

TVET Students' Readiness for Shariah-Compliant Careers: An Analysis of Awareness, Skills, and Attitudes in the Halal Sector

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Abstract

The halal industry is one of the fastest-growing sectors globally, requiring a competent and skilled workforce that is deeply grounded in Shariah compliance. However, the readiness of technical and vocational (TVET) students to bridge the gap between technical skills and Islamic ethical demands has not been comprehensively explored. Therefore, this study was conducted to assess the level of awareness, practical skills, and attitudes of TVET students towards Shariah-compliant careers in the halal industry, to identify differences based on gender, and to analyze the relationships among these three variables. This study employed a quantitative approach using a survey design. A total of 210 third- and fourth-year students from five TVET programs across four faculties at Universiti Tun Hussein Onn Malaysia (UTHM) were selected using stratified random sampling. The research instrument was a structured questionnaire, and data were analyzed using descriptive and inferential statistics (T-test and Pearson correlation). The results indicated that students' levels of awareness, skills, and attitudes toward the halal sector were high, with a notably strong positive alignment regarding the spiritual and moral significance of halal career pathways. No significant gender differences were found across the three constructs ($p > 0.05$). The findings also revealed significant, positive, and strong relationships among awareness, skills, and attitudes ($p < 0.01$). In conclusion, TVET students possess strong potential to fill the workforce gap in this industry as ethically responsible and technically competent human capital. The findings provide important implications for integrating Quranic imperatives and Shariah compliance within TVET curriculum development, halal employment policies, and national strategic initiatives.

1. Introduction

The halal industry has become one of the economic sectors that has recorded rapid growth globally with a market value expected to exceed RM 14.1 trillion by 2030 (Nor et al., 2023). Malaysia, as the world leader in the halal industry, is striving to strengthen its position as a Global Halal Hub through the National Halal Policy with various strategic initiatives. From an Islamic perspective, the development of this industry is closely tied to the Quranic imperative of Halalan Tayyiban (lawful and wholesome), which demands absolute integrity across the entire

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supply chain. However, there are limitations in the participation of technical and vocational graduates, namely TVET (Technical and Vocational Education and Training) in this sector. A study by Mohamed et al. (2024) shows that the marketability rate of TVET graduates in the halal field is still low compared to conventional fields. This is due to the mismatch between the skills of graduates and the actual needs of the halal industry, especially in terms of Shariah compliance and technical integration. This challenge requires an in-depth assessment of the internal factors that influence the readiness of TVET graduates to undertake ethically and legally binding responsibilities in the global Islamic economy.

The halal sector offers a wide range of job opportunities across various fields such as halal food processing, halal logistics, pharmaceuticals, cosmetics, tourism, and Islamic finance (Azam et al., 2020). The industry not only emphasizes marketability but also compliance with comprehensive Shariah principles and Islamic jurisprudential standards across the value chain of products and services. The National Halal Policy and the New Industrial Master Plan 2030 (NIMP2030) also emphasize the need to develop a highly skilled halal workforce and a deep understanding of halal practices. In this context, workers who are not only technically competent but also understand aspects of Shariah auditing, halal documentation, quality control, and certification are greatly needed (Kudus et al., 2025; A. Mohd Nor et al., 2024; Syed Hamzah et al., 2024). Therefore, students and graduates trained in technical fields through the TVET system need to be given appropriate exposure and training to seize career opportunities in the increasingly complex and spiritually demanding halal industry.

TVET graduates are an important group in the country's workforce development ecosystem. The TVET system focuses on practical and technical training in various fields such as engineering, food services, industrial chemistry, and biotechnology (Amin et al., 2023; Cai et al., 2024). However, their level of involvement in the halal industry is still seen as limited compared to their actual potential. A study by Ahmad Rosli Mohd Nor et al. (2021) found that most TVET students are less aware of the potential of halal careers and are not equipped with specific skills related to Shariah and halal compliance. In the context of Malaysia as a Muslim-majority country and the world's halal hub, this aspect should be emphasized in the curriculum and practical training so that TVET graduates do not lag behind in meeting the growing demands of the industry. This alignment is crucial to ensure that technical skills are paired with Islamic values, turning graduates into *Insan Rabbani* (divine-conscious individuals) who contribute effectively to the Ummah (Muslim community).

Among the internal factors that influence the involvement of TVET graduates in the halal industry are their level of awareness, practical skills, and attitudes towards this sector. These three elements form the basis for individual competence to enter the halal field professionally and ethically in accordance with Islamic work standards. Awareness includes understanding of the Shariah-compliant halal concept and career potential, skills involve technical competence related to halal processing and verification, while attitudes reflect interest, inclination, spiritual motivation, and moral willingness to contribute to the Islamic economy. The KAP (Knowledge, Attitude, Practice) theory and the KSA (Knowledge, Skills, Attitude) model also explain how these three constructs mutually influence individual behavior and career decisions (Hashim et al., 2020; Musa et al., 2022). Therefore, assessing these three aspects among TVET students is important to understand their level of readiness in participating in Shariah-compliant careers within the halal sector.

1.1 Study Background

The halal industry is one of the fastest growing sectors globally and Malaysia has great potential to become an international halal hub. However, the limited employment opportunities in this industry for TVET graduates is a worrying issue. This is due to the lack of matching between the technical skills possessed by TVET graduates and the actual needs of the halal industry. According to studies by Aswad (2023), Deuraseh et al. (2020) and Mohd Raffi et al. (2022), although the halal sector offers various career opportunities, the participation of technical graduates is still low. A study by Hashim et al. (2016) also shows that skills training institutions still place less emphasis on halal compliance elements in their curricula.

Studies by Bazewez Mengistu et al. (2022) and Halik Bassah (2023) show that the employability rate of TVET graduates is high in conventional sectors such as automotive, manufacturing and construction, but does not reflect the same situation in the halal sector. This proves that there is a gap between the skills offered by TVET institutions and the skills required in the halal industry. Furthermore, Deuraseh et al. (2020) stated that although the halal industry continues to grow, many TVET graduates are still unaware of the career potential in the sector.

The impact of this situation is that the potential of skilled labor in the halal field cannot be fully utilized. TVET graduates face challenges in adapting to the needs of the halal industry, thus hampering the country's efforts to strengthen the industry ecosystem. Aziz Nurdalila et al. (2024) emphasized that failure to address this issue will cause the halal industry to remain dependent on external labor. In a separate study, Anis et al. (2025) also reported that these constraints can affect the growth of the local halal economy.

One of the main factors contributing to this problem is the lack of exposure and training related to halal certification among employers in the halal industry itself. According to Rahmi et al. (2020), many small and medium-sized enterprises are not aware of the importance of hiring employees with a technical and competent

background in halal. In another study, Halik Bassah et al. (2023) also found that there are employers in the halal food industry who still prioritize experience over TVET qualifications based on sharia compliance.

Educational institutions also play a major role in shaping the marketability of graduates. Majid et al. (2024) stated that most TVET programs are still oriented towards the needs of conventional industries. Meanwhile, a study by Sahir et al. (2014) explained that only a small number of TVET institutions in Malaysia offer formal halal-related subjects.

In addition, factors related to the TVET graduates themselves also contribute to this issue. A study by Krisna et al. (2023) showed that many TVET students do not know in detail about the halal ecosystem and are unclear about the specific skill requirements in the industry. According to Abu Bakar et al. (2021) and Shaari et al. (2024), the majority of TVET students do not plan a career in the halal sector due to lack of information and guidance.

Lack of awareness among TVET students about career opportunities in the halal industry is also a major cause of this issue. According to Laluddin Sayed Sikandar Shah Haneef et al. (2019), a large number of students still consider the halal industry to be only related to slaughtering and food. Furthermore, a study by Tumiran et al. (2024) showed that students do not receive sufficient information about halal career potential during their training at TVET institutions.

In addition to awareness, practical skills relevant to the needs of the halal industry are also still insufficient. Pahim's (2012) study found that practical training in halal food processing or halal logistics is still under emphasized. In another study, Hashim et al. (2016) reported that students who are still undergoing industrial training in halal companies do not receive assignments that allow them to comprehensively apply halal principles. The attitude of TVET students is also seen as an obstacle in choosing a career in the halal sector. For example, Puspitasari et al. (2023) stated that some students are more likely to choose careers that pay high salaries even though they are not syariah compliant. In another study, Arif Budhiawan et al. (2024) explained that students are not interested in joining the halal sector because they consider this career to be less prestigious.

Finally, to ensure the survival and growth of the halal industry, the awareness, skills and attitudes of TVET graduates need to be given serious attention. Graduates who have a comprehensive understanding of the halal concept, relevant practical skills and a positive attitude towards this field will be more competitive in the job market. According to Bhandari (2025) and Mohamed et al. (2024), a holistic approach through the integration of halal elements in the TVET curriculum can form competent human capital that can actively contribute to the halal industry. The study by Hashim et al. (2020) also supports that these three aspects play an important role in determining the success of students' careers in the halal sector.

1.2 Problem Statement

TVET graduates in Malaysia face challenges in positioning themselves in the halal industry despite the sector growing rapidly globally. This is due to several weaknesses detected among the graduates themselves, especially in terms of awareness of halal career opportunities, mastery of practical skills that meet industry needs and attitudes towards career choices. Many TVET students still lack exposure to the real needs of the halal industry such as sharia compliance, halal certification and complex halal documentation (Mohamed et al., 2024). Furthermore, there is a tendency among students to choose conventional careers over halal fields because they are considered more accessible and less demanding in terms of religious knowledge and compliance with halal industry procedures (Abdullah et al., 2020).

As a result of these issues, the true potential of TVET graduates to contribute to the halal industry has not yet been optimally utilized. Lack of awareness, skills and attitudes has resulted in many graduates not being prepared to enter this field professionally. This not only affects the marketability of graduates but also affects the sustainability of the development of the halal industry which requires a knowledgeable and competent workforce. Without efforts to strengthen career awareness, halal-based training and the formation of positive attitudes among TVET students, the goal of producing skilled workers who are able to meet global halal industry standards will not be achieved effectively (Abdul Aziz et al., 2025).

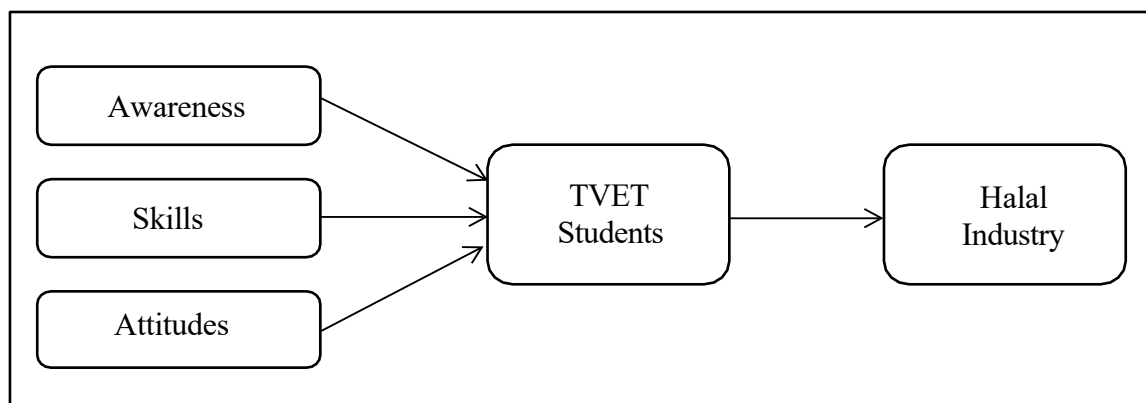


Fig. 1 Conceptual framework of the study

Based on Figure 1, the awareness variable refers to the level of students' knowledge about the concept of halal, industry scope and syariah compliance. Skills involve practical competence in areas such as halal processing, auditing and supply chain management while attitudes reflect students' interest, motivation and acceptance towards halal careers. All three constructs were chosen because the industry requires a workforce that is not only knowledgeable but also competent and has ethical values. This study aims to support the empowerment of the National TVET Policy and the National Halal Policy by preparing graduates who are competent, knowledgeable and ethical in line with industry needs.

This framework is based on a combination of the KSA Model (Spencer & Spencer, 1993), the KAP Theory (Roger, 1975) and the Theory of Planned Behavior (Ajzen, 1991). The combination of these three theories explains the relationship between the awareness, skills and attitudes of TVET students towards the tendency to choose a career in the halal industry in line with the need for skilled human capital development in this sector.

1.3 Research Objectives

This study was conducted to achieve the following objectives:

- (i) To identify the level of awareness of TVET students towards career opportunities in the halal industry.
- (ii) To identify the level of practical skills of TVET students that are relevant to the needs of the halal industry.
- (iii) To identify the attitude of TVET students towards career choices in the halal industry.
- (iv) To identify the difference in the level of awareness of job opportunities, practical skills and attitude of TVET students towards career opportunities in the halal industry according to gender.
- (v) To identify the relationship between awareness of job opportunities, practical skills and attitude of TVET students towards career fields in the halal industry.

2. Methodology

This study applies to a quantitative approach in line with the need to measure variables in numerical form and analyze the relationships between variables through statistical techniques. This approach was chosen because it allows the researcher to collect data that is objective and can be generalized to the target population.

2.1 Research Design

A quantitative approach was used through a questionnaire survey method for the purpose of measuring the level of awareness, practical skills and attitudes of TVET students at Universiti Tun Hussein Onn Malaysia (UTHM) towards career opportunities in the halal industry.

Through the use of this survey approach, data collection was carried out using a questionnaire instrument in the form of a 6-point Likert scale that can measure the level of agreement of respondents with statements related to the study variables. The data obtained were then analyzed using statistical software to determine the distribution, response patterns and relationships between the variables studied. In this way, a comprehensive and valid picture of the phenomenon under study can be obtained, thus allowing the study questions to be answered empirically.

2.2 Population and Sampling

The study population includes third- and fourth-year bachelor's degree students at Universiti Tun Hussein Onn Malaysia (UTHM) from two main campuses, namely Parit Raja Campus and Pagoh Campus. For Parit Raja Campus,

the programs involved are Bachelor of Vocational Education (Catering) with Honours (FPTV), Bachelor of Food Service Technology with Honours (FPTV) and Bachelor of Technology Management with Honours (FPTP). Meanwhile, at Pagoh Campus, the programs involved are Bachelor of Science (Food Technology) with Honours (FAST) and Bachelor of Chemical Engineering Technology (Biotechnology) with Honours (FTK). In total, 461 students were identified as the study population. The selection of third- and fourth-year students was considered appropriate because this group had received theoretical and practical exposure to halal certification and halal industry practices through the curriculum and industry training they had undergone.

The sample size was determined based on the Krejcie & Morgan Table (1970) which suggested a minimum of 210 respondents for a population of 461 people. Throughout the three-week data collection period, the required number of respondents was successfully obtained in line with the minimum sample size suggested to ensure that reliability and statistical validity could be maintained.

2.3 Research Instrument

This study uses a questionnaire as the main instrument to collect data from respondents. This questionnaire is adapted based on relevant past studies. This questionnaire contains four main parts, namely Sections A, B, C and D as shown in Table 1 showing each part of the questionnaire.

Table 1 Section for questionnaire form

Section	Items	Number of questions
A	Demographic Information	6
B	Level of Knowledge of opportunities	13
C	Level of Practical Skills Relevant to the Needs of the Halal Industry	13
D	Level of Attitude of TVET Students Towards Choosing a Career in the Halal Industry	13

For parts B, C and D, a 6-point Likert scale (1=Strongly Disagree, 6=Strongly Agree) is used because according to Chomeya (2010), a 6-point Likert scale is used to obtain detailed information and avoid neutral answers that encourage respondents to make clearer choices as shown in Table 2 showing the 6-point Likert scale table.

Table 2 Likert scale value

Scale	Level
1	Strongly Disagree
2	Disagree
3	Less Disagree
4	Agree
5	More Agree
6	Strongly Agree

To analyze the mean value for each construct measured through this 6-point Likert scale, the interpretation of the mean score as shown in Table 3 was used. Setting this range allows the study results to be interpreted accurately and consistently according to the respondent's level of inclination towards the items presented in the questionnaire.

Table 3 Mean score interpretation on a 6-point Likert scale

Scale	Level
1	Very Low
2	Low
3	Medium
4	Medium
5	High
6	Very High

3. Result and Discussion

The results of the study as illustrated in Table 4 showed that the level of awareness of TVET students towards career opportunities in the halal industry was high (mean=5.11, SD=0.74), indicating that students had good knowledge and exposure to the concepts and career opportunities in this industry. This finding is in line with the studies of Hashim et al. (2020), Syilvia et al. (2022) and Ali et al. (2023) which emphasized that exposure at the university level increases students' awareness of the needs of the halal market. Students also understand the scope of the halal industry, which includes the food, logistics, pharmaceutical and cosmetic sectors (highest mean=5.39), in line with the study of Ambali et al. (2014). In addition, they are also aware of the role of agencies such as JAKIM and HDC in the development of this industry (Hashim et al., 2020; Zulkafli et al., 2024). However, knowledge about halal professional training programs is still low (mean=4.73), indicating a lack of exposure in this aspect, as also reported by Zulkafli et al. (2024) and Pahim (2012). Overall, student awareness is high but still needs to be improved, especially in the aspect of halal professional training.

The findings revealed that the level of practical skills of TVET students towards the needs of the halal industry was at a high level (mean=4.99, SD=0.72) as displayed in Table 4, exhibiting that students had good basic skills in implementing work processes that comply with halal standards. This finding is in line with the study by Othman et al. (2022) and Syarif et al. (2020) which stated that TVET students showed satisfactory technical skills in the aspects of food handling, hygiene and labeling of halal products. In fact, the ability to maintain food safety (mean=5.12) and halal labeling management (mean=5.26) were recorded as the highest. Students also showed a high willingness to receive additional training (mean=5.18) and cooperate in maintaining halal integrity (mean=5.17), in line with the findings of Anis et al. (2025). However, basic skills in the halal work process recorded a lower mean (mean=4.62), indicating the need to increase direct practical training, as recommended by Majid et al. (2024). Overall, TVET students have relevant skills, but strengthening practical training is still needed to ensure true readiness to face the challenges of the halal industry.

The data indicated that the level of TVET students' attitudes towards career opportunities in the halal industry was high (mean=5.08, SD=0.75) as reported in Table 4, presenting their positive tendencies and mental readiness to enter this field. Students showed a deep understanding of the spiritual and moral significance of the halal industry, with the highest mean on items related to belief in the blessings of sustenance (M=5.23) and contribution to the development of the ummah (M=5.22), in line with the findings of Rasul (2019) and Abu Bakar et al. (2021). Positive attitudes were also shown through confidence in the professionalism of the halal industry (M=5.17), the role of TVET graduates (M=5.17), and the willingness to recommend halal careers to friends and participate in industry development programs (M>5.00), as reported by Naquiah et al. (2022). However, items related to willingness to work harder recorded a slightly lower mean (M=4.88), indicating the need for more consistent distribution of halal career information (Arbona et al., 2021). Overall, TVET students are positive and have high potential to join a career in the halal industry in line with current market needs.

Table 4 Descriptive statistics for the main constructs of the study

Constructs	Mean (M)	Standard Deviation (SD)	Interpretation
Awareness	5.11	0.74	High
Skills	4.99	0.72	High
Attitudes	5.08	0.75	High

The results of the independent sample t-test in Table 5 showed that there was no significant difference between genders for the three constructs studied, namely awareness ($t = 0.82$, $p = 0.41$), skills ($t = 0.67$, $p = 0.51$) and attitudes ($t = 1.56$, $p = 0.12$). The p-values for all three constructs exceeded the significant level of 0.05, indicating that the level of awareness, skills and attitudes of male and female students towards career opportunities in the halal industry were almost the same. This indicates that gender is not the main determining factor in influencing TVET students' perceptions towards halal careers. Based on the t-test findings ($p > 0.05$), all three null hypotheses (H_{01} , H_{02} , H_{03}) were not rejected, indicating that there was no significant difference between male and female students in terms of awareness, skills and attitudes towards career opportunities in the halal industry. Overall, independent sample t-test analysis showed that there was no significant difference between male and female students in the three study constructs, namely awareness, skills, and attitudes towards career opportunities in the halal industry. Although there was a slight difference in mean, it was not statistically significant. This finding reflects that awareness programs, skills training and information disclosure related to the halal industry in higher education institutions have been implemented in a balanced manner regardless of gender. This finding is also supported by several previous studies which show that gender is not the main determinant in the formation of awareness, mastery of skills and attitudes towards halal careers among students.

Table 5 *Independent sample t-test results for each construct by gender*

Constructs	Genders	Mean (<i>M</i>)	Standard Deviation (<i>SD</i>)	<i>t</i>	<i>df</i>	<i>p</i>
Awareness	Male	5.17	0.81	0.82	208	0.41
	Female	5.08	0.71			
Skills	Male	5.04	0.78	0.67	208	0.51
	Female	4.97	0.70			
Attitudes	Male	5.20	0.75	1.56	208	0.12
	Female	5.03	0.74			

The results of Pearson correlation analysis in Table 6 showed that the relationship between all constructs was strong and significant ($p < 0.01$). This indicated that the level of awareness, skills and attitudes of TVET students towards career opportunities in the halal industry were positively and strongly related. Therefore, the null hypothesis (H_0) for all three relationships was rejected, and the alternative hypothesis (H_1) was accepted. The findings of the study show a strong and significant relationship between TVET students' awareness, skills and attitudes towards career opportunities in the halal industry. Students with high levels of awareness tend to master relevant skills and develop positive attitudes towards halal careers. This finding is in line with the KAP Theory which states that knowledge influences attitudes and practices. The relationship between skills and attitudes is also supported by the KSA Model, where technical skills have an impact on the formation of career attitudes. However, external factors such as industry exposure and market perception also play an important role. Overall, awareness, skills and attitudes complement each other in influencing students' inclination towards halal careers and need to be emphasized in TVET education and training.

Table 6 *Pearson correlation coefficient result*

Pair of Variables	Pearson Correlation Coefficient (<i>r</i>)	Significance Level (<i>p</i>)	Interpretation Strength of Relationship
Awareness with Skills	5.11	0.00	Strong
Awareness with Attitude	0.70	0.00	Strong
Skills with Attitude	0.72	0.00	Strong

4. Conclusion

This study has successfully identified that the level of awareness, practical skills, and attitudes of TVET students towards Shariah-compliant career opportunities in the halal industry is remarkably high. This empirical evidence explicitly proves that TVET students possess immense potential to contribute actively as highly competent human capital within the global Islamic economy. Based on the comprehensive data analysis, it can be concluded that TVET graduates are not the limiting factor behind the current gaps in the halal workforce. Instead, they demonstrate high readiness in terms of technical knowledge, practical mastery, and a spiritually driven inclination towards establishing careers that uphold Islamic values, principles of Halalan Tayyiban, and Shariah standards.

Consequently, the remaining shortage of skilled labor in the halal sector is largely attributed to external systemic bottlenecks. These include insufficient specific exposure to specialized Shariah auditing and professional training at the higher education level, limited visibility of clear halal career pathways, and structural misalignments between technical institutions and the actual compliance needs of the halal market. This finding provides a vital indication that the responsibility to fortify the halal employment sector must be integrated and shared across multi-stakeholder ecosystems—encompassing Islamic economic bodies, industry employers, TVET institutions, and government regulators.

In conclusion, the high level of readiness among TVET students serves as a strong justification for educational bodies to transition from conventional technical frameworks toward a more holistic, values-based curriculum. Strategic interventions must be directed toward empowering Shariah-compliant career trajectories through structured TVET curriculum improvements, proactive national policies, and deep industrial collaborations. Elevating these technical skills to align with Quranic ethical demands will not only enhance graduate marketability but also safeguard the overall sustainability and spiritual integrity of the halal industry ecosystem.

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Conflict of Interest

Authors declare that there is no conflict of interests regarding the publication of the paper.

Author Contribution

*The authors confirm contribution to the paper as follows: **study conception and design:** Nuramira Ismail Sazemi, Muhammad Suhaimi Sulong; **data collection:** Nuramira Ismail Sazemi; **analysis and interpretation of results:** Nuramira Ismail Sazemi; **draft manuscript preparation:** Nuramira Ismail Sazemi, Muhammad Suhaimi Sulong. All authors reviewed the results and approved the final version of the manuscript.*

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