

TVET-TAHFIZ INTEGRATION IN KEDAH: A LITERATURE REVIEW

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Abstract. The integration of Technical and Vocational Education and Training (TVET) with Tahfiz education is an emerging educational initiative that aims to produce holistic graduates who are competent in both religious and technical disciplines. In Kedah, such integration is seen as a strategic response to address the socio-economic needs of Tahfiz students by enhancing their employability while preserving their religious identity. Despite its potential, several critical challenges impede effective implementation. These include inadequate infrastructure, a shortage of dual-trained educators, limited financial support, societal stigma towards vocational training, and the absence of a standardized curriculum that balances religious and vocational components. Therefore, this study aims to critically examine the existing body of literature on TVET-Tahfiz integration in Kedah, with a focus on identifying implementation barriers, reviewing past and current efforts, and proposing strategic recommendations for future development. Adopting a qualitative literature review methodology, data were collected from scholarly articles, books, proceedings, and institutional reports. Thematic analysis was employed to extract recurring themes and insights. The findings suggest that although various initiatives have been introduced, the integration process remains fragmented and constrained by structural and socio-cultural factors. This paper highlights the importance of coordinated efforts among policymakers, educators, and industry stakeholders to develop a sustainable, well-supported integration framework. The study contributes to the academic discourse on educational transformation and provides foundational insights to guide future policy, curriculum design, and empirical research in Islamic vocational education.

Keywords: *Technical and Vocational Education and Training (TVET), TVET-Tahfiz Kedah, TVET-Tahfiz integration, Islamic vocational education*

Introduction

Technical and Vocational Education and Training (TVET) has emerged as a strategic component of Malaysia's human capital development agenda, particularly in addressing the growing demand for a skilled workforce capable of meeting the challenges of the Fourth Industrial Revolution (IR 4.0) and the digital economy (Adams and Cheah, 2022; Mustapha and Hussain, 2022). The Malaysian government has continuously strengthened the TVET ecosystem through policy reforms, institutional restructuring,

and increased funding allocations. In the 2024 national budget, RM6.8 billion was allocated to enhance TVET development, including initiatives aimed at strengthening industry collaboration, improving graduate employability, and expanding professional certification opportunities (Jusoh et al., 2024). Such efforts reflect the government's commitment to positioning TVET as a premier educational pathway capable of producing highly skilled and industry-ready graduates. At the same time, Tahfiz education has experienced significant growth throughout Malaysia over the past two decades. The increasing number of public and private Tahfiz institutions demonstrates strong community demand for Islamic education centered on Quran memorization, character development, and religious knowledge (Abdullah et al., 2015; Hassan et al., 2015). Tahfiz institutions play an important role in preserving Islamic heritage and nurturing morally grounded individuals. However, concerns have been raised regarding the employability and career opportunities available to Tahfiz graduates, particularly those whose educational exposure is largely confined to religious studies without complementary technical or vocational competencies (Samadi et al., 2022; Norsalim et al., 2021).

Consequently, the integration of TVET and Tahfiz education has attracted growing attention among policymakers, educational institutions, and researchers. This integration seeks to bridge the gap between religious education and labor market requirements by equipping Tahfiz students with practical skills alongside their Quranic and Islamic studies. Such an approach aligns with the broader objective of producing holistic Muslim graduates who are spiritually grounded, ethically responsible, and economically productive (Ngatiman et al., 2023; Yusak et al., 2022). The emergence of initiatives such as TVET@Tahfiz by Majlis Amanah Rakyat (MARA) further demonstrates the growing recognition that technical competencies and religious education should not be viewed as separate domains but as complementary components of holistic human capital development (Berita Harian, 2024). The need for TVET-Tahfiz integration is particularly relevant in the state of Kedah. As one of the states with a substantial number of Tahfiz institutions and a predominantly rural population, Kedah faces unique socio-economic challenges, including youth unemployment, skills mismatch, and limited employment opportunities for graduates of traditional religious institutions (Harun et al., 2020). The integration of vocational and technical education within Tahfiz institutions is therefore viewed as a strategic mechanism to enhance graduate employability, support regional economic development, and strengthen the socio-economic resilience of Muslim communities in the state (Anafi and Mohd Noor, 2024).

Despite the growing interest in TVET-Tahfiz integration, existing studies have identified numerous challenges that continue to hinder its effective implementation. Among the most frequently reported issues are inadequate infrastructure, shortage of dual-skilled educators, limited financial resources, societal stigma towards vocational education, and the absence of a standardized curriculum that effectively integrates technical and religious components (Kamdani, 2024; Abd Hamid et al., 2023; Ridzuan and Abd Rahman, 2022; Ismail and Zainal Abiddin, 2014). These challenges indicate that while the concept of integration is widely supported, its practical implementation remains fragmented and inconsistent across institutions. Furthermore, the existing literature reveals several important gaps. Most studies focus on specific aspects of TVET or Tahfiz education independently, while relatively few examine the integration of both systems comprehensively. Research specifically focusing on the context of

Kedah remains limited despite the state's strategic importance in the development of Islamic education. In addition, much of the existing literature emphasizes implementation challenges without providing a holistic synthesis of the barriers, opportunities, and strategic approaches necessary to support sustainable integration. There is also limited discussion on how Islamic educational philosophies such as the Tawhidic paradigm and Maqasid Shariah can be operationalized within TVET-Tahfiz programs.

Therefore, this study aims to critically review the existing literature on TVET-Tahfiz integration in Kedah by examining its conceptual foundations, implementation challenges, existing initiatives, and future development strategies. Specifically, the study seeks to synthesize current knowledge, identify major implementation barriers, analyze existing integration efforts, and propose directions for strengthening the sustainability of TVET-Tahfiz education. The findings are expected to contribute to the growing body of knowledge on Islamic vocational education and provide useful insights for policymakers, educational institutions, industry stakeholders, and future researchers interested in strengthening the integration of religious and technical education in Malaysia.

Literature review

Evolution of TVET and Tahfiz Education in Malaysia

Technical and Vocational Education and Training (TVET) has undergone substantial transformation in Malaysia over the past several decades. Initially introduced to support industrial development and workforce preparation, TVET has evolved into a strategic component of national economic planning aimed at producing highly skilled workers capable of adapting to technological advancements and industrial transformation (Adams and Cheah, 2022; Mustapha and Hussain, 2022). The increasing emphasis on Industry 4.0, digitalization, automation, and advanced manufacturing has further elevated the importance of TVET in supporting Malaysia's aspirations to become a high-income and innovation-driven economy (Jusoh et al., 2024; Amin et al., 2023). Parallel to the development of TVET, Tahfiz education has experienced remarkable growth throughout Malaysia. The expansion of government-supported, private, and community-based Tahfiz institutions reflects strong societal demand for Islamic education that emphasizes Quran memorization, moral development, and religious values (Abdullah et al., 2015; Hassan et al., 2015). Tahfiz institutions have traditionally focused on producing graduates with strong religious knowledge and spiritual discipline. However, changing labour market conditions have generated increasing concerns regarding the employability and socio-economic prospects of Tahfiz graduates, particularly those lacking exposure to technical and vocational competencies (Samadi et al., 2022; Norsalim et al., 2021). These developments have led to growing recognition that the separation between religious education and technical education may no longer be suitable in addressing contemporary educational and workforce challenges. Consequently, the integration of TVET and Tahfiz education has emerged as a promising approach to produce graduates who are both spiritually grounded and professionally competent.

Conceptual foundations of TVET-Tahfiz integration

The concept of TVET-Tahfiz integration is rooted in the philosophy of holistic education, which seeks to balance intellectual, spiritual, technical, and social dimensions of human development. From an Islamic perspective, education should not create a dichotomy between religious and worldly knowledge, as both are essential components of human excellence and societal development (Anor Salim et al., 2019). Several scholars have proposed the application of the Tawhidic paradigm as a conceptual framework for integrating technical education within Islamic learning environments. The Tawhidic approach emphasizes the unity of knowledge and promotes the development of individuals who are technically skilled while remaining guided by Islamic ethics and values (Razik et al., 2021). Under this framework, vocational skills are not viewed merely as economic tools but as instruments for fulfilling human responsibilities as vicegerents (khalifah) on earth.

Similarly, Maqasid Shariah has emerged as an important theoretical foundation for educational integration. The principles of preserving religion (hifz al-din), intellect (hifz al-'aql), wealth (hifz al-mal), life (hifz al-nafs), and dignity (hifz al-'ird) provide a comprehensive framework for developing balanced educational programs that address both spiritual and socio-economic needs (Abdullah et al., 2025). Through this lens, TVET-Tahfiz integration can contribute not only to employability but also to holistic human capital development. The integration model is also consistent with contemporary human capital theory, which emphasizes investment in knowledge, skills, and competencies as drivers of productivity and socio-economic mobility. By combining religious education with vocational training, TVET-Tahfiz programs can potentially expand career opportunities while preserving Islamic identity and values.

Challenges in TVET-Tahfiz integration

Despite widespread support for TVET-Tahfiz integration, the literature identifies numerous barriers that continue to impede effective implementation. One of the most significant challenges concerns governance and policy coordination. Existing initiatives are often implemented on a pilot basis without a comprehensive national framework, resulting in inconsistent programme quality and fragmented implementation across institutions (Abd Hamid et al., 2023; Ridzuan and Abd Rahman, 2022). Infrastructure limitations represent another critical challenge. Many Tahfiz institutions, particularly those located in rural areas, lack the workshops, laboratories, equipment, and technological resources required to support vocational training (Kamarzaman et al., 2025; Jamaludin et al., 2023). These limitations restrict students' opportunities to acquire practical skills and reduce the effectiveness of technical instruction. Human resource constraints also pose significant difficulties. The literature consistently highlights the shortage of dual-skilled educators who possess expertise in both Islamic studies and technical disciplines (Amin et al., 2023; Halik Bassah, 2022; Umar et al., 2021). The absence of such educators creates challenges in delivering integrated curricula and maintaining a balanced educational experience.

Financial sustainability remains another recurring concern. Many Tahfiz institutions rely heavily on public donations, charitable contributions, and limited government support, creating uncertainty in programme planning and implementation (Kamdani, 2024). Without adequate funding mechanisms, institutions often struggle to invest in infrastructure, technology, and human resource development. Additionally, societal perceptions continue to influence the acceptance of vocational education. TVET is frequently perceived as a secondary educational pathway compared to academic or

religious streams, leading to reluctance among parents, students, and educational administrators to embrace vocational programmes fully (Astro Awani, 2024; Yeap et al., 2021; Zakaria et al., 2017).

Existing models and best practices

Several initiatives have demonstrated the feasibility of integrating TVET and Tahfiz education. Among the most prominent examples is the TVET@Tahfiz programme introduced by MARA, which provides technical training opportunities for Tahfiz students while preserving their religious learning pathways (Berita Harian, 2024). Similar collaborations involving polytechnics, GIATMARA, and Tahfiz institutions have also shown encouraging outcomes in exposing students to vocational skills and career opportunities (Omar and Masek, 2024; Azmi, 2023; Yusak et al., 2022). From a curriculum perspective, scholars have proposed various integration models that combine Islamic educational philosophy with technical competencies. The Tawhidic curriculum model emphasises the integration of faith-based values, entrepreneurship, and vocational skills (Anor Salim et al., 2019). Meanwhile, Maqasid Shariah-based approaches seek to evaluate educational outcomes through broader indicators of personal, social, and economic development (Abdullah et al., 2025). Recent studies have also highlighted the role of digital technologies in strengthening TVET-Tahfiz implementation. Online learning platforms, blended learning environments, and digital instructional tools have demonstrated potential in overcoming geographical and resource constraints, particularly among rural educational institutions (Ngatiman et al., 2023; Masrom et al., 2022). Furthermore, industry partnerships have been identified as critical mechanisms for improving curriculum relevance, internship opportunities, and graduate employability (Sohimi et al., 2022; Noh@Seth et al., 2020). Although these initiatives provide valuable examples, most remain localised and operate on a relatively small scale. The literature indicates that a comprehensive and sustainable integration framework has yet to be established.

Research gap and synthesis

The literature demonstrates strong consensus regarding the importance of integrating TVET and Tahfiz education to produce holistic graduates capable of meeting contemporary socio-economic demands. Previous studies have extensively discussed implementation challenges, including infrastructure limitations, financial constraints, teacher shortages, societal perceptions, and curriculum-related issues. However, much of the existing research focuses primarily on identifying these barriers rather than developing comprehensive solutions or sustainable implementation frameworks. Furthermore, existing studies tend to examine individual dimensions of TVET-Tahfiz integration in isolation. Limited research has attempted to integrate governance, curriculum development, funding mechanisms, industry collaboration, educator development, and Islamic educational values within a single analytical framework. Research specifically focusing on the context of Kedah also remains limited despite the state's significant concentration of Tahfiz institutions and strategic importance in Islamic education. Another important gap concerns the operationalization of Islamic educational philosophies such as the Tawhidic paradigm and Maqasid Shariah. While these concepts are frequently discussed in the literature, practical guidance on their implementation within TVET-Tahfiz programs remains underdeveloped. Consequently,

there is a need for a more holistic and context-specific understanding of TVET-Tahfiz integration that can inform policy development, curriculum design, and institutional practice.

Therefore, this study seeks to address these gaps by synthesizing existing literature on TVET-Tahfiz integration in Kedah and identifying strategic directions for the development of a sustainable and holistic integration framework. *Table 1* demonstrates that although the literature acknowledges the importance of TVET-Tahfiz integration and identifies numerous implementation challenges, significant gaps remain in terms of developing a holistic, context-specific, and sustainable integration framework. Existing studies largely focus on individual dimensions such as infrastructure, curriculum, teacher competency, or employability, while limited attention has been given to understanding how these factors interact within a comprehensive educational ecosystem. Furthermore, research focusing specifically on Kedah remains scarce despite the state's strategic role in Islamic education. Consequently, this study contributes to the literature by synthesizing existing knowledge, identifying key implementation gaps, and proposing strategic directions for strengthening TVET-Tahfiz integration within the Kedah context.

Table 1. *Research gap and synthesis of TVET-Tahfiz integration literature.*

Key Authors	Existing Literature	Key Findings	Research Gap	Contribution of This Study
Omar and Masek (2024); Ngatiman et al. (2023); Yusak et al. (2022); Samadi et al. (2022)	Studies emphasize the importance of integrating TVET and Tahfiz education to enhance employability and holistic development.	Integration approach produces graduates who are spiritually grounded and technically competent.	Limited synthesis of how integration can be systematically implemented across different institutional contexts.	Provides a comprehensive synthesis of implementation issues and strategic directions for sustainable integration.
Kamarzaman et al. (2025); Kamdani (2024); Abd Hamid et al. (2023); Ridzuan and Abd Rahman (2022); Ismail and Zainal Abiddin (2014)	Research identifies implementation challenges such as infrastructure limitations, funding shortages, and governance issues.	Structural constraints hinder effective program implementation.	Existing studies focus primarily on problem identification rather than integrated solutions.	Examines challenges collectively and proposes a holistic perspective for addressing them.
Amin et al. (2023); Halik Bassah (2022); Umar et al. (2021)	Studies discuss teacher competency and the need for dual-skilled educators.	Shortage of educators capable of delivering both religious and technical content.	Lack of discussion on institutional mechanisms for developing dual-competency educators.	Highlights the importance of educator development as a key component of sustainable integration.
Astro Awani (2024); Yeap et al. (2021); Zakaria et al. (2017)	Research highlights negative perceptions towards TVET among parents, students, and religious institutions.	Social stigma continues to affect acceptance of vocational education.	Limited analysis of how cultural and social perceptions influence TVET-Tahfiz implementation.	Explores socio-cultural barriers within the broader integration ecosystem.
Abdullah et al. (2025); Razik et al. (2021); Anor Salim et al. (2019)	Existing studies discuss curriculum integration and Islamic educational philosophy.	Tawhidic and Maqasid Shariah approaches provide conceptual foundations for integration.	Practical operationalization of these frameworks remains underdeveloped.	Examines how Islamic educational philosophies can support sustainable TVET-Tahfiz integration.
Omar and Masek (2024); Azmi (2023)	Several initiatives such as TVET@Tahfiz have been introduced.	Pilot programs demonstrate the feasibility of integration.	Limited evaluation of long-term sustainability, scalability, and policy implications.	Synthesizes lessons from existing initiatives and identifies future strategic directions.

Norsalim et al. (2021); Harun et al. (2020); Abdullah et al. (2015); Hassan et al. (2015)	Most studies focus on Malaysia generally.	National-level discussions dominate the literature.	Limited literature specifically analyses TVET-Tahfiz integration within Kedah.	Provides a Kedah-focused review that addresses local socio-economic and educational contexts.
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Materials and Methods

Research design

This study employed a qualitative literature review approach to examine the integration of Technical and Vocational Education and Training (TVET) and Tahfiz education in the state of Kedah. A literature review is an appropriate research strategy for synthesizing existing knowledge, identifying research gaps, and developing a comprehensive understanding of a particular phenomenon based on published sources (Snyder, 2019; Jesson et al., 2011). According to Creswell and Creswell (2018), qualitative research is particularly useful for exploring complex educational and social issues through the systematic interpretation of textual data. The study adopted a descriptive and analytical review design, allowing the researchers to critically evaluate previous studies, policy documents, and institutional reports related to TVET-Tahfiz integration. This approach enables the identification of recurring themes, implementation challenges, and strategic recommendations within an emerging area of educational research (Merriam and Tisdell, 2016).

Literature search strategy

A structured literature search was conducted to identify relevant publications related to TVET, Tahfiz education, vocational training, Islamic education, and educational integration. The search process involved academic search engines, institutional repositories, conference proceedings, government publications, and policy reports. The literature search employed combinations of the following keywords: “TVET-Tahfiz integration,” “Tahfiz education,” “Islamic vocational education,” “TVET Malaysia,” “TVET@Tahfiz,” “Tahfiz employability,” “Islamic human capital,” “Maqasid Shariah and education,” and “TVET Kedah.” To ensure comprehensive coverage of the literature related to TVET-Tahfiz integration, multiple source types were consulted during the review process. The selected sources included academic publications, institutional repositories, government reports, and professional publications that provide both theoretical and practical perspectives on the development of TVET and Tahfiz education in Malaysia. Publications published between 2014 and 2025 were prioritized to ensure the inclusion of contemporary developments related to TVET and Tahfiz education. *Table 2* summarizes the sources utilized in the literature search. *Table 2* presents the categories of sources consulted during the literature search process. The use of multiple source types allowed for a broader understanding of the issues surrounding TVET-Tahfiz integration, including policy initiatives, institutional practices, educational challenges, and emerging integration models. Such diversity of sources is recommended in literature review studies to ensure a comprehensive synthesis of existing knowledge and to minimize potential bias associated with relying on a single source of evidence (Snyder, 2019; Jesson et al., 2011).

Table 2. Literature search sources.

Source type	Examples
Academic Search Engines	Google Scholar, ResearchGate
Academic Publications	Journal articles, conference proceedings
Institutional Repositories	University repositories and theses databases
Government Publications	Ministry reports, policy documents
Professional Publications	TVET agency reports, institutional publications
Media Sources	Reputable newspapers and educational reports

Data collection

Data were collected exclusively from secondary sources. These included peer-reviewed journal articles, conference proceedings, scholarly books, doctoral theses, government reports, policy documents, institutional publications, and relevant media reports. According to Merriam and Tisdell (2016), documentary evidence provides valuable insights into educational phenomena and policy developments, particularly when investigating emerging issues and practices. Following the search process, publications were screened according to predetermined inclusion and exclusion criteria. Sources were selected based on their relevance to TVET, Tahfiz education, educational integration, employability, curriculum development, and Islamic human capital development. A total of selected sources that met the inclusion criteria were reviewed and analyzed to identify recurring patterns, challenges, and strategic recommendations regarding TVET-Tahfiz integration. *Table 3* presents the inclusion and exclusion criteria applied during the literature selection process. This systematic screening process reduced the likelihood of selection bias and strengthened the comprehensiveness of the literature review (Snyder, 2019; Jesson et al., 2011) (*Table 3*).

Table 3. Inclusion and exclusion criteria.

Criteria	Inclusion	Exclusion
Topic	TVET, Tahfiz education, vocational education, Islamic education, employability, curriculum integration	Unrelated educational fields
Publication Type	Journal articles, books, conference proceedings, theses, reports, policy documents	Editorials, opinion articles, blogs
Language	English and Malay	Other languages
Publication Period	2014–2025	Before 2014
Relevance	Directly related to TVET-Tahfiz integration and educational development	Limited relevance to research objectives

Data analysis

The selected literature was analyzed using thematic analysis following the framework proposed by Braun and Clarke (2006). Thematic analysis is a widely accepted qualitative analytical method that enables researchers to identify, analyze, and interpret recurring patterns across textual data. The analysis involved six stages: (i) familiarization with the literature, (ii) generation of initial codes, (iii) identification of recurring patterns, (iv) development of themes, (v) refinement and naming of themes, and (vi) interpretation and synthesis of findings. This process enabled the researchers to move beyond simple description and develop a deeper understanding of the factors influencing TVET-Tahfiz integration in Kedah. The selected literature was analyzed using thematic analysis following the framework proposed by Braun and Clarke (2006). Thematic analysis is a widely accepted qualitative analytical method that enables researchers to identify, analyze, and interpret recurring patterns across textual data.

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refinement and naming of themes, and (vi) interpretation and synthesis of findings. This process enabled the researchers to move beyond simple description and develop a deeper understanding of the factors influencing TVET-Tahfiz integration in Kedah. Through the process in *Table 4*, six major themes emerged; fragmented implementation and governance, infrastructure and financial constraints, shortage of dual-skilled educators, societal perceptions towards TVET, absence of a standardized curriculum, and promising integration models and initiatives. As illustrated in *Table 4*, the thematic analysis identified six major themes, namely fragmented implementation and governance, infrastructure and financial constraints, shortage of dual-skilled educators, societal perceptions towards TVET, the absence of a standardized curriculum, and promising integration models and initiatives.

Table 4. *Stages of thematic analysis.*

Stage	Description
Familiarizations	Reading and reviewing selected literature repeatedly
Coding	Identifying significant concepts and issues
Theme Development	Grouping related codes into broader categories
Theme Review	Refining and validating emerging themes
Theme Naming	Defining and labelling themes
Interpretation	Synthesizing findings and drawing conclusions

Reliability and validity of research

Several measures were undertaken to enhance the trustworthiness of the study. First, source triangulation was employed through the use of multiple publication types, including journal articles, conference proceedings, books, government reports, policy documents, and institutional publications. Triangulation enables the cross-validation of findings and strengthens research credibility (Lincoln and Guba, 1985). Second, each source was critically evaluated based on its relevance, credibility, methodological rigor, and contribution to the study objectives. Greater emphasis was placed on peer-reviewed academic literature and official institutional reports to ensure the quality of evidence reviewed. Third, transparency was maintained throughout the review process by clearly documenting the search strategy, selection criteria, and analytical procedures. Such transparency enhances the dependability and replicability of the study (Creswell and Creswell, 2018).

The trustworthiness of this study was guided by the framework proposed by Lincoln and Guba (1985), which encompasses credibility, dependability, confirmability, and transferability. Credibility was enhanced through source triangulation and the systematic selection of literature from multiple publication types, including journal articles, conference proceedings, books, policy documents, and institutional reports. Dependability was ensured through the consistent application of thematic analysis procedures throughout the review process, allowing for a structured and transparent examination of the literature. Confirmability was achieved by grounding all interpretations and conclusions in documented evidence obtained from the reviewed sources, thereby minimizing researcher bias. Transferability was strengthened through the inclusion of diverse sources covering various aspects of TVET, Tahfiz education, educational policy, curriculum development, and employability, enabling the findings to be relevant and applicable to similar educational contexts. Collectively, these strategies enhanced the robustness, credibility, and overall trustworthiness of the study findings.

Results and Discussion

The thematic analysis of the reviewed literature identified six major themes related to the implementation of TVET-Tahfiz integration in Kedah. These themes represent the most frequently discussed challenges, opportunities, and strategic considerations within the existing body of knowledge.

Fragmented implementation and governance

The literature indicates that TVET-Tahfiz integration in Malaysia remains largely fragmented and institution-driven. Existing initiatives, including TVET@Tahfiz and collaborations involving MARA, GIATMARA, polytechnics, and Tahfiz institutions, have demonstrated positive outcomes but remain isolated and unevenly distributed across institutions (Omar and Masek, 2024; Azmi, 2023). The absence of a dedicated national governance framework has resulted in inconsistencies in program implementation, curriculum design, funding allocation, and quality assurance mechanisms (Ridzuan and Abd Rahman, 2022). Perhaps, this issue extends beyond administrative coordination. The fragmented implementation reflects a deeper structural divide between the governance of Islamic education and technical education in Malaysia. Tahfiz institutions are often regulated by state religious authorities, whereas TVET programs fall under multiple federal agencies. This dual governance structure creates policy overlaps, regulatory gaps, and institutional uncertainty. Consequently, integration initiatives often depend on the commitment of individual institutions rather than being embedded within a coordinated national strategy.

The TVET@Tahfiz initiative by MARA provides structured pathways for Tahfiz graduates to pursue technical training through institutions such as GIATMARA and MARA skills centers. However, many independent Tahfiz institutions in Kedah do not have access to similar partnerships and continue to operate without formal TVET components. As a result, students in one institution may receive recognized technical certifications, while students in another institution may only receive informal exposure to vocational skills. This disparity highlights the need for a coordinated governance framework that ensures equitable opportunities for all Tahfiz students. For Kedah, this issue is particularly significant because the state hosts a substantial number of independent Tahfiz institutions operating under varying governance arrangements. Without a coordinated framework, disparities in program quality and student outcomes are likely to persist.

Infrastructure and financial constraints

The literature consistently identifies infrastructure and financial limitations as major barriers to effective TVET-Tahfiz implementation. Many Tahfiz institutions lack vocational workshops, laboratories, digital learning facilities, and technical equipment necessary for practical skills training (Kamarzaman et al., 2025; Jamaludin et al., 2023). Furthermore, many institutions depend heavily on public donations, charitable contributions, and limited government assistance, creating challenges for long-term sustainability (Kamdani, 2024). A critical analysis suggests that infrastructure deficiencies should not be viewed merely as a resource issue but as a reflection of broader funding inequalities within the education system. Unlike mainstream TVET institutions that receive structured government allocations, many independent Tahfiz institutions operate outside formal funding mechanisms. Consequently, they face

difficulties in upgrading facilities, attracting qualified instructors, and maintaining program quality. This creates a cycle where inadequate infrastructure limits program effectiveness, which in turn reduces opportunities for institutional growth and external investment.

The implications for Kedah are substantial, particularly given the predominance of rural Tahfiz institutions. For instance, implementing automotive technology, electrical installation, or advanced manufacturing modules requires specialized equipment and safety-certified facilities that many institutions cannot afford independently. While established TVET institutions possess such facilities, many Tahfiz centers operate in modest buildings designed primarily for Quran memorization and religious instruction. In particular, a Tahfiz institution wishing to introduce an automotive maintenance module would require workshop space, diagnostic equipment, and trained instructors, all of which involve substantial financial investment. Without sustainable funding support, such programs remain difficult to implement.

Shortage of dual-skilled educators

The literature reveals a persistent shortage of educators capable of teaching both religious and technical subjects effectively (Amin et al., 2023; Halik Bassah, 2022; Umar et al., 2021). Most Tahfiz teachers possess strong Islamic educational backgrounds but limited technical expertise, while TVET instructors often lack familiarity with Islamic educational philosophies and Tahfiz pedagogical approaches. This issue highlights a fundamental challenge in educational integration. Successful curriculum integration requires more than simply combining subjects; it requires educators who can connect religious values with technical competencies in a meaningful and coherent manner. The current separation between teacher training pathways reinforces disciplinary silos and limits opportunities for interdisciplinary teaching. Consequently, students may experience religious and technical learning as separate domains rather than complementary aspects of holistic education. In the context of Kedah, the shortage of dual-skilled educators may become a major bottleneck in scaling up TVET-Tahfiz programs. For example, a Tahfiz student learning electrical engineering should also understand ethical work practices, Islamic business principles, and social responsibility from an Islamic perspective. This integration is difficult to achieve without educators who possess both technical competence and religious literacy.

Societal perceptions towards TVET

Negative societal perceptions towards vocational education remain a significant challenge. Previous studies indicate that TVET is often perceived as a second-choice educational pathway for academically weaker students, particularly within communities that place greater emphasis on conventional academic achievement and religious scholarship (Astro Awani, 2024; Yeap et al., 2021; Zakaria et al., 2017). This perception reflects broader social hierarchies regarding knowledge and professional status. Historically, technical and vocational occupations have been viewed as less prestigious than professional careers requiring university degrees. Within some Tahfiz communities, concerns also exist that vocational training may reduce students' focus on Quran memorization and religious studies. Such assumptions create resistance to integration despite increasing labor market demand for technically skilled workers. For

Kedah, changing these perceptions is essential for the long-term success of TVET-Tahfiz initiatives. Evidence from countries such as Germany and South Korea demonstrates that vocational education can achieve high social status when linked to strong industry participation and clear career pathways. Similarly, successful Tahfiz graduates who become entrepreneurs, engineers, technicians, or digital professionals could serve as role models and challenge existing stereotypes.

Absence of a standardized curriculum

The literature demonstrates considerable variation in curriculum design, learning outcomes, assessment methods, and program objectives across TVET-Tahfiz initiatives (Norsalim et al., 2021; Subramaniam et al., 2020). Such inconsistencies limit the comparability of programs and complicate efforts to evaluate effectiveness and graduate competencies. The literature also suggests that curriculum fragmentation stems partly from the absence of consensus regarding the purpose of TVET-Tahfiz integration itself. Some institutions emphasize employability, others focus on entrepreneurship, while some prioritize character development or Islamic identity preservation. While diversity can encourage innovation, excessive variation may undermine program credibility and stakeholder confidence. The implications for Kedah are particularly important because curriculum standardization would facilitate quality assurance, accreditation, and graduate mobility. For example, a standardized framework could specify minimum competencies in Quranic studies, vocational skills, entrepreneurship, digital literacy, and Islamic ethics. Such a framework would enable institutions to maintain flexibility while ensuring consistency in educational outcomes.

Emerging models and opportunities

Despite the challenges identified, the literature reveals significant opportunities for advancing TVET-Tahfiz integration. Conceptual models based on the Tawhidic paradigm and Maqasid Shariah provides a strong philosophical foundation for integrating technical competencies with Islamic values (Abdullah et al., 2025; Razik et al., 2021; Anor Salim et al., 2019). Furthermore, digital learning technologies, industry partnerships, and government initiatives such as TVET@Tahfiz demonstrate the practical feasibility of integration. However, a critical gap remains between conceptual aspirations and operational implementation. Most proposed models remain theoretical and have yet to be translated into comprehensive frameworks incorporating governance, curriculum, funding, teacher development, and industry engagement. This suggests that the next phase of development should focus on ecosystem-building rather than isolated program implementation.

Conclusion

This study aimed to critically review the existing literature on the integration of Technical and Vocational Education and Training (TVET) and Tahfiz education in the state of Kedah by examining its conceptual foundations, implementation challenges, existing initiatives, and future development strategies. Through a thematic analysis of the selected literature, six major themes were identified: fragmented implementation and governance, infrastructure and financial constraints, shortage of dual-skilled educators, societal perceptions towards TVET, absence of a standardized curriculum,

and emerging models and opportunities for integration. The findings indicate that although TVET-Tahfiz integration is increasingly recognized as a strategic approach to producing holistic graduates who are both spiritually grounded and technically competent, its implementation remains constrained by several interconnected challenges. Governance fragmentation, inadequate infrastructure, limited financial resources, shortage of qualified educators, and inconsistent curriculum frameworks continue to hinder the effectiveness and sustainability of integration efforts. Furthermore, persistent societal perceptions that position vocational education as a secondary educational pathway create additional barriers to wider acceptance and participation. Despite these challenges, initiatives such as TVET@Tahfiz, industry collaborations, digital learning innovations, and educational models based on the Tawhidic paradigm and Maqasid Shariah demonstrate significant potential for future development.

The study contributes to the growing body of knowledge on Islamic vocational education by providing a comprehensive synthesis of the literature on TVET-Tahfiz integration, particularly within the context of Kedah. The findings highlight the need for a holistic ecosystem approach involving policymakers, religious authorities, educational institutions, industry stakeholders, and local communities. From a policy perspective, the study underscores the importance of developing a coordinated governance framework, sustainable financing mechanisms, standardized curriculum guidelines, and professional development pathways for dual-skilled educators. From an educational perspective, the findings reinforce the relevance of integrating technical competencies, entrepreneurship, digital literacy, and Islamic values in preparing future-ready huffaz capable of contributing to both religious and socio-economic development. Nevertheless, this study is not without limitations. As a literature review, the findings are derived exclusively from secondary sources and therefore do not capture the perspectives and experiences of key stakeholders such as Tahfiz administrators, educators, students, policymakers, and industry representatives. Furthermore, the availability of empirical studies specifically focusing on TVET-Tahfiz integration in Kedah remains limited, resulting in the need to draw insights from broader Malaysian contexts. The study also focuses primarily on conceptual and policy discussions and does not evaluate the effectiveness of specific integration programs through primary data collection.

Future research should therefore extend beyond literature-based analyses by undertaking empirical investigations involving multiple stakeholders within the TVET-Tahfiz ecosystem. Qualitative studies involving interviews and focus group discussions with Tahfiz administrators, educators, students, industry partners, and policymakers would provide deeper insights into implementation challenges and opportunities. Quantitative studies could be conducted to assess perceptions, readiness, employability outcomes, and program effectiveness among TVET-Tahfiz participants. Additionally, future researchers may consider developing and validating a comprehensive TVET-Tahfiz ecosystem model grounded in the principles of Tawhidic education and Maqasid Shariah. Comparative studies across different Malaysian states and international contexts may also contribute to a broader understanding of best practices and policy innovations in Islamic vocational education. In conclusion, the integration of TVET and Tahfiz education represents a promising educational transformation capable of producing graduates who are not only knowledgeable in Islamic sciences but also equipped with the technical, entrepreneurial, and digital competencies required in the

contemporary workforce. With appropriate governance, strategic collaboration, and sustained institutional support, Kedah possesses significant potential to emerge as a leading model for sustainable TVET-Tahfiz integration in Malaysia and beyond.

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Conflict of interest

The authors confirm that there are no conflicts of interest associated with any parties involved in this research.

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