in religious and non-religious contexts, while maintaining a strong Islamic identity (Samsudin et al., 2023).

The Ministry of Religious Affairs (*Kementerian Agama*, or *Kemenag*), through the Directorate General of Islamic Education (*Direktorat Jenderal Pendidikan Islam*, or *Pendis*), is launching a vocational education programme within *Perguruan Tinggi Keagamaan Islam (PTKI*, or Islamic Higher Education Institutions). This initiative aims to prepare graduates with applied skills aligned with the demands of the labour market in the era of the Fourth Industrial Revolution (Industry 4.0). According to the Director General of Islamic Education, Muhammad Ali Ramdhani, vocational education or *politeknik* is expected to provide solutions to meet societal needs for a workforce with specialised expertise in applied fields.

This programme, while focusing on applied sciences such as food, fashion, art, and tourism, maintains the foundation of religious scholarship that defines *PTKI*. By integrating vocational training with Islamic knowledge, the programme aims to produce graduates who possess both strong religious understanding and professional skills relevant to the rapidly growing *halal* industry. Through this initiative, *PTKI* are envisioned as institutions capable of producing a workforce equipped with dual competencies—religious knowledge and industry-specific applied skills—addressing the evolving needs of modern society (Kemenag, 2021b).

DISCUSSION

The findings of this research reveal a shift in the scholarly tradition of Islamic education in Indonesia, from *tafaqquh fiddin* (*in-depth understanding of religion*) to applied sciences. This shift is evident across various types of Islamic educational institutions, including *pesantren* (Islamic boarding schools), *madrasah* (Islamic schools), and Islamic higher education institutions (*Perguruan Tinggi Keagamaan Islam*, or *PTKI*). In *pesantren*, this transformation is marked by the integration of applied sciences such as information technology, agribusiness, and entrepreneurship into their traditional curricula. Similarly, *madrasah* have diversified their education by incorporating vocational skills alongside religious and academic education. Meanwhile, *PTKI* have transformed into universities offering not only religious programmes but also non-religious and more application-oriented fields, such as economics, information technology, and healthcare.

This research aligns with other studies highlighting the paradigm shift in modern education towards applied sciences that are more relevant to workforce demands. Ivanisheva (2013) emphasises a significant transformation in education, from a theoretical focus to more application-based and practice-oriented learning. This shift is reflected in the development of workforce-relevant skills, as also observed in our findings regarding the integration of applied sciences in *pesantren*, *madrasah*, and *PTKI*.

Furthermore, Chernikova and Chernikova (2021) underline the integration of techno-science and transdisciplinary approaches increasingly becoming part of modern education. This corresponds with our findings that *pesantren* and *PTKI* have begun introducing applied skills in information technology, agribusiness, and business management as part of their curricula. Such techno-scientific approaches not only provide theoretical knowledge but also encourage practical applications in broader social contexts.

Other studies, such as those by Furtak and Penuel (2019) and Debarger et al. (2017) stress innovative curriculum adaptations with a focus on STEM-based and technology-integrated learning. These findings resonate with transformations observed in *madrasah* and Islamic higher education institutions, where academic education and vocational skills—such as multimedia and software development—have been incorporated to meet modern workforce demands.

This study reflects a broader phenomenon of modernising Islamic education in the era of globalisation. Islamic education in Indonesia no longer serves merely as a centre for religious learning but also as a platform for empowering vocational skills and applied knowledge to address contemporary challenges. This adaptation underscores how Islamic educational institutions are responding to globalisation and economic developments that increasingly prioritise practical skills in the labour market. The shift also demonstrates that Islamic education is not isolated from modernisation currents but actively contributes to shaping a Muslim generation capable of effective participation in various industrial sectors.

The findings indicate that education has evolved from merely being a theoretical knowledge centre to a hub where vocational skills and applied knowledge are empowered to meet the demands of the times. Vocational education now plays a vital role in preparing skilled workers suited to the needs of modern economies (Sudarmaji, Nurlaela, & Hariadi, 2020). Petnučová et al. (2012) The findings indicate that education has evolved from merely being a theoretical knowledge centre to a hub where vocational skills and applied knowledge are empowered to meet the demands of the times. Vocational education now plays a vital role in preparing skilled workers suited to the needs of modern economies. Additionally, Kang (2024) and Horvitz et al. (2020) emphasise that knowledge-based economies and technology have driven innovation in vocational education, equipping students with technical skills and the application of technology across industries.

The implications of this research suggest that Islamic education in Indonesia is shifting towards a more holistic and relevant model tailored to modern societal needs. This shift provides significant opportunities for *santri* (students in *pesantren*) and *madrasah* pupils to develop practical skills, enabling them not only to participate more effectively in the modern economy but also to maintain their religious identity. For *pesantren*, *madrasah*, and *PTKI*, the challenge lies in ensuring that the integration of applied sciences does not compromise the essence of religious education that defines these institutions.

The key drivers of this shift include globalisation, technological advancements, and economic needs. The modernisation of Islamic education is a response to the pressures of preparing younger generations who are not only well-versed in religion but also equipped to thrive in an increasingly competitive labour market. Government policies, such as the *Pesantren Independence Programme* and vocational education initiatives in *PTKI*, have played a pivotal role in accelerating this process. This transition is also driven by the realisation that religious education must remain relevant to contemporary needs without losing its scholarly roots.

Moving forward, efforts to integrate religious education with applied sciences across various levels of Islamic education must be strengthened. The government, in collaboration with Islamic educational institutions, should continue to support programmes that develop vocational skills and ensure that the curricula remain relevant to the demands of the modern labour market. Furthermore, Islamic educational institutions must maintain a balance between religious education and practical skills to produce graduates who are not only professionally competent but also possess a strong spiritual foundation. The implementation of vocational education in *PTKI* should be further developed with a focus on disciplines with significant potential in the global *halal* market, such as food, fashion, arts, and tourism.

CONCLUSION

This study found that Islamic education in Indonesia has undergone a significant shift from a traditional focus on *tafaqquh fiddin* (*in-depth understanding of religion*) to applied sciences, encompassing vocational skills and practical knowledge. This transformation is evident across various educational levels, from *pesantren* (Islamic boarding schools) integrating agribusiness and information technology into their curricula, to *madrrasah* (Islamic schools) and Islamic higher education institutions (*Perguruan Tinggi Keagamaan Islam*, or *PTKI*) adapting their programmes to include skills relevant to the modern workforce. Globalisation, technological advancements, and government policies have played crucial roles in accelerating this change. These findings demonstrate that Islamic education not only serves as a centre for religious learning but also as a platform for empowering students with applied skills to address contemporary challenges.

This research contributes to a deeper understanding of how Islamic education in Indonesia balances religious studies with the applied skills needed for success in the modern world. Furthermore, it provides a foundation for developing more relevant and practical education policies in the future. The primary limitation of this study lies in its scope, which focuses exclusively on educational institutions in Indonesia and may not fully reflect variations in other Muslim-majority countries. Future research could explore the specific impact of various programmes on enhancing graduate competitiveness in the global labour market and assess the long-term effects of integrating applied sciences into Islamic education in different contexts.

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