

HALAL STUDIES: EDUCATION GAP ANALYSIS OF
KNOWLEDGE, SKILLS, AND ATTRIBUTES (KSA) FOR
HALAL PROFESSION IN MALAYSIA

BY

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INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

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HALAL PROFESSION IN MALAYSIA

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A thesis submitted in fulfilment of the requirement for
the degree of Master in Halal Industry Management

International Institute for Halal Research and Training
International Islamic University Malaysia

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ABSTRACT

The growth of the halal industry in Malaysia has intensified the demand for a workforce equipped with relevant knowledge, skills, and attributes (KSAs). Despite 33 Higher Education Institutions (HEIs) offering halal studies programmes at diploma and bachelor's degree levels (as of September 2025), concerns remain that graduates may not meet industry requirements. As such, this study aims to identify the gaps between KSAs supplied by HEIs and those demanded by the halal profession in Malaysia. A sequential exploratory mixed-methods design was adopted. In the qualitative phase, 200 halal job postings, programme standards for halal studies, and 23 halal programme curricula were analysed to generate a list of KSAs, refined through the halal industry's occupational framework, Malaysian standard for halal profession, and expert validation, which led to the development of a survey questionnaire. The quantitative phase involved 58 academicians and 114 industry players, who ranked the importance of these KSAs. The findings indicate that the most critical KSAs for the halal profession are halal assurance management system, ethical conduct and integrity, proficiency in the Malay language, knowledge of Malaysian halal standards, and the practice of Islamic values. This study also indicates significant gaps, as most items were rated higher in importance by industry players compared to academicians, particularly in corporate communication, multitasking skills, laboratory testing, traceability, and logistics and supply chain technology. Statistical analysis confirmed significant differences in ten KSAs between the two groups, highlighting a misalignment between academic preparation and industry expectations. These findings highlight the critical need to strengthen halal studies curricula to better align with industry demands. The study contributes to the academic literature by developing an empirically grounded KSAs framework for the halal profession, which may inform curriculum design, policy, and future research, while supporting the sustainable development of halal talent and enhancing Malaysia's competitiveness in the halal industry.

ملخص البحث

أدى نمو صناعة الحلال في ماليزيا إلى تكثيف الطلب على قوة عاملة مجهزة بالمعرفة والمهارات والخصائص المهنية ذات الصلة (KSAs). وعلى الرغم من وجود 33 مؤسسة للتعليم العالي (HEIs) تقدم برامج دراسات الحلال على مستوى الدبلوم والبيكالوريوس (اعتبارًا من سبتمبر 2025)، إلا أن المخاوف لا تزال قائمة من أن الخريجين قد لا يستوفون متطلبات الصناعة. وبناءً على ذلك، تهدف هذه الدراسة إلى تحديد الفجوات بين KSAs التي توفرها مؤسسات التعليم العالي وتلك التي تتطلبها مهنة الحلال في ماليزيا. اعتمدت الدراسة تصميمًا بحثيًا مختلطًا استكشافيًا تسلسليًا. ففي المرحلة النوعية، تم تحليل 200 إعلان وظيفة حلال ومعايير برنامج دراسات الحلال و23 منهجًا دراسيًا لبرنامج الحلال لإنشاء قائمة بـ KSAs، والتي جرى تنقيحها من خلال الإطار المهني لصناعة الحلال والمعياري الماليزي لمهنة الحلال والتحقق من صحة الخبراء، مما أدى إلى تطوير استبانة للدراسة. أما المرحلة الكمية فقد شملت 58 أكاديميًا و114 من العاملين في القطاع الصناعي، والذين صنفوا أهمية هذه المعارف والمهارات والقدرات. أظهرت النتائج إلى أن أهم المعارف والمهارات والقدرات لمهنة الحلال هي نظام إدارة ضمان الحلال، والسلوك الأخلاقي والنزاهة، وإتقان اللغة الملايوية، ومعرفة معايير الحلال الماليزية، وممارسة القيم الإسلامية. تشير هذه الدراسة أيضًا إلى فجوات كبيرة، حيث تم تصنيف معظم العناصر على أنها أعلى أهمية من قبل العاملين في القطاع الصناعي مقارنة بالأكاديميين، وخاصة في التواصل المؤسسي، ومهارات تعدد المهام، والاختبارات المعملية، وإمكانية التتبع، والخدمات اللوجستية وتكنولوجيا سلسلة التوريد. وأكد التحليل الإحصائي وجود فروق معنوية في عشر معارف ومهارات بين المجموعتين، مما يعكس وجود عدم توافق بين مخرجات التعليم الأكاديمي ومتطلبات الصناعة. تسلط هذه النتائج الضوء على الحاجة الملحة إلى تعزيز مناهج دراسات الحلال لتتوافق بشكل أفضل مع متطلبات القطاع. كما تساهم هذه الدراسة في الأدبيات الأكاديمية من خلال تطوير إطار عمل قائم على الأدلة KSAs الخاصة بمهنة الحلال، والذي يُمكن أن يُفيد في تصميم المناهج الدراسية والسياسات والبحوث المستقبلية، مع دعم التنمية المستدامة للمواهب في مجال الحلال وتعزيز القدرة التنافسية لماليزيا في صناعة الحلال.

APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion, it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Master in Halal Industry Management.

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Yumi Zuhani Has-Yun Hashim

Examiner

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Nur Farhani Zarmani

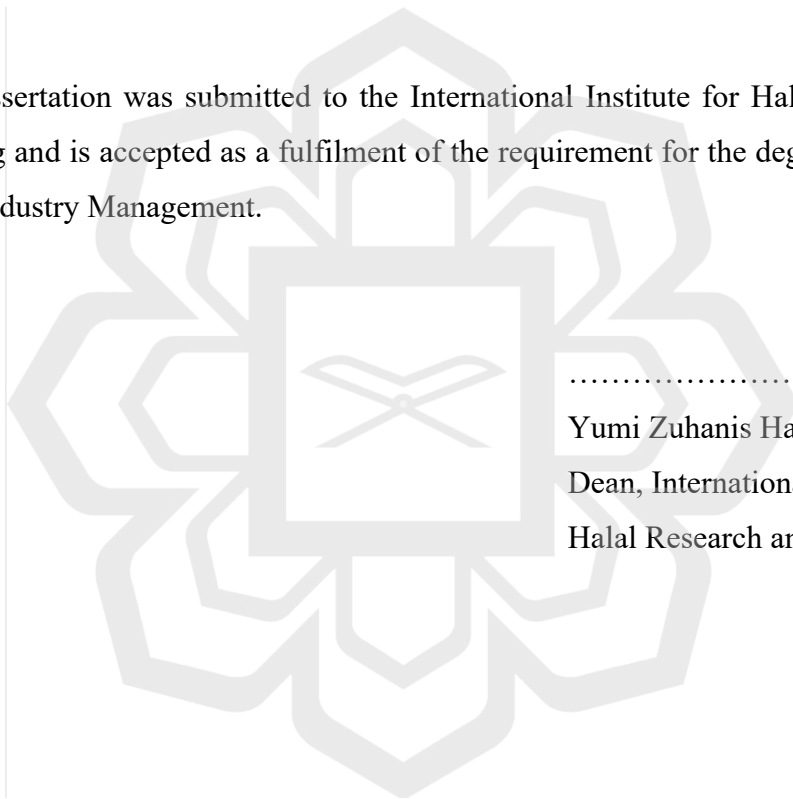
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This dissertation was submitted to the International Institute for Halal Research and Training (INHART) and is accepted as a fulfilment of the requirement for the degree of Master in Halal Industry Management.

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Dean, International Institute for
Halal Research and Training

DECLARATION

I hereby declare that this dissertation is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

Nur Fatin Aini binti Fekri Abidin

Signature

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“Indeed, with hardship [will be] ease.” (Quran, 94:6)

This thesis is dedicated to my beloved family, friends, and lecturers for their unwavering support, as well as to the respondents from academia and the industry player, whose participation and insights greatly enriched this research journey.

-A journey that began in February 2024-

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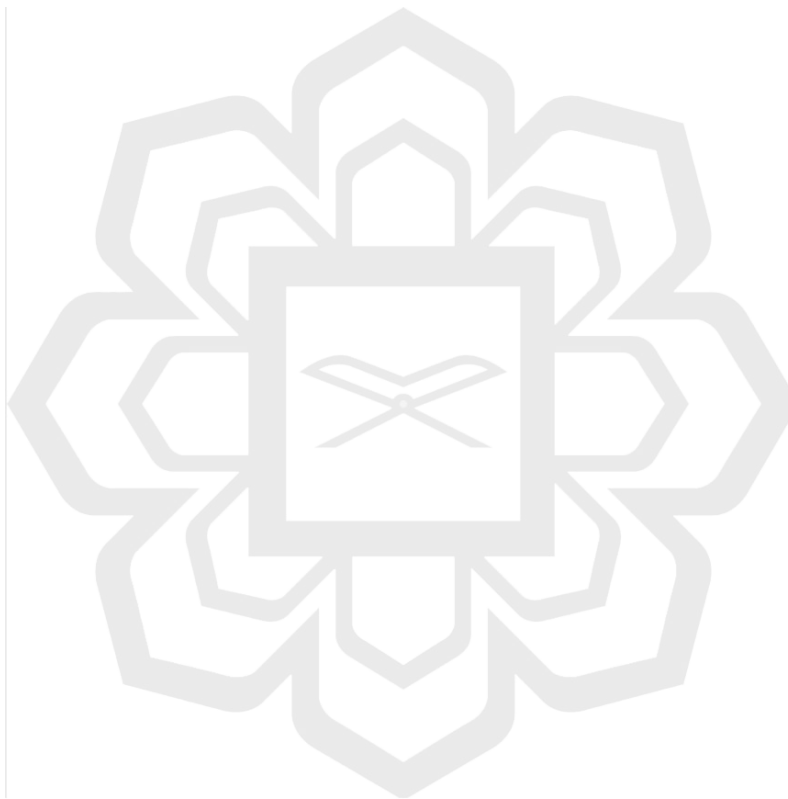
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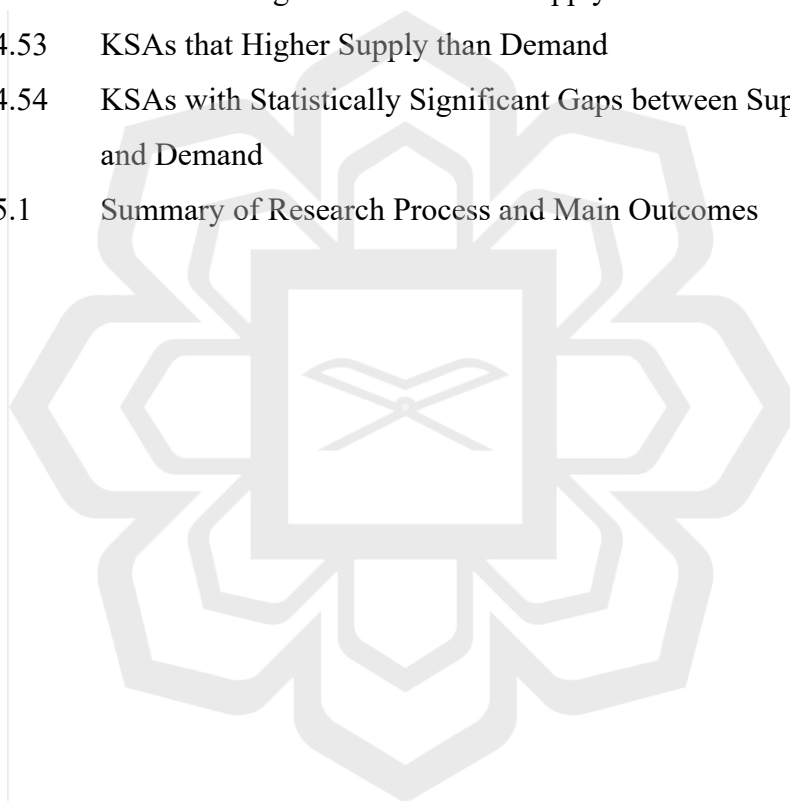
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LIST OF ABBREVIATIONS

ER	Expert Review
F&B	Food and Beverage
HEIs	Higher Education Institutions
HIMP 2030	Halal Industry Master Plan 2030
HIOF	Halal Industry's Occupational Framework
JAKIM	Department of Islamic Development Malaysia
JP	Job Postings
KSAs	Knowledge, Skills and Attributes
MOHE	Ministry of Higher Education
MS	Malaysian Standard
OF	Occupational Framework
PC	Programme Curriculum
PS	Programme Standard
S&T	Science and Technology

CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION

This chapter provides an overview of the research, which was divided into several sections. The initial part of this section introduces the background, problem statement, research objectives, questions, and the scope of the study, providing the foundation for understanding the context and rationale of the research. It establishes the significance of the study, highlighting the importance of bridging the gap between Higher Education Institutions (HEIs) supply and industry demands to enhance the sustainability and competitiveness of the Malaysian halal workforce.

1.2 BACKGROUND OF THE STUDY

The Ministry of Economic Affairs (2023) has unveiled the Halal Industry Master Plan 2030 (HIMP 2030) to serve as a driving force in bolstering Malaysia's position as a global leader in the halal industry. According to the plan, the global halal market is projected to reach USD 5.0 trillion, with Malaysia's halal market estimated to reach USD 113.2 billion by 2030. As the halal industry continues to grow, particularly in sectors like food and beverage manufacturing, it has created a surge in job opportunities (Li et al., 2021). Consequently, there is an escalating demand for skilled professionals and experts in the halal field to cater to the burgeoning needs of the industry (Tukiran et al., 2025).

Deriving from this factor, HEIs in Malaysia have started to invest heavily in offering halal studies programmes, starting from diploma to doctoral level, to enhance human resources in the field. Presently, there are 33 HEIs providing programmes in halal studies at diploma and bachelor's degree levels (Malaysian Qualifications Register, 2025). Some examples of halal studies programmes that are offered in

Malaysia are the Diploma in Halal Industry Management by UNITI College, the Diploma in Foodservice Halal Practice by Polytechnic Sultan Idris Shah, Bachelor of Halal Industry Management by Universiti Teknologi Mara (UiTM) Shah Alam, and Master of Halal Industry Science by International Islamic University Malaysia (IIUM).

In response to this context, the Malaysian Qualification Agency (MQA) has formulated a dedicated programme standard for halal studies on April 12th, 2021 (Malaysian Qualifications Agency & Halal Development Corporation Berhad, 2020). The goal of this standard is to guarantee that students are equipped with the necessary knowledge, skills, and attributes (KSAs) outlined within the Malaysian Qualifications Framework (MQF) at their respective academic levels. Besides, this preparation is intended to enable them to pursue their career opportunities in a variety of halal-related sectors. In terms of employment opportunities, the contemporary global economy requires highly educated graduates equipped with essential skills like critical thinking, adaptability, and proficient communication (Norhaziah Nawai, 2021).

This demand is shaped by various trends and challenges, including advancements in Information and Communication Technologies (ICT), automation, shifts in globalisation, evolving workplace dynamics, and heightened employer expectations (Alshare & Sewailem, 2018). In order to implement the best practices in the halal industry, there is a heightened demand for individuals capable of demonstrating integrity in their actions and consistently applying it in their practices (Harun et al., 2023; Othman et al., 2017). However, several studies have indicated that there is a discrepancy between the KSAs possessed by graduates and those required by the industry (Borhan et al., 2023; Mohd Kamaruzaman et al., 2019; Nadarajah, 2021; Norhaziah Nawai, 2021). Consequently, industry leaders are increasingly concerned that graduates or halal talent emerging from halal studies programmes may not be adequately equipped with the requisite KSAs needed to enter the workforce.

1.3 PROBLEM STATEMENT

Many countries, including Malaysia, have reported a rise in graduate unemployment, and it is increasing as Malaysia's HEIs annually graduate a significant number of students. According to Statistics of Higher Education, in 2021, a total of 326,291 students graduated from HEIs, marking an increase from the previous year's total of 254,688 graduates in 2020 (Ministry of Higher Education, 2021; 2020). However, these large numbers have contributed to concerns regarding graduate unemployment. This is evidenced by an increase in the number of unemployed graduates, rising from 40,550 in 2020 to 41,467 in 2021.

Moreover, the findings from the study conducted by Halim (2018) and Kadir et al. (2020) found that one of the primary concerns for this rising unemployment phenomenon is the alignment between HEIs' outcomes and labour market demands. This concern also poses challenges for halal management graduates, whose employability is influenced by whether their KSAs supplied by HEIs correspond to the rapidly changing requirements of the halal industry (Jaapar & Mohd Najib, 2025). According to the Graduate Tracer Study by the Ministry of Higher Education (2023), only 75.42% of halal management graduates from diploma and bachelor's degree levels secure employment in the halal sector within six months of graduation, while the rest work in other sectors or remain unemployed.

This rate indicates an unhealthy trend for the labour market of halal graduates over the period 2019 to 2023, particularly in a specialised field like the halal industry. This problem has occurred because the halal graduates produced by HEIs are not adequately equipped with the essential KSAs to meet industry expectations and requirements in the halal industry (Borhan et al., 2023; Mohd Shuhaimi et al., 2025; Muhammad et al., 2020; Nasri et al., 2025; Nuratifah et al., 2019). In light of this, the question arises as to whether there is a misalignment between what is being taught in HEIs and what the industry or job market expects from halal management graduates. Hence, the alignment between supply and demand for those KSAs can be evaluated through the identification of the KSAs obtained at HEIs and the KSAs actually required for the jobs.

On the other hand, utilising the keyword "halal" on Malaysia's job-searching platform currently reveals numerous job listings. Both standard internet search engines like www.google.com and a specialised job-searching portal yield over 100 results for positions related to halal, underscoring a notable demand for such roles. Typically, job seekers will look up the job requirements to determine whether they are qualified for the position based on their abilities and expertise (Mohd Mokhtar, 2021). However, upon closer examination of the job requirements, many employers specify a preference for candidates with qualifications and expertise in technical and managerial aspects of the industry. They prioritise candidates with backgrounds in fields such as food technology, food science, food safety, quality management systems, chemistry, and similar areas (Harun et al., 2022).

Furthermore, there are instances where employers combine halal-related roles with other positions, such as Halal Executive cum Quality Control, Halal Executive cum Food Safety Inspector, Halal Executive cum Admin, or Account Assistant. This situation is concerning as it may lead to the underutilisation of graduates from halal management programmes, who typically focus on *shariah* and technical knowledge. This scenario is parallel with the findings by Mohd Mokhtar (2021) that almost the majority of companies, with 49 percent, offer halal positions together with other management roles. Hence, there might be a gap between the content that is delivered in academic programmes and what is valued in the workplace. Therefore, the KSAs that should be prioritised for the halal profession can be discovered through the revelation of rank for the most crucial KSAs, and the gaps identified between supply and demand.

Therefore, it can be inferred that this issue stems from the disparity between the KSAs supplied by HEIs and those demanded by the industry from graduates. Without exception, this issue also becomes one of the challenges faced by halal studies graduates and the halal profession in Malaysia. Despite the issues mentioned, there has been no prior study specifically focused on conducting a gap analysis to address these challenges in the context of the halal industry. In fact, based on the bibliometric analysis of halal talent by Mohamad Zain et al. (2022), previous studies have predominantly focused on assessing the knowledge level and behaviour of current halal talent in the food industry. In this regard, the absence of such a study emphasises the importance of doing comprehensive research in order to effectively address these concerns. Thus, the focus

of this study will be on the gap analysis between supply and demand of KSAs for the halal profession in the Malaysian halal industry.

1.4 RESEARCH OBJECTIVES

The main aim of this study is to address the gaps between the supply and demand of knowledge, skills, and attributes (KSAs) for halal profession in Malaysia. This aim is achieved by means of the following specific objectives:

1. To identify the supply of KSAs of halal management graduates in Malaysia.
2. To identify the KSAs that are in demand for halal profession in the halal industry.
3. To determine the ranking of the most crucial KSAs for halal profession in the halal industry.
4. To examine the gap between supply and demand of KSAs for halal profession in the halal industry.

1.5 RESEARCH QUESTIONS

Research questions are generated in order to guide the research to achieve the objectives of the study. The research questions are as follows:

1. What are the KSAs supplied to halal management graduates in Malaysia?
2. What are the KSAs that are in demand for halal profession in the halal industry?
3. What is the ranking of the most crucial KSAs for halal profession in the halal industry?
4. Is there any gap between supply and demand of KSAs for halal profession in the halal industry?

1.6 RESEARCH SCOPE

This study integrates qualitative and quantitative approaches to analyse gaps between KSAs supplied by HEIs and those demanded by the halal industry. In the qualitative phase, document analysis of Programme Standards for Halal Studies and 23 programme curricula of halal management programmes at diploma and bachelor's degree levels has been conducted to represent the supply side. This standard caters to two main fields in halal studies, which are applied science and management. However, currently there are 35 programmes offered in halal management and only one programme offered in applied science in halal studies at HEIs.

It highlights a greater emphasis and demand for education in halal management. Therefore, the scope of this study is limited to the halal management programme, excluding the applied science field. By addressing the more prevalent field, it ensures that this study will impact a larger segment of the halal education landscape. Furthermore, this study also focuses on the diploma and bachelor's degree levels, as graduates from these levels are the primary workforce working in the halal industry. Conversely, graduates from master's and Doctor or Philosophy (PhD) levels are typically employed in academic or research fields, rather than in the industry. Hence, these levels are excluded from the study to ensure the analysis remains relevant to the industry context.

Meanwhile, a document analysis of 200 halal-related job postings across various job portals has been conducted to represent the demand side. The data was collected from Indeed, Jobstreet, LinkedIn, Maukerja, MyJora, Jooble, Hiredly, Glassdoor, MYFuture Jobs, Facebook, and Joblum, from March to June 2024. These platforms were selected as they are commonly used by employers in Malaysia, providing a representative sample of current job openings and skill requirements in the halal industry.

The time frame from March to June 2024 was chosen to align with peak hiring periods in Malaysia, when employers seek to fill roles in preparation for the second half of the year, capturing a broader range of job openings in the halal sector. The list of

KSAs identified was further refined through the halal industry's occupational framework, Malaysian standard for halal profession, and expert validation, which led to the development of a survey questionnaire. These measures enhance the validity and practical relevance of the study.

In the quantitative phase, a survey questionnaire was distributed to 58 academicians who teach halal management programmes at diploma and bachelor's degree levels for the supply side, and 114 industry players with halal-related job positions from the food & beverage (F&B) companies for the demand side. The data was collected from May to September 2025. The F&B industry was chosen due to findings from the qualitative phase, which indicated that most of the identified KSAs were strongly related to food-related practices, making this sector most relevant to validate the industry perspective. Thus, other sectors such as cosmetics, pharmaceuticals, logistics, and tourism are excluded from the scope.

1.7 SIGNIFICANCE OF STUDY

This study is significant as it bridges the gap between HEIs and industry by providing valuable insights to align KSAs with the needs and current developments of the halal industry. The importance of this study lies in its efforts to identify the KSAs provided by HEIs and those required by the halal industry. Through this approach, the study provides an important contribution to comprehensively understanding the main components of competence for the halal profession. These findings can be a reference for academicians, policymakers, and the Ministry of Higher Education (MOHE) in assessing the suitability of existing curriculum content as well as for the industry in identifying the actual needs of the halal workforce.

Furthermore, this study is also significant because it determines the ranking of the most important KSAs in the halal profession. Through this assessment, the study helps identify the competency elements that are considered most critical by different stakeholders. These results can be used as a guide by HEIs in giving a more balanced emphasis between theory and practice, as well as by employers in providing necessary

training and highlighting KSAs that are truly needed by the job markets in the halal industry.

Moreover, the significance of this study is evident through the implementation of a gap analysis between supply and demand for KSAs. The findings of this analysis not only highlight the mismatch between what is taught and what is needed in the workplace but also provide concrete guidance for curriculum and training improvements. This study may further strengthen collaboration between academia and industry to ensure the development of more relevant, competitive halal talent and contribute to the sustainable development of the workforce in the halal ecosystem.

In summary, for graduates, the study provides insights into the most in-demand KSAs, helping them strengthen employability. This, in turn, increases the sustainability of halal talent by ensuring a consistent supply of skilled workers. For industry players, it offers a reference for recruitment and training, aimed at improving national competitiveness in the global halal market. For universities and policymakers, it supports curriculum enhancement and strategic human capital development in the halal sector. This study also contributes to academic literature by being among the first to apply a gap analysis framework to assess KSAs for the halal profession in Malaysia.

1.8 DEFINITION OF TERMS

Attributes: Personal characteristics of an individual that indicate hidden and innate qualities, such as personal attitudes, traits, and values, are more difficult to develop and are known as the invisible competency component (Spencer & Spencer, 1993).

Demand: Rate of the consumer's desire for a particular product or a service (Moberly, 2014). In this study, it refers to the KSAs desired in the halal profession for entry into the labour market of the halal industry.

Halal talent: Individuals who possess the necessary skills, knowledge, and expertise to work in various sectors of the halal industry, ensuring that products and services adhere

to Islamic law (Rafida et al., 2020). Meanwhile, this study will focus on halal management graduates produced by HEIs.

Gap: A space or disparity between objects or concepts (Pattanapairoj, 2021). Based on Figure 1, it can be concluded that the ‘gap’ in this research refers to the difference between halal management graduates’ KSAs obtained at HEIs and the KSAs actually required for the jobs.

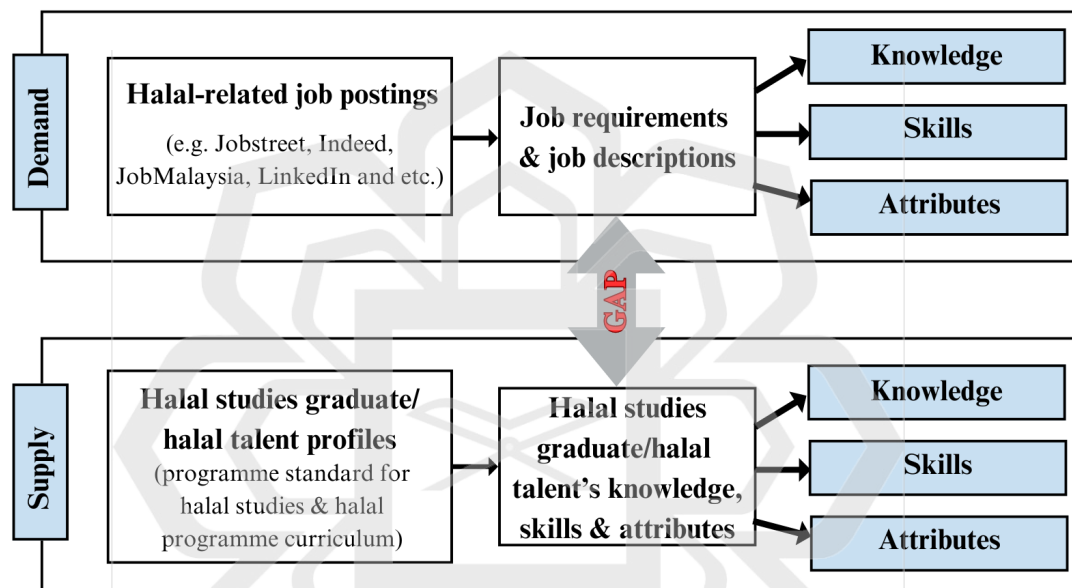


Figure 1.1 Framework of Gap Identification

Job requirement: Statement of the specific skills, knowledge, attributes, qualifications, or experiences that an employer deems necessary for a candidate to successfully perform the tasks of a certain post (Adhikari, 2015). Besides, the identification of KSAs for the halal profession will be extracted from the job requirements as described in the job posting.

Knowledge: Facts and information attained through education or experience, representing a theoretical or practical understanding of a concept (Narula & Aithal, 2018).

Skills: Proficiency and capability cultivated through training, hands-on experience, consistent practice, and persistent dedication to consistently perform a task with excellence and achieve efficient outcomes (Narula & Aithal, 2018). The skills are divided into two parts:

- *Soft Skills*: These are non-technical abilities, intangible in nature, and specific to one's personality, which influence strengths in leadership, communication, negotiation, and conflict resolution (Rodzalan et al., 2022).
- *Hard skills*: These are skills typically acquired through education, experience, and expertise, involving technical proficiency in specific areas (Rodzalan et al., 2022).

Supply: The ability of a firm or producer to provide a particular product or service (Moberly, 2014). In this study, 'supply' refers to current KSAs provided by HEIs to halal management graduates at diploma and degree levels.

1.9 CHAPTER SUMMARY

In this chapter, the background of the study provides context on the Halal industry in Malaysia, highlighting its rapid growth and significance in the global market. As in the problem statement, the issue was discussed on the gap between the KSAs produced by HEIs and those demanded by the industry. Next, research objectives and questions were outlined, aiming to address this gap and contribute to the sustainable development of the halal profession. The significance of the study was also emphasised, underscoring its potential to inform graduates, industry players, and academicians within the Halal industry. Finally, key terms such as attributes, demand, halal talent, gap, job requirement, knowledge, skills, and supply were defined, setting the stage for further exploration in subsequent chapters.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter serves as a comprehensive exploration of existing research and scholarly works relevant to the field of halal industry and its associated human capital development, with particular attention to the Malaysian context. It begins with an overview of the halal industry in Malaysia, followed by a discussion on the halal profession and its different levels. It also explores the role of human capital development in sustaining halal talent, the contribution of Higher Education Institutions (HEIs) through halal education programmes, and the issue of mismatch of knowledge, skills, and attributes (KSAs) supplied by HEIs and those demanded by the industry.

2.2 HALAL INDUSTRY IN MALAYSIA

Malaysia is acknowledged as the central hub for halal activities in the Asia region and stands as a global leader in the halal industry. Positioned as a forward-thinking Muslim nation, it maintains a stable economic, political, and social environment with sustained development and growth rates (Rafida et al., 2020). In 2023, the Ministry of Economic Affairs unveiled the Halal Industry Master Plan 2030 (HIMP 2030) to serve as a driving force in bolstering Malaysia's position as a global leader in the halal industry. According to the plan, the global halal market is projected to reach USD 5.0 trillion, with Malaysia's halal market estimated to achieve USD 113.2 billion (RM 500 billion) by 2030 (Ministry of Economic Affairs, 2023). This projection underscores Malaysia's significant role in positioning itself as a global halal hub.

In line with this, the State of the Global Islamic Economy Report 2024/2025 has ranked Malaysia as the top performer in the global Islamic economy for the 11th consecutive year and ranked it first as the leading country in terms of being well-

positioned to capitalise on opportunities in the Islamic economy (Dinar Standard, 2025). Figure 2.1 shows the top 15 of the Global Islamic Economy Indicator Score. Apart from that, Malaysia has also achieved a first-place ranking in Islamic finance, halal food, and media and recreation, with a second-place ranking in modest fashion.

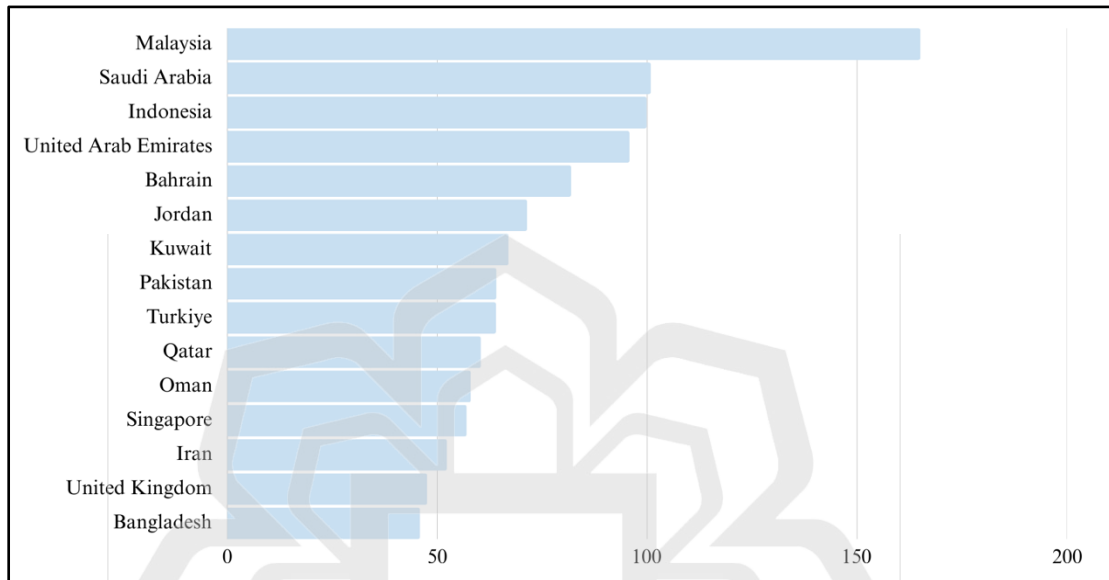


Figure 2.1 Top 15 Global Islamic Economy Indicator Score

Source: Dinar Standard (2025)

2.2.1 Halal Food Industry

Malaysia's halal industry comprises diverse sectors such as food and beverage (F&B), cosmetics, pharmaceuticals, personal care, logistics, and tourism (Abdul Rahim et al., 2022). However, the three core sectors of the halal industry are food and beverages, pharmaceuticals, and cosmetics and personal care (Ministry of Investment, Trade and Industry, 2023; Shaharuddin et al., 2025). In 2022, Malaysia's halal exports recorded RM 59.5 billion, with F&B exports contributing RM 27.85 billion, representing 46.8 percent of the total halal exports (Ministry of Investment, Trade and Industry, 2023). This dominant share reflects the central role of F&B in the development of Malaysia's halal industry and demonstrates its potential to drive economic growth in both local and global markets.

The food and beverage industry, a rapidly expanding sector with profound global significance, not only addresses the ethical and religious needs of Muslim consumers along the value chain, ranging from food manufacturing to logistics, retail, and certification services, but also plays a pivotal role in job creation. As reported in HIMP 2030, approximately 350,000 jobs were created in the halal industry as of December 2018 (Ministry of Economic Affairs, 2023), and the number rose to 610, 672 jobs in 2022, with the F&B industry accounting for the largest share (Department of Statistics Malaysia, 2025).

The F&B industry is multifaceted, encompassing sectors such as food premises, food manufacturing, retail, catering, and restaurants. This diversity translates into a wide array of job roles, ranging from food technologists and halal certifiers to supply chain managers and marketing professionals. Furthermore, it caters to a broad spectrum of job seekers, offering positions that range from skilled roles (Ibrahim et al., 2022), such as halal compliance specialists and food scientists, to unskilled positions in manufacturing and logistics. This inclusivity enhances the industry's impact on reducing unemployment rates as well as supporting human capital development in Malaysia's halal industry.

2.3 HALAL PROFESSION IN MALAYSIA

Based on Figure 2.2, it shows that the halal profession structure is delineated into three (3) levels, which are halal talent, halal expert, and halal professional. According to Malaysian Standard MS 2691:2021 Halal Profession – General Requirements, the halal profession refers to any form of work related to the halal industry that requires specific skills and knowledge, as well as having a relevant competency certificate from a competent authority (Department of Standards Malaysia, 2021). In addition, an individual in the halal profession is the backbone of this thriving industry and plays a crucial role as a vital element in maintaining the strength, expandability, and global competitiveness of the halal industry. Halal manager, halal auditor, halal executive, and halal supervisor are among the examples of halal professions.

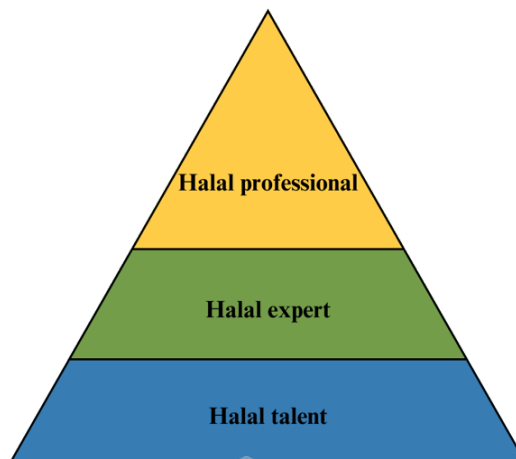


Figure 2.2 Halal Profession Pyramid

Source: Department of Standards Malaysia (2021)

2.3.1 Levels of Halal Profession

As for halal talent, it refers to an individual with limited practical experience in the halal industry or possessing a basic educational certification along with a competency certificate from the relevant authority. Rafida et al. (2020) stated that halal talent should possess expertise in *Shariah* and technical fields, and should regularly participate in halal courses to stay informed about the latest developments in technology and regulations.

A halal expert is an individual who embodies managerial skills together with strong practical and theoretical exposure within the halal industry and has obtained relevant certificates of competency from competent authorities, while a halal professional refers to an individual who fulfils the requirements of a halal expert and can be a reference person for the halal industry (Department of Standards Malaysia, 2021). Regardless of the level, all levels of the halal profession serve as a cornerstone of halal advancement within the industry in Malaysia. To be in the halal profession, the basic requirement is being Muslim, and the pre-requisite requirements are as in Table 2.1 below:

Table 2.1 Pre-requisite Requirements for Each Level of Halal Profession

Pre-requisite requirements for Halal profession		
Halal talent	Halal expert	Halal professional
At least secondary education; or	At least tertiary education (diploma) and hold SKM level 3; or	At least tertiary education (diploma) and hold SKM level 5; or
Completed SKM level 1, 2 or 3; or	Completed SKM level 4 or 5; or	Completed SKM level 6 or 7; or
Three (3) years full time work experience.	Two (2) years full time work experience and hold SKM level 3; or	Two (2) years full time work experience and hold SKM level 5; or
	Five (5) years full time work experience.	Ten (10) years full time work experience.

Note. SKM: Malaysian Skills Certificate (*Sijil Kemahiran Malaysia*)

Source: Department of Standards Malaysia (2021)

2.3.2 Research Trends on the Halal Profession

Despite the significance of the halal profession in ensuring the longevity of a company and enhancing organisational performance, extensive research has been conducted to comprehend and enhance talent management within organisations. The existing literature on halal talent in Malaysia has predominantly been analysed through bibliometric methods and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework. Based on a bibliometric study analysis by Mohamad Zain et al. (2022), only 9 out of 257 articles recorded from Scopus and MyCite addressed halal talent in Malaysia specifically. This indicates a significant gap in the literature concerning the halal profession.

The research underscored that the majority of studies concentrated on evaluating the knowledge and attitudes of halal talent, particularly in the food industry. Although bibliometric approaches are valuable for examining the breadth and trajectory of research, it still lacks the analytical depth needed to critically evaluate the quality and contributions of the study. Hence, Tukiran et al. (2025) have employed the PRISMA

framework that designed for comprehensive synthesis of evidence, specifically tailored to address detailed research questions. A total of 13 relevant studies published between 2019 – 2024 were identified through searches on Scopus, Google Scholar, and Emerald Insight database.

Nevertheless, to complement this analysis, a broader bibliometric mapping was also performed by the researcher to observe long-term research patterns and publication trends. Figure 2.3 below illustrates the overall research trend from 2015 – 2025 and indicates an increase in studies related to the halal profession in Malaysia.

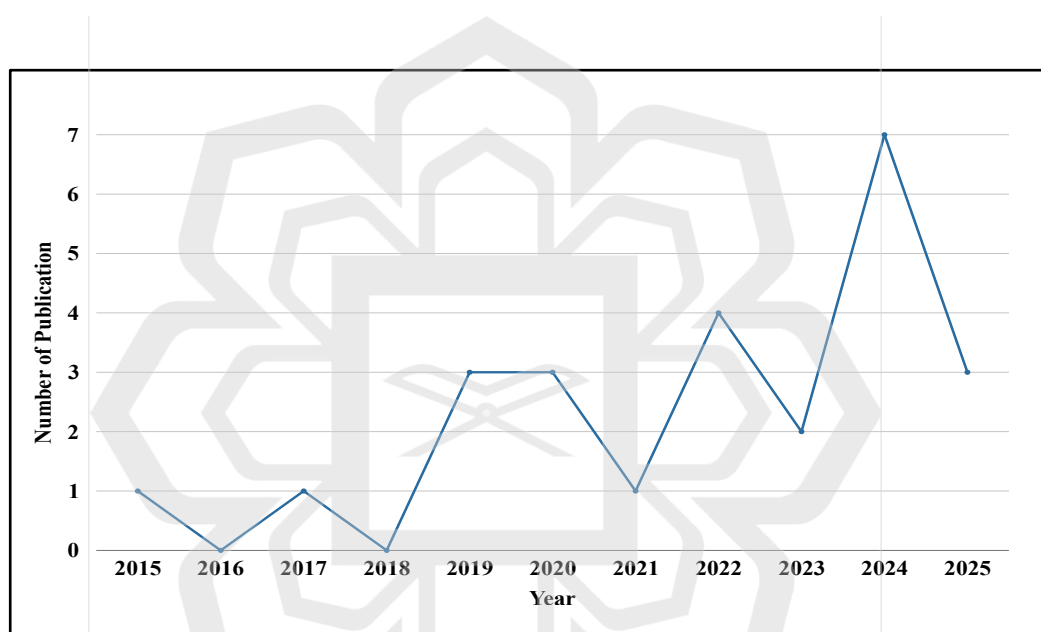


Figure 2.3 Research Trend on the Halal Profession for Publication from 2015 to 2025

A total of 25 previous studies related to the halal profession were identified between 2015 - 2025 through databases such as Scopus, MyCite, Emerald Insight, and Google Scholar. The keywords searched are “halal profession”, “halal talent”, “halal expert”, “halal professional”, “halal graduates”, “halal executive”, “halal auditor”, “halal manpower”, “halal worker”, “halal manager”, “halal officer”, and “halal operator”. The list of previous studies on the halal profession in Malaysia is shown in Table 2.2:

Table 2.2 Previous Studies on Halal Profession in Malaysia (2015-2025)

Year	Author	Title of Research	Objectives	Methodology
2025	Jaapar & Mohd Najib (2025)	Halal graduates in Malaysia: Balancing education, employment, and industry needs	To examine the overproduction of halal graduates in Malaysia, explore causes, and assess the sustainability of career growth in the halal sector.	Qualitative (Document analysis)
2025	Nasri et al. (2025)	The Role and Responsibilities of Halal Executives in Food Manufacturing in Malaysia: A Qualitative Study	To examine the roles and responsibilities of halal executives in ensuring compliance with halal standards and promoting halal integrity within organizations.	Qualitative (Interview)
2025	Tukiran et al. (2025)	Identifying gaps in halal talent development and management in Malaysia: A systematic literature review	To identify and analyse gaps in research concerning halal talent development and management in Malaysia using a systematic literature review (SLR).	Qualitative (PRISMA framework)
2024	Syed Hamzah & Johari (2024)	A Research Trend: Talent Management Practice in Halal Management	To review talent management research trends and practices in global halal management.	Qualitative (Bibliometric analysis)
2024	Mohd Shuhaimi et al. (2024)	Sustainable career growth for the Halal professionals in Malaysia and Australian food industry	Explore career growth of halal executives in food industries in Malaysia and Australia, to build theoretical understanding for talent development.	Qualitative (Interview)
2024	Nurdalila et al. (2024)	Halal Vocation Game: The new edutainment for a career pathway in halal field	Introduce digital edutainment game to promote halal careers and empower halal consumer knowledge.	Qualitative (Document analysis)

2024	Mohd Nor et al. (2024)	Readiness of Halal management students for employability	To analyse the impact of personal attributes and basic halal-related skills on the readiness for employability of final-year Halal Management students.	Quantitative (Questionnaire)
2024	Abdul Aziz & Che Hussin (2024a)	Perceptions of Internal Halal Auditors Toward Digital Halal Audit App in Malaysia	To explore the acceptance and perceptions of Internal Halal Auditors regarding the Digital Halal Audit App (DHAA) and factors influencing its adoption.	Quantitative (Questionnaire)
2024	Abdul Aziz & Che Hussin (2024b)	Thematic Analysis of Interview Insights: Challenges in Halal Auditing Practices in Malaysia	To explore challenges faced by internal Halal auditors in Malaysia, focusing on issues affecting compliance with Halal standards.	Qualitative (Interview)
2024	Ibrahim et al. (2024)	Challenges in the Employability of Halal Studies Graduates in Malaysia	To examine the elements affecting the employability of halal studies graduates in Malaysia, focusing on curriculum, industry recognition, infrastructure, and human resources.	Qualitative (Document analysis)
2023	Borhan et al. (2023)	Development of Core Competencies Index for Halal Executives in Food Company	To analyse the readiness of Halal Management undergraduates for core competencies required in halal executive roles based on student perspectives.	Quantitative (Questionnaire)
2023	Harun et al. (2023)	Halal Auditing Challenges: A Case Study on Auditors in Jabatan Hal Ehwal Agama Islam Kelantan (JAHEAIK)	Identify the challenges faced by the halal auditors in from the scope of halal audits.	Qualitative (Interview)
2022	Md Nawi et al. (2022)	Firms' Commitment to Halal Standard Practices in the Food Sector: Impact of Knowledge and Attitude	Examine the effect of knowledge and attitude on firms' commitment to Halal standard practices in a developing nation's food sector. Additionally, the	Quantitative (Questionnaire)

			moderating effect of gender on this association is explored.	
2022	Ibrahim et al. (2022)	Enhancing Collaboration for Future Halal Studies Graduate Employability	Examine whether Malaysia's current legal system has resulted in increased job opportunities for halal studies graduates.	Qualitative (Content analysis)
2022	Mohamad Zain et al. (2022)	Halal Talent in Malaysia: A Bibliometric Study Analysis	Bibliometric analysis on publication of halal talent in Malaysia over a decade.	Qualitative (Bibliometric analysis)
2022	Ahmad Nizar et al. (2022)	A Pre-and Post-Training Assessment of the Halal Executive Training Program Towards Upholding Halal Food Supply Chain	To assess the effectiveness of halal executive training programs by measuring participants' knowledge and skills before and after training and their impact on upholding the halal food supply chain.	Quantitative (Questionnaire)
2021	Harun et al. (2021)	Halal Training Issues and Challenges from Trainers' Perspectives in Halal Products Research Institute HPRI	To analyse issues and challenges faced by trainers during halal training sessions at HPRI to improve the delivery of halal education and training.	Qualitative (Interview)
2020	Hashim et al. (2020)	Relationship Between Awareness, Knowledge, and Attitude of Behavioural Intention Towards Halal Jobs among Malaysian Muslim University Students	Determine the level of Muslim university students' awareness, knowledge and attitude towards halal jobs as well as to determine the relationship between awareness, knowledge and attitude of behavioural intention towards halal jobs.	Quantitative (Questionnaire)
2020	Md Salleh et al. (2020)	Role of Internal Halal Committee in Ensuring Business Sustainability: The Case of a Multinational Slaughterhouse	Highlights the practice taken up by Jimat Jaya Sdn. Bhd. (JJSB) in establishing Internal Halal Committee.	Qualitative (Interview)

2020	Abdul Rahim et al. (2020)	Negotiation of Needs towards Halal Talents Sustainability	Identify the negotiation parameters of needs for Halal talents in Malaysia and proffer solutions on the sustainability of halal talents in Malaysia.	Qualitative (Focus Group Discussion)
2019	Ab Rahman & Asman (2019)	The Effectiveness of Global Halal Game (GHG) Gamification in Teaching & Learning and Training to Halal Executives	Measure the effectiveness of Global Halal Game (GHG) gamification in teaching, learning and training to Halal Executives.	Quantitative (Questionnaire)
2019	Nuratifah et al. (2019)	Evaluation of Knowledge and Practices of Halal Certification Among Food Processing Companies Sabah, Malaysia	Examine the knowledge and practices in managing the halal certification compliance amongst halal managers in Sabah.	Quantitative (Questionnaire)
2019	Ahmad et al. (2019)	The Lived Experience of Eudaimonic Well- Being in a Religio- Economical Role: A Phenomenological Study	Identify and describe the general meaning structure of eudaimonic well-being experience in performing the role of halal executive.	Qualitative (Interview)
2017	Ahmad et al. (2017)	Critical Success Factors Affecting the Implementation of Halal Food Management Systems: Perspective of Halal Executives, Consultants and Auditors	Examine important factors on the effectiveness of the implementation of the halal food management system among SMEs.	Qualitative (Interview)
2015	Hassan et al. (2015)	Knowledge and Practice for Implementing Internal Halal Assurance System (IHAS) Among Halal Executives	Investigate the knowledge and practice of the implementing the IHAS among the halal executives at the respective food premises in Malacca.	Qualitative (Interview)

This extensive review of the previous literatures since 2015 to 2025 helps the researcher to identify how deeply the research on the halal profession has been addressed by previous researchers. The findings presented in Figure 2.3 and Table 2.2 indicate that the number of studies remained limited before 2020 but began to increase steadily from 2021 onwards, reflecting growing academic attention toward halal talent development and employability issues. This upward trend suggests an expanding research focus on the professionalisation of the halal workforce in line with Malaysia's HIMP 2030.

Previous research on halal profession have predominantly focused on evaluating the knowledge level and behaviour of halal talent in the food industry. Meanwhile, the latest research more focus on challenges and opportunities in the halal ecosystem, particularly in the realms of halal certification (Safitri & Afandi, 2013), training, auditing, education, and talent development. However, there has been a lack of extensive exploration into studies on the halal profession, and no study has been identified thus far that examines the gap analysis of KSAs for the halal profession in Malaysia. Thus, studying the gap analysis is crucial for driving improvements, increasing competitiveness, fostering innovation, and ensuring the sustainable development of the halal profession as well as the halal industry.

2.4 HUMAN CAPITAL DEVELOPMENT IN THE MALAYSIAN HALAL INDUSTRY

Human capital serves as a key facilitator for the entire Malaysian halal ecosystem. Ongoing efforts are in place to generate skilled and adept human capital, particularly halal talent, that are an important part of the HIMP 2030. In addition, a person in the halal profession holds a pivotal role in diverse industries connected to halal, including food, pharmaceuticals, cosmetics, logistics, medical devices, slaughterhouses, and consumer goods. Despite the significance of halal talent, past literature indicates that not all of them can fulfil their roles competently (Mohd Mokhtar, 2021). As such, the Department of Skills Development under the Ministry of Human Resources (MOHR) introduced an occupational framework tailored specifically for the halal industry in 2021.

Furthermore, this occupational framework is aligned with Malaysia's vision to emerge as a global halal hub and to foster human capital development within this industry. More precisely, it serves as an initial step in formulating the relevant National Occupational Skills Standards (NOSS) and serves as the foundation for organising skills training and certifying competent personnel. This framework encompasses five distinct professional sub-sectors: halal management services, halal poultry slaughterhouse management, halal auditing, halal logistics, and halal compliance.

As for the framework that outlines job levels, it was categorised into seven tiers: level seven (chief halal officer/specialist), level six (manager), level five (assistant manager), level four (executive), level three (supervisor), level two (senior operator), and level one (operator/assistant) (Department of Skills Development, Ministry of Human Resources & Halal Development Corporation Berhad, 2021). While this framework establishes the structural foundation for halal professions, the Department of Skills Development (2012) provides a broader industrial perspective by illustrating ten industry sub-sectors and related job areas linked to the halal economy (Figure 2.4). This reflects its presence across diverse economic segments such as food, manufacturing, logistics, and tourism.

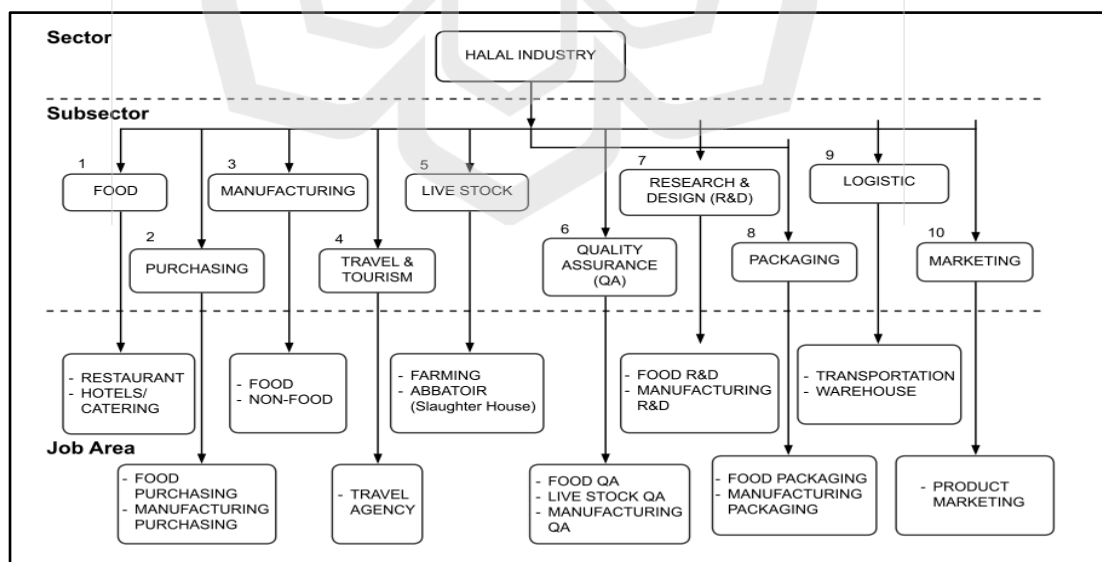


Figure 2.4 Sub-Sectors and Job Areas that are Linked to the Halal Industry

Source: Department of Skills Development (2012)

Figure 2.4 provides a clear overview on the operation of the halal industry across multiple sub-sectors, as well as highlights the complexity of KSAs required within these areas. Each sub-sector demands different KSAs to ensure both business performance and halal compliance. This diversity suggests that the KSAs supplied by HEIs may not always align with what is required in the field. For instance, halal professionals in auditing and logistics may need distinct regulatory and technical knowledge, whereas those in product innovation or management require knowledge of business and analytical skills. Therefore, even though the figure offers a clear representation of the industry's breadth, it also underscores the importance of identifying which KSAs are most relevant and demanded across these halal sub-sectors.

2.4.1 Sustainable Development of Halal Talent

Nowadays, leaders worldwide are giving significant attention and priority to the 2030 Agenda for Sustainable Development. Similarly, this research aims not only to identify the gaps between supply and demand of KSAs for the halal profession, but also to align with several Sustainable Development Goals (SDGs) set forth by the United Nations. For instance, this research aligns with SDG 4: Quality Education and SDG 8: Decent Work and Economic Growth. It is also reflected in the words of Allah in *Surah al-Mujādalah*, verse 11:

...يَرْفَعُ اللَّهُ الَّذِينَ آمَنُوا مِنْكُمْ وَالَّذِينَ أُوتُوا الْعِلْمَ دَرَجَاتٍ ۚ وَاللَّهُ بِمَا تَعْمَلُونَ خَبِيرٌ ﴿١١﴾

Meaning: Allah will raise those who have believed among you and those who were given knowledge, by degrees. And Allah is Acquainted with what you do.

Surah al-Mujadalah (58:11)

This verse emphasises the importance of seeking knowledge because those who have knowledge will be elevated in rank by Allah SWT. In Islam, seeking quality and useful knowledge becomes an important obligation and responsibility for Muslims. Besides, a quality education will enable them to contribute to religion, nation, and the development of the country. Thus, the outcome of this study, the gaps analysed of KSAs between supply and demand, will contribute to the improvement of the halal studies

curriculum to ensure halal talent gets a quality education that meets the halal industry's human capital needs in Malaysia. Indirectly, it will contribute to the sustainability and development of the halal profession as well as economic growth. In an effort to maintain the sustainable development of halal talent, graduates need to acquire the KSAs needed for the halal profession.

A study conducted by Bentley and Squelch (2014) highlighted the importance of possessing the understanding, skills, and personal attributes required to perform well in a graduate-level job. In addition, Huda et al. (2021) outlined that the competency of halal executives can be categorised into three realms: knowledge, skills, and attitudes. However, Norhaziah Nawai (2021) highlighted that initiatives aimed at enhancing the competence of graduates should encompass knowledge, skills, and attributes. In line with the definition by Knight and Yorke (2003), employability is a set of achievements that encompasses knowledge, skills, and attributes (KSAs). Therefore, having these skilled and knowledgeable workers is critical to collectively empower an individual to effectively carry out occupational functions (Narula & Aithal, 2018), indirectly leading to the sustainable development of halal talent.

In the context of the expanding global halal market, cultivating halal human capital through the provision of KSAs is crucial for effective professional management and implementation. This is particularly pertinent for Malaysia, a global leader in the halal industry. Thus, this research focuses on knowledge, skills, and attributes that will lead to the sustainability of the halal profession. The descriptions of the KSAs required for the halal profession are:

i. Knowledge: Facts and information attained through education or experience, representing a theoretical or practical understanding of a concept (Narula & Aithal, 2018). In the halal industry context, halal knowledge delineates how individuals, particularly Muslims, should comprehend and implement Islamic teachings pertaining to what is permissible (*halal*) and prohibited (*haram*). Among the important knowledge as a halal executive are *shariah* knowledge, technical knowledge, and understanding the Internal Halal Assurance System (IHAS). For instance, understanding the purpose of IHAS implementation, ethics, and job responsibility. However, data from interviews

conducted by Hassan et al. (2015) indicate that halal executives can only empower their understanding of IHAS once they have *shariah* and technical knowledge.

ii. Skills: Proficiency and capability cultivated through training, hands-on experience, consistent practice, and persistent dedication to consistently perform a task with excellence and achieve efficient outcomes (Narula & Aithal, 2018). The amalgamation of hard and soft skills forms an individual's professional competence, enabling the achievement of work tasks in a goal-oriented and situational manner (Sharvari & Kulkarni, 2019). For instance, effective communication, critical thinking, problem-solving abilities, ethical and professional moral competencies, leadership qualities, continuous learning, and information management proficiency are crucial elements of soft skills for cultivating high-quality graduates (Norhaziah Nawai, 2021). As for the hard skills, for instance, the skill in managing food premises is the most important for the halal executive position in order to implement IHAS (Hassan et al., 2015).

iii. Attributes: Personal characteristics of an individual that indicate hidden and innate qualities, such as personal attitudes, traits, and values, are more difficult to develop and are known as the invisible competency component (Spencer & Spencer, 1993). According to Malaysian Standard MS 2691:2021 Halal Profession – General Requirements, halal talent is required to possess high integrity, ethical practices, and be committed to dealing with important issues such as complying with halal requirements and protecting the integrity of products and services. Practising Islamic ethics in performing tasks is also among the attributes for the halal profession, as well as maintaining the confidentiality of information acquired from the organisation or company unless required by law (Department of Standards Malaysia, 2021).

2.5 HALAL EDUCATION IN MALAYSIA

On April 12th, 2021, the Malaysian Qualifications Agency (MQA), in collaboration with Halal Development Corporation Berhad (HDC) and the Ministry of Higher Education (MOHE), introduced a new academic programme standard for halal studies (Malaysian Qualifications Agency & Halal Development Corporation Berhad, 2020).

This programme standard caters to two main fields of halal studies, which are applied science and management. The primary objective of this programme standard is to ensure that students acquire the requisite KSAs aligned with their respective levels as outlined in the Malaysian Qualifications Framework (MQF).

This initiative aims to prepare students to meet the current and future needs of the industry, as well as to pursue career opportunities in the diverse fields of the halal industry. Hence, the HEIs need to first refer to this standard for the development and delivery of the Halal Studies programme in Malaysia, then proceed to design and develop the specific programme curriculum with their own niches. On the other hand, the relevance of academic programmes in halal studies offered by HEIs has come into question amid the escalating unemployment rates among recent graduates in Malaysia, despite the country's economic growth.

In this regard, Borhan et al. (2023) have recommended HEIs that offer halal studies, to enhance the existing curriculum by integrating more content on technical proficiency, documentation skills, and digital competence. This approach is intended to better prepare halal undergraduates for the challenges and demands of the workforce. Therefore, this research seeks to evaluate the adequacy of KSAs imparted by HEIs, based on the established programme standards for halal studies, together with the programme curriculum.

2.5.1 Halal Education Programme at Higher Education Institutions (HEIs)

The Halal education programme, offered by Higher Education Institutions (HEIs), encompasses tertiary level which include diploma, bachelor's, and post-graduate programmes at master's and Doctor of Philosophy levels. Halal education is described as a scientific approach, featuring multidisciplinary curricula grounded in the halal concept and framework (Ibrahim et al., 2022).

Presently, 33 HEIs offer halal studies programmes ranging from diploma to bachelor's degree levels. Some HEIs have established dedicated halal research centres and programmes, such as the International Institute for Halal Research and Training

(INHART) at the International Islamic University of Malaysia (IIUM), University Malaya Halal Research Centre (UMHRC) at University Malaya, and International Centre for Halal Studies (ICHLAS) at Management and Science University (MSU).

In response to the increasing awareness of halal practices, the halal industry and its stakeholders require qualified personnel with comprehensive knowledge of halal principles (Ibrahim et al., 2022). It can be concluded that HEIs play a pivotal role in nurturing a skilled workforce for the halal industry. Hence, the focus of this research will be on assessing halal management graduates at the diploma and bachelor's degree levels, as graduates from these levels are the primary workforce working in the halal industry. Table 2.3 and 2.4 show the list of Higher Education Institutions (HEIs), public and private, that provide halal management programmes at the diploma and bachelor's degree levels:

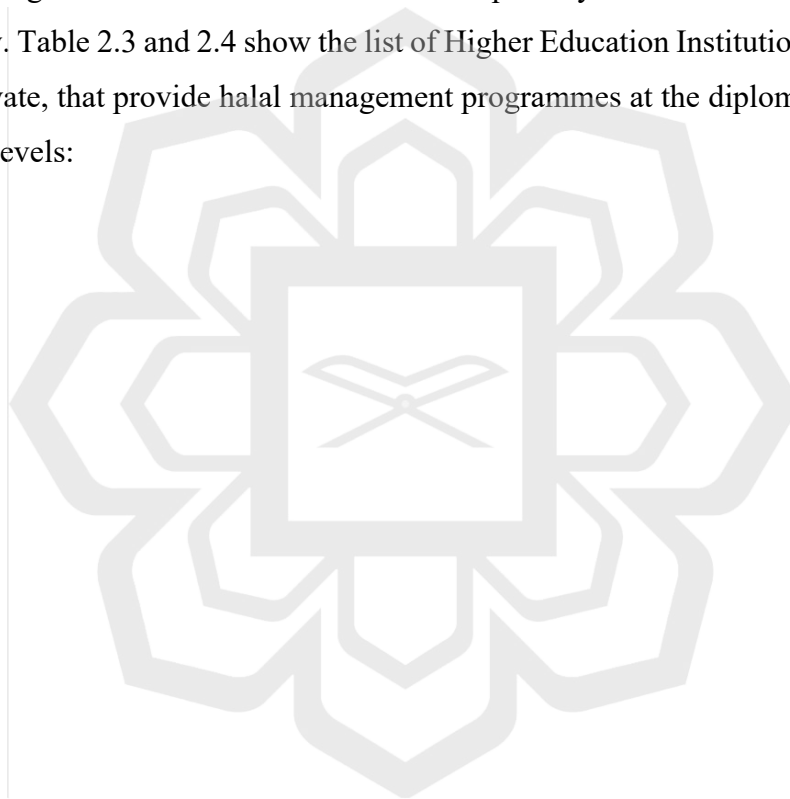


Table 2.3 List of Public Institutions of Higher Education (PIHE)

Public Institutions			
Institution	Programme	Type	Reference no.
International Islamic University Malaysia (IIUM)	Halal Industry Management (Honours)	Bachelor	MQA/SWA12223
Kolej Profesional MARA Bandar Melaka	Halal Industry	Diploma	MQA/FA9072
Politeknik Merlimau Melaka	Foodservice Halal Practice	Diploma	MQA/FA1765
Politeknik METrO Kuantan	Foodservice Halal Practice	Diploma	MQA/FA1791
Politeknik Sultan Haji Ahmad Shah (POLISAS)	Food Technology Halal Management	Diploma	MQA/FA16423
Politeknik Sultan Idris Shah	Foodservice Halal Practice	Diploma	MQA/FA8312
Politeknik Tuanku Syed Sirajuddin (PTSS)	Foodservice Halal Practice	Diploma	MQA/FA3360
Universiti Sains Islam Malaysia (USIM)	Syariah (Halal Industry) with Honours	Bachelor	MQA/FA9767
Universiti Sultan Zainal Abidin (UniSZA)	Halal Food Development (Honours)	Bachelor	MQA/PA08749 (31/10/2025)
Universiti Teknologi MARA (UiTM) Kuala Pilah	Halal Management	Diploma	MQA/SWA16233
Universiti Teknologi MARA (UiTM) Puncak Alam	Halal Management	Diploma	MQA/FA5072
Universiti Teknologi MARA (UiTM) Samarahan	Halal Management	Diploma	MQA/FA1726
Universiti Teknologi MARA (UiTM) Shah Alam	Halal Industry Management (Honours)	Bachelor	MQA/SWA05226
Universiti Utara Malaysia	Halal Management with Honours	Bachelor	MQA/PSA16663 (12/12/2028)

Source: Malaysian Qualifications Agency (2025)

Table 2.4 List of Private Institutions of Higher Education (PVIHE)

Private Institutions				
Institution	Programme	Type	Reference no.	
Baitulmal Professional College Kuala Lumpur	Halal Industry Management	Diploma	MQA/FA5839	
FELCRA College	Halal Practice Management	Diploma	MQA/FA9257	
International Islamic College (IIC)	Halal Industry Management	Diploma	MQA/FA8797	
Kolej Antarabangsa Cybernatics	Culinary Halal Practices	Diploma	MQA/PA05970 (17/11/2026)	
Kolej Antarabangsa Murni	Halal Industry Management	Diploma	MQA/FA15689	
Kolej Islam Teknologi Antarabangsa (KITAB)	Halal Management	Diploma	MQA/FA14547	
Kolej Pengajian Islam Johor Sultan Ibrahim (KUIJSI)	Syariah (Halal Management)	Bachelor	MQA/PA16553 (18/6/2028)	
	Halal Management	Bachelor	MQA/PA16379 (11/4/2028)	
Management and Science University	Halal Quality Assurance (Hons)	Bachelor	MQA/FA11159	
National Integrated College	Halal Industry Management	Diploma	MQA/FA9484	
SPACE College	Halal Industry Management	Diploma	MQA/FA9244	
Sultan Ismail Petra International Islamic University College	Halal Management	Diploma	MQA/FA8534	
UNITI College	Halal Industry Management	Diploma	MQA/FA2187	
	Halal Product Manufacturing	Diploma	MQA/FA8596	
UNITI College Kota Bharu	Halal Industry Management	Diploma	MQA/FA3527	

Universiti Islam Antarabangsa Tuanku Syed Sirajuddin (UniSIRAJ)	Halal Industry Management with Honours	Bachelor	MQA/PA18108 (4/2/2030)
University College of Yayasan Pahang	Islamic Management with Halal Business (Honours)	Bachelor	MQA/FA11322
Universiti Islam Melaka (UNIMEL)	Syariah (Halal Use) with Honours	Bachelor	MQA/FA14137
Universiti Islam Selangor	Management (Halal Industry) (Hons)	Bachelor	MQA/FA8703
Universiti MISI	Business (Halal Logistics and Supply Chain Management) with Honours	Bachelor	MQA/PA15026 (3/10/2026)
Yayasan Pelajaran Johor College	Foodservice (Halal Food)	Diploma	MQA/FA4414

Source: Malaysian Qualifications Agency (2025)

There are 33 Higher Education Institutions (HEIs), public and private, that provide halal management programmes at the diploma and bachelor's degree levels. As of September 2025, there are 35 halal management programmes offered, which have accreditation by MQA, consisting of 3 Self-Accreditation (SWA), 25 Full Accreditation (FA), and 7 Provisional Accreditation (PA/PSA). Meanwhile, there are a few programmes offered at HEIs, but was not found in the database of the Malaysian Qualifications Register, and it may be due to one of the following reasons:

- i. The programme has obtained Temporary Accreditation; however, it is not yet mature for the HEI to submit a Full Accreditation application; or
- ii. The HEI has not submitted applications for Temporary or Full Accreditation; or
- iii. The programme was conducted before the year 1997; or
- iv. The programme failed to attain Full Accreditation.

As shown in Tables 2.3 and 2.4, a total of 35 halal management programmes are offered, and they may vary in terms of the KSAs supplied by each HEI. Fundamentally, HEIs are required to refer to the Programme Standard for Halal Studies as a foundation upon offering halal-related programmes and developing programme curriculum. However, HEIs also have the flexibility to design and adapt their curriculum according to institutional priorities, available expertise, and target learning outcomes, which may result in variations in the depth and focus of curriculum content across institutions. The differences emerge in course structure, specialisation areas, and the extent to which industry-relevant KSAs are integrated. Consequently, these variations may contribute to inconsistencies in graduates' KSAs, possess different sets and levels of KSAs, particularly in meeting the expectations of the halal industry.

2.6 MISMATCH OF KSA BETWEEN HEIS AND INDUSTRIES

In the current era of globalisation, educational systems face various challenges. Many countries, including Malaysia, have reported a rise in graduate unemployment due to mismatches between graduates' KSAs and employers' needs (Kadir et al., 2020). Moreover, investigations revealed that halal talents in Malaysia are currently

encountering various obstacles and challenges. Given that the halal industry is relatively new in Malaysia, halal talents are still in the nascent stage of development.

Nevertheless, based on the feedback from employers and industry players, there is a consensus that the gap between what is being taught in local institutions of higher learning and what the industry or job market expects is widening, thus making Malaysian graduates less employable (Norhaziah Nawai, 2021). Among the mismatches of KSAs are:

i. Mismatch of knowledge: The major challenge faced by the halal industry in Malaysia is the shortage of a knowledgeable workforce that understands the *shariah* requirements and implements *shariah* knowledge into actual industrial practice (Alina et al., 2013). Furthermore, a study was conducted by Noordin et al. (2009) to highlight the issues in the halal certification process through a value chain analysis. The findings indicated that a regular problem faced by food companies was a lack of knowledge on halal matters, which caused the misuse of the halal logo.

ii. Mismatch of skills: Several studies have investigated the discrepancy between the skills possessed by graduates and those required by the industry. For instance, Nadarajah (2021) undertook a study aimed at identifying the skills gap among graduates and the skills demanded by the job market. In that study, it emphasised the necessity of graduates improving their communication, problem-solving, and analytical skills in order to effectively fulfil job market demands. Similarly, a survey was conducted by Mohd Kamaruzaman et al. (2019) to assess the academicians' satisfaction and expectations in terms of industry-required skills. The findings underlined that graduates need to have strong communication skills (both written and verbal), effective management, leadership qualities, and problem-solving abilities. Additionally, a study by Borhan et al. (2023) found that graduates are weak in digital skills in performing the application for the Malaysia Halal certificate.

iii. Mismatch of attributes: Graduates need to have good attributes such as punctuality, professionalism, creativity, a dedication to continuing learning, and adaptability (Mohd Kamaruzaman et al., 2019). It is believed that graduates without good attributes will have difficulty finding work in the future (Kadir et al., 2020). In addition, a study

conducted by Siti Aminah et al. (2020) found that halal talent should practise integrity in their actions and consistently apply it because the future of the halal industry depends on the consumer purchase intention and trust, whereas unethical behaviour could give a bad image to the integrity of the halal compliance.

It can be concluded that numerous graduates do not possess the KSAs that employers are searching for in potential candidates (Borhan et al., 2023). Due to a shortage of knowledge, skills, and qualifications, many organisations prefer to outsource talent rather than promote from within, as internal talent development requires considerable time and financial resources (Marjan et al., 2017). Table 2.5 below presents the previous studies conducted on gap analysis between HEIs and industry. Based on the review, it can be concluded that most gap analysis studies measure the gap by comparing the perceived level of importance between the HEI supply and the industry demand. Therefore, this study measures the gap between academicians' supply and industry players' demand based on their perceived level of importance of KSAs for the halal profession.

Table 2.5 Studies on Gap Analysis Between HEIs and Industry

Reference	Gap Analysis	Gap Measure	Method	Sample
Yong & Ling (2023)	Skills gap in soft skills for graduate employability, between employers and graduates	Level importance of soft skills between employers and graduates (mean score, independent t-test)	Quantitative (Questionnaire)	395 graduates from HEIs and 30 employers from non-governmental group of business (Malaysia)
Amoruso et al. (2023)	Skills gap gained from education system and requirements of the labour market	Quantitative: Rate level importance of skills Qualitative Identify the skills demand in labour market for tourism sector (Data comparison)	Quantitative (Questionnaire) Qualitative (Focus Group Discussions)	117 academicians 10 employees in tourism sector (Jordan)
Chaengpromma & Pattanapairoj (2022)	Gap between industry expectations and current competencies of industrial engineering graduate	Level of expectation by industry and level of current competency by graduate (mean score, independent t-test)	Quantitative (Questionnaire)	60 industrial engineering bachelor graduates and 71 industrial factories (Thailand)
Rodzalan et al. (2022)	Skills gap in soft and hard skills for Electrical and Electronic (E&E) graduates	Level importance of soft skills and hard skills between academicians and employers	Quantitative (Questionnaire)	58 academicians from public HEIs and 55 employers of E&E company

		(mean score, independent t-test)		(Malaysia)
Zeidan & Bishnol (2020)	Gap between university graduates' skills and industry requirements for Industry 4.0 readiness	Quantitative: Identify the employability skills and readiness of undergraduate students Qualitative: Identify industry requirement for Industry 4.0 readiness (Data comparison)	Quantitative (Questionnaire) Qualitative (Focus Group Discussion)	110 undergraduate students from several programmes 36 of industry leaders, academicians, and alumni (United Arabic Emirates)
Leonard et al. (2019)	Gap between knowledge and skills needed by employer and knowledge and skills supplied in Information System (IS) curricula	Qualitative: Identify knowledge and skills from IS programme curricula & IS professionals Quantitative: Identify the desired entry-level knowledge and skills from IS professionals (Data comparison)	Qualitative (Document analysis & Interview) Quantitative (Questionnaire)	10 IS professionals (United States)
Alshare & Sewailem (2018)	Skills gap between business students' skills and job market needs	Level importance of skills between educators and employers (mean score, independent t-test)	Quantitative (Questionnaire)	49 business educators and 60 employers in different sectors (Qatar)

With the absence of studies on gap analysis of the halal profession, this study aims to examine the gaps between the supply and demand of KSAs for the halal profession in Malaysia. Ensuring the halal industry's sustainability through quality education and encouraging the development of human resources are critical components of its growth. There is a pressing need to bridge the gap between supply and demand by directing more information towards both sectors, notably in the field of halal education. In this regard, Abdul Rahim et al. (2022) proposed collaboration and knowledge exchange between industries and HEIs to design curricula that equip students with the KSAs required by the industry, as well as ensure alignment in the advancement of halal talents throughout various sectors of the halal industry. Hence, HEIs can provide students with authentic learning experiences that prepare them for the dynamic and complex environments of the industry. Therefore, investigating the effectiveness of halal education programmes at HEIs through gap analysis is vital for enhancing the employability of halal management graduates in today's competitive halal industry market.

2.7 CHAPTER SUMMARY

This chapter has provided a basic understanding of the research being undertaken in this study by conducting a critical literature review. A comprehensive explanation of the halal profession was provided in terms of its level, basic requirements, and pre-requisite requirements to be in the halal profession. In addition, a review of past literature in the halal industry has highlighted the deficiencies of studies related to the halal profession, especially for gap analysis. This chapter also extensively delves into the existing research and scholarly works in the areas of halal education, human capital development, and mismatch of KSAs between supply and demand. By combining insights from multiple academic sources, the literature review aims to uncover key themes, trends, and knowledge gaps in halal industry management, workforce skills, and talent development.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

As this research aims to study the gap analysis between the supply and demand of knowledge, skills, and attributes (KSAs) for the halal profession, this chapter discusses research methodology and provides information on the qualitative and quantitative approaches that were used in this research. It consists of sections on research design, target population, as well as sampling criteria for the respondents. Other aspects mentioned in this chapter include research instruments, data collection plan, and data analysis used.

3.2 PHILOSOPHICAL ASSUMPTION

Philosophical assumptions are the basic ideas that guide this research in searching for the use of combination methods to fill in the gaps that have been highlighted. According to Creswell & Plano Clark (2007), pragmatism worldviews focus on the consequences of the research to address the problem by applying various methods of data collection that give the research a pluralistic characteristic. In this study, the pragmatic approach emphasises solving real-world problems through a sequential exploratory mixed method design that is most appropriate to answer the study objectives.

This study is aligned with pragmatism by generally focusing on identifying the supply and demand of KSAs for the halal profession in the halal industry (qualitative method), ranking the KSAs, and verifying the gap (quantitative method). Thus, this approach ensures that the focus remains on achieving tangible results and making meaningful progress towards organisational or societal goals through mixed method approaches.

3.3 RESEARCH DESIGN

This study combines qualitative and quantitative methods, and the research design selected for this study is a sequential exploratory mixed-methods design. It consists of two sequential phases of data collection and analysis (Subedi ,2016), as shown in Figure 3.1 below.

According to Creswell and Plano Clark (2018), this design involves four major steps, begins with the collection and analysis of qualitative data to gain an in-depth understanding of the phenomenon under study. In the following stage, which represents the point of integration in mixing, the researcher determines the results on which the quantitative instrument will be built. These developments connect the initial qualitative phase to the subsequent quantitative strand of the study. Next, the researcher conducts the quantitative component to examine the identified variables using the developed instrument with a new group of participants. Finally, the researcher interprets how and to what extent the quantitative outcomes confirm, expand, or refine the qualitative findings obtained earlier.

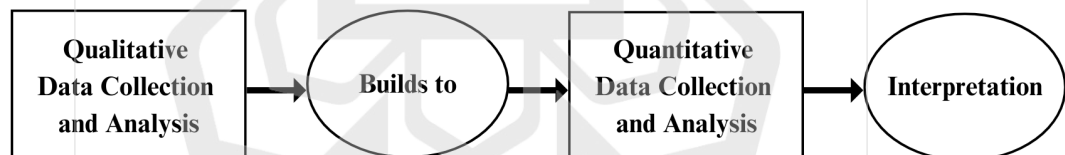


Figure 3.1 Sequential Exploratory Mixed Methods Design

Source: Subedi (2016)

As for this study, this design starts with qualitative data collection and analysis to identify the supply and demand of KSAs for the halal profession, and then builds to quantitative data collection and analysis, which leads to interpretation. By using this design, the qualitative results are used to develop an instrument for the quantitative strand. In this study, it helps to build the survey questionnaire for quantitative data collection. The survey was distributed to the academicians and industry players to rank the importance of KSAs, while identifying the gaps between supply and demand.

3.4 RESEARCH POPULATION

Polit and Hungler (1999) define population as “the total of all subjects in accordance with a set of specifications”, which consists of all groups of people and documents that are of interest to researchers and to whom the results of the study can be generalised. Hence, the programme standards for halal studies, halal programme curriculum, and halal job postings were selected as the population for the qualitative phase. Meanwhile, academicians who teach the halal management programme at the diploma and bachelor’s degree levels, and industry players from food and beverage (F&B) companies, were the selected population for the quantitative phase. The inclusion criteria applied in identifying the sample size are described in the following section on the determination of sample size.

3.5 SAMPLING PROCEDURE AND SAMPLE SIZE

3.5.1 Determination of Sample Size

3.5.1.1 Qualitative Method

Purposive and convenience sampling were used for this qualitative data collection, depending on the number of documents or sources and the relevance of those documents. In this study, purposive sampling was applied to sources where only one document is available, such as the programme standard for halal studies. Meanwhile, convenience sampling was used to gather programme curricula and job postings. The selection of job postings was based on the availability at a given time (Etikan et al., 2016) and includes all halal-related job positions in the halal profession (refer to any position with ‘halal’). The number of job postings analysed is 200.

As for the selection of programme curriculum, it depends on accessibility (Etikan et al., 2016) on the university websites, and only the curriculum outline for the halal management programme at diploma and bachelor’s degree levels was selected. The targeted number of programme curricula is 35, which corresponds to the number

of halal management programmes offered by HEIs. However, only 23 programme curricula are available on the website and have been analysed. Table 3.1 below justifies the relevance of sources used in this study.

Table 3.1 Justification on the Relevance of the Sources

Source/document		Criteria	Justification
Supply	Programme standard	Halal studies (halal management programme at diploma and bachelor's degree levels)	This standard serves as a reference and guidance for HEIs regarding minimum acceptable practices in designing and offering programmes in Malaysia at the tertiary level, including the development of relevant KSAs required for graduates.
	Programme curriculum	Course outline of halal management programme at diploma and bachelor's degree levels	The curriculum is made up of a set of learning expectations that outline the KSAs that students are expected to learn and apply by the end of a grade or course.
Demand	Job postings	Halal-related job positions (refer to any position with 'halal')	The job postings state the job requirement with specific KSAs, qualifications, or experiences that an employer deems necessary for a candidate to successfully perform the tasks of a certain post.

3.5.1.2 Quantitative Method

Purposive sampling was applied for this quantitative data collection, where respondents were selected based on specific criteria to ensure they were well-versed and had in-depth knowledge regarding the KSAs required for the halal profession in the halal industry. Choosing purposive sampling is fundamental to the quality of the data collected. Hence, the respondent's reliability and competency must be assured (Tongco, 2007). Therefore, the specific criteria for the respondents are as shown in Table 3.2:

Table 3.2 Specific Criteria for the Respondents

Populations	Criteria
Academician	from HEIs (<i>refer to Table 2.3 and 2.4</i>) that offer halal management studies for diploma and bachelor's degree levels - teach halal management programme; or - current or former member of academic unit; or - have been involved in the development or review of halal course syllabus
Industry Player	from food and beverage (F&B) company - employee - halal-related job position (<i>refer to any position with 'halal'</i>)

For an industry player, the F&B industry was chosen due to findings from the qualitative phase indicating that most of the identified KSAs were strongly related to food-related practices, making this sector most relevant to validate the industry perspective. Despite having clear criteria to define the population, there is no accurate information about the total number of individuals who meet the criteria. In this situation, the size of the population is considered an unknown population. However, the sample size can be derived by computing the minimum sample size required (Memon et al., 2020) based on the type of analysis (Althubaiti, 2023). Figure 3.2 shows the total sample size calculated by using G*Power:

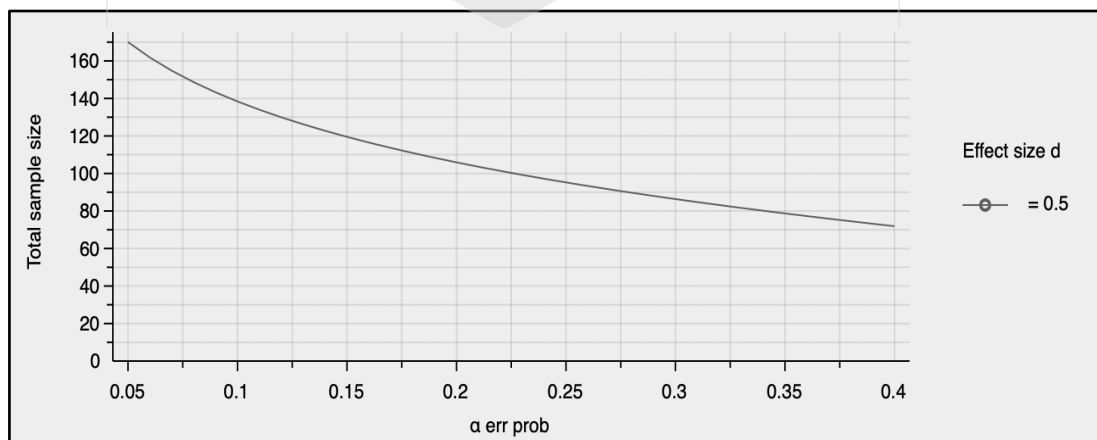


Figure 3.2 Total Sample Size Calculated by Using G*Power

Sample sizes were determined using G*Power software by employing an independent t-test at 90% statistical power, an effect size of 0.5, and an error estimate of 5%. Based on Figure 3.2, a minimum sample size of 172 respondents is required to achieve sufficient statistical power for the specified quantitative test. In addition, it is still within the range of sample sizes used in previous research for gap analysis.

3.6 RESEARCH INSTRUMENT

Research instruments refer to the tools and techniques employed by the researcher to collect, measure, and analyse data in order to present objective and systematic data to answer the research questions. In line with the sequential exploratory mixed methods design adopted, this study utilised different instruments for the qualitative and quantitative phases.

3.6.1 Qualitative Method

3.6.1.1 Codebook

A codebook is used for document analysis to systematically categorise and organise content according to predefined codes (DeCuir-Gunby et al., 2011), ensuring consistent and accurate data coding across all documents. Thus, the codebook was used in performing document analysis of job postings, programme standards for halal studies, and programme curriculum. In the qualitative phase of this study, a predefined codebook was developed based on the research objectives, comprising three main domains, which are knowledge, skills, and attributes. Each domain was defined conceptually, as shown in Table 3.3, to ensure consistency during the coding process. The codebook guided the qualitative document analysis, ensuring systematic identification of relevant statements from supply (programme standard and curriculum) and demand (job postings) sources.

Table 3.3 Codebook for Qualitative Document Analysis of KSAs

Code	Definition	Example of Extract
Knowledge	Refers to theoretical or conceptual understanding related to halal management	“Knowledge in areas of quality and food safety such as GMP, HACCP”
Skills	Refers to practical abilities required to perform halal-related tasks in halal industry	“Display the ability to use digital application and interpret numerical data in related tasks”
Attributes	Refers to characteristics that influence behaviour and work ethic for halal profession	“Integrate professionalism, positive attitudes and values in engaging with society and stakeholders”

3.6.2 Quantitative Method

3.6.2.1 Survey Questionnaire

In the quantitative phase, a survey questionnaire was used as the research instrument. The questionnaire was designed based on the data collected from the qualitative phase, which analysed documents from the job postings, programme standards for halal studies, and programme curriculum. The list of KSAs identified was further refined through supplementary sources such as the halal industry’s occupational framework and the Malaysian standard for the halal profession. The survey questionnaire was divided according to the sections elaborated in Table 3.4 below:

Table 3.4 Description of the Sections for Questionnaire

Section	Description
Section A: Demographic Information	This section solicits demographic information of the survey respondent regarding job position, industry sub-sector, experience and etc
Section B: Knowledge	Rate the importance of knowledge for halal profession in halal industry

Section C: Skills	Rate the importance of skills for halal profession in halal industry
Section D: Attributes	Rate the importance of attributes for halal profession in halal industry
Section E: Open-end Question	This section contained an open-end question to which respondents were allowed to add comments and recommendations

To increase the response rate and ensure consistent responses, the questionnaire is designed based on closed-ended questions using a five-point scale of importance for KSAs. The description of the five-point scale of importance is elaborated in Table 3.5 below:

Table 3.5 Description of Five-Point Scale of Importance

Class Interval	Description	Scale
1.00 – 1.80	Least Important	1
1.81 – 2.60	Less Important	2
2.61 – 3.40	Somewhat Important	3
3.41 – 4.20	Important	4
4.21 – 5.00	Most Important	5

3.6.2.2 Validity and Reliability

3.6.2.2.1 Content Validity: Expert review

An expert review is frequently used as a questionnaire evaluation method before conducting a pre-test and distributing it to the respondents. In addition, having the instrument reviewed by experts lends validity and credibility to the research process and findings. It is also necessary to improve instrument quality and ensure that the research instrument is aligned with the research objectives and appropriately designed (Ikart, 2019). There is no consensus among scholars on the appropriate proportion of

experts needed in content validation. Their argument stems from the challenge of achieving consensus when too many experts are involved and hold differing opinions. However, there will be less information collected for instrument development if there are not enough experts. As a result, five to ten experts are recommended (Roebianto, 2023).

An expert review of items was undertaken to establish the content validity of the proposed items in the survey questionnaire. The initial instrument was reviewed by five external content experts, who were given appointment letters to serve as expert reviewers (*attached as Appendix A*). Four external reviewers invited are the academicians from International Institute for Halal Research and Training (INHART), International Islamic University Malaysia (IIUM), and another expert is an academician from Baitulmal Professional College Kuala Lumpur (KPBKL). The selected experts possess relevant experience in reviewing and developing the halal programme syllabus, thereby qualifying them for inclusion in the validation process. Table 3.6 shows the list of expert reviewers who have been selected.

Table 3.6 The List of Expert Reviewers

Expert Reviewer	Institution	Expertise
Expert Reviewer 1	INHART, IIUM	Halal Science, Halal Assurance System, and Halal Management
Expert Reviewer 2	INHART, IIUM	Halal Management, Halal Industry Governance, and Halal Food Supply Chain
Expert Reviewer 3	INHART, IIUM	<i>Shariah</i> , Halal Policy and Halal Governance
Expert Reviewer 4	INHART, IIUM	Halal Quality Assurance, Halal Compliance, and Halal Risk Management
Expert Reviewer 5	KPBKL	Halal Education, Halal Awareness, and Communication

Experts were given the expert evaluation form (*attached as Appendix B*) that consists of two parts. Part one (I) is the specific item review for sections B, C, and D from the survey questionnaire. These sections contain items related to the essential KSAs expected in the halal profession. Each item is rated by respondents using a 5-

point Likert Scale: least important (1), less important (2), somewhat important (3), important (4), and most important (5). Hence, experts were asked to evaluate each item based on the relevance, clarity, and necessity by using a 3-point Likert scale: low (1), moderate (2), and high (3), as shown in Table 3.7. There was also a comment section provided for each item, for any suggestions for improvement.

Table 3.7 Content Validation Criteria (Item-Level)

Criteria	Likert scale		
	Low	Moderate	High
Relevance how well the item represents the intended domain	1	2	3
Clarity how clearly the item is worded	1	2	3
Necessity how necessary the item is to be included	1	2	3

To obtain the CVI at the item level (I-CVI), the number of experts judging the item as relevant or clear (rating 3) was divided by the total number of experts (Shomah et al., 2024). If the CVI is higher than 0.79, the item is appropriate, while if the value is less than 0.79, it needs revision. Next, part two (II) of the expert evaluation form is general feedback where experts have shared their overall comments and suggestions for each section. After the process of assessing the survey questionnaire and making corrections as recommended by the expert reviewers, the next step is to conduct a pre-test.

3.6.2.2.2 Face Validity: Pre-test

A pre-test was conducted before distributing the questionnaire to the respondents. A pre-test is a common approach to assessing the reliability of the research instrument in terms of face validity and addressing the issues or challenges before conducting the main study. According to Babin & Zikmund (2015), pre-testing refers to employing a small sample, and the sample of the pre-test should be those who were similar to those

approached in the actual survey. In addition, a common guideline is to conduct a pre-test with a small sample size, usually ranging from 5 to 30 participants (Howard, 2019). However, Erin et al. (2016) have set the rule of thumb to test the survey is at least 12 to 50 people before implementing the real survey. Hence, the pre-test for this study was conducted on 12 respondents, consisting of six academicians and six industry players from F&B company. Figure 3.3 below illustrates the steps for approaching the HEIs and the company.

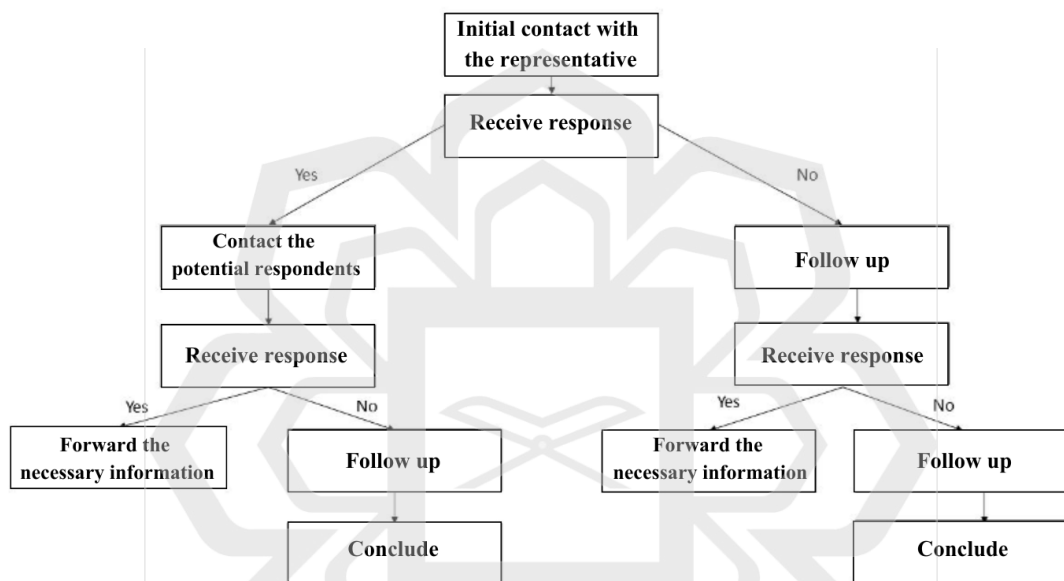


Figure 3.3 Steps for Approaching the HEIs/Company

Source: Hashim et al. (2022)

The steps for approaching the HEIs and the company were applied during the pre-test stage, where the researcher was required to obtain prior consent from potential respondents before their participation. This was necessary as respondents were requested to complete the survey questionnaire through Google Form, then fill in the pre-test form (*attached as Appendix D*) prepared by the researcher. Three short evaluation questions were asked to assess the usability of the questionnaire.

Based on the pre-test results, the researcher made minor modifications by adding a brief explanation in the instruction section to improve clarity. The majority of the

respondents indicated that both the questions and instructions were clear and understandable, where the questionnaire items remained consistent with only minor adjustments made to the instructions for better clarity. In addition, the data collected from the 12 pre-test respondents were also included in the main database to meet the minimum sample size recommended by the G*Power software for analysis. This decision was made due to the difficulty in obtaining respondents, with the data collection process taking approximately five months.

It should be noted that respondents involved in the pre-test were not allowed to re-fill out the questionnaire to avoid bias due to early exposure to the questions (Schwarz et al., 2020). Therefore, the data from the pre-test respondents continued to be used as part of the actual data of this study. In terms of completion time, respondents took between 7 to 20 minutes to complete the questionnaire. Hence, the recommended duration for completing this survey was set at 10 to 15 minutes.

3.6.2.2.3 Reliability Test

Cronbach's Alpha is one of the most widely used statistics to assess the reliability of research instruments. This coefficient measures the internal consistency of a set of variables, indicating how well they collectively capture the intended construct (Cronbach, 1951; Tavakol & Dennick, 2011). The reliability of this instrument was assessed separately for each KSA. The Cronbach's Alpha values obtained ranged from 0.88 to 0.91, which is acceptable for research as the value is higher than 0.70 (Nunnally, 1978). Thus, this result indicates that all domains demonstrated high internal consistency and reliability.

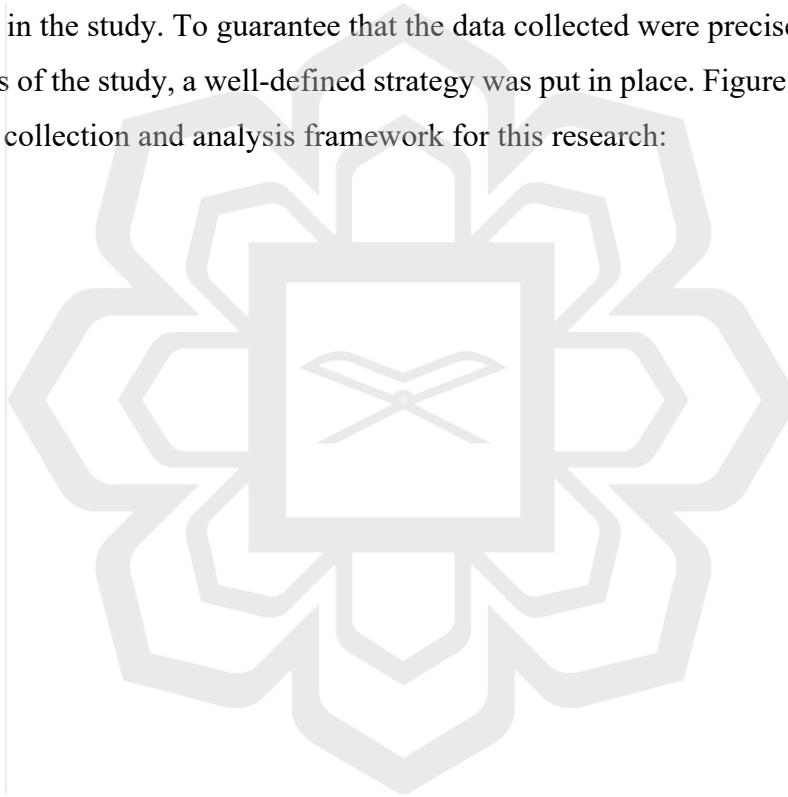
Table 3.8 below summarises the Cronbach's Alpha values for each KSA with the reliability level according to guideline by Nunnally (1978). Both skills and attributes are considered excellent reliability, which indicates as very high internal consistency, while knowledge is considered good reliability, which reflects strong internal consistency.

Table 3.8 Reliability Coefficients (Cronbach's Alpha) for the Questionnaire Domains

Variable	Number of items	Cronbach's Alpha	Reliability Level
Knowledge	40	0.88	Good
Skills	27	0.90	Excellent
Attributes	12	0.91	Excellent

3.7 DATA COLLECTION AND ANALYSIS PROCEDURE PLAN

This section outlines the systematic procedures employed for data collection and analysis in the study. To guarantee that the data collected were precise and in line with the goals of the study, a well-defined strategy was put in place. Figure 3.4 below shows the data collection and analysis framework for this research:



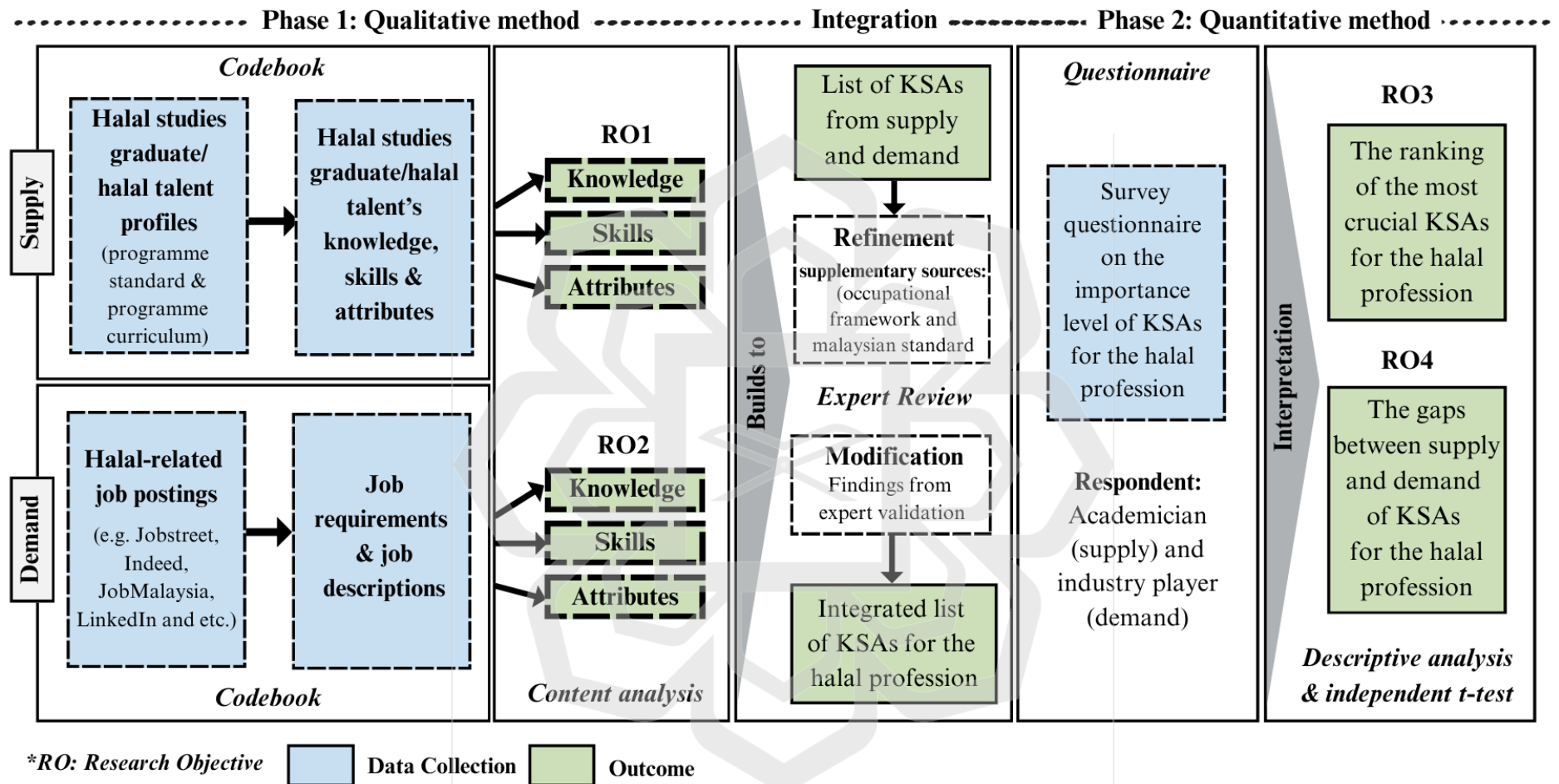


Figure 3.4 Data Collection and Analysis Framework (phase 1, integration, & phase 2)

3.7.1 Phase 1: Qualitative Method

3.7.1.1 Data Collection Plan

This phase initially consists of conducting data collection for the supply and demand of KSAs supplied by HEIs, and those demanded for the halal profession in Malaysia. For the supply part, data were gathered from the programme standard for halal studies and 23 programme curricula from HEIs that offer halal-related management courses. The number of programme curricula was determined based on their availability on the official websites of the HEIs.

To understand the demand, data was collected through 200 halal-related job postings across various job portals, including Indeed, Jobstreet, LinkedIn, Maukerja, MyJora, Jooble, Hiredly, Glassdoor, MYFuture Jobs, Facebook and Joblum, from March to June 2024. These platforms were selected as they are commonly used by employers in Malaysia, providing a representative sample of current job openings and skill requirements in the halal industry. The time frame from March to June 2024 was chosen to align with peak hiring periods in Malaysia, when employers seek to fill roles in preparation for the second half of the year, capturing a broader range of job openings in the halal sector.

3.7.1.2 Data Analysis Procedures

The data were coded manually, with recurring themes categorised based on the frequency and relevance to KSAs. Key themes such as knowledge, skills, and attributes were then compared against HEI programme standards and programme curriculum to assess alignment with industry needs. The data was then manually sorted and analysed using Microsoft Excel. To examine the selected documents, identify the presence of KSAs, and ensure accuracy, content analysis was conducted (Dasgupta, 1975).

Similar job requirements were grouped, and duplicated entries were removed through a cross-referencing process with multiple job portals. The extracted data include *shariah* knowledge, technical knowledge, science and technology knowledge,

soft skills, hard skills, and attributes for the halal profession. This thorough analysis aimed to provide a clear picture of the current educational and industry alignment in the halal sector.

3.7.1.2.1 Validity

To establish the validity of the qualitative findings, several key strategies were implemented in this study, which are audit trail, time interval, and maximum document variety (Ozkan, 2023). An audit trail was established to enhance the validity of the document analysis. To ensure transparency and enable verification, a thorough record of the coding procedure, decision-making, and modifications was kept throughout the analysis process. Microsoft Excel was used to systematically record the entire coding process and acted as a logbook to monitor the analysis's development.

This study also included diverse types of sources and documents, such as job postings, programme standards for halal studies, and programme curricula. This strategy enhanced the validity of the findings by providing a more holistic and balanced understanding of the alignment between supply and demand. Besides, the documents used were carefully selected to ensure their appropriateness within the time period determined by this study. This is particularly crucial for job postings and programme curricula, as multiple documents were collected from different websites and job portals. By applying a clear time interval, the inclusion of outdated or inconsistent data can be prevented.

3.7.1.2.2 Reliability

In terms of reliability, Ozkan (2023) has stated that among the strategies that can be applied to ensure the reliability of the document analysis are peer confirmation, recoding, variation, depth and richness, supportive quotations, producer confirmation, managing the researcher's implicit assumptions and biases, and in-depth understanding and meaning construction of the document. Hence, the reliability strategy that has been used in this phase is peer confirmation.

Coding outcomes and emerging themes were reviewed and discussed with the research team to validate the interpretation and reduce subjectivity (O'Connor & Joffe, 2020). Reliability was also assured through the depth and richness of document analysis, where each document was analysed thoroughly to extract KSAs and ensure that the findings reflected the complexity of the data. In addition, the researcher also referred to and analysed variations across multiple document sources to avoid bias and capture a comprehensive understanding of the supply and demand of the KSAs for the halal profession.

3.7.2 Integration and Instrument Development

In the integration phase, the findings from the qualitative phase serve as the foundation for the development of the quantitative instrument. The list of KSAs identified from both the supply and demand is first compiled and refined through supplementary sources such as occupational frameworks and Malaysian standards. This inclusion is to ensure that this study captures a well-rounded view of the KSAs needed in the halal industry, making the findings more robust and applicable. Table 3.9 justifies the relevance of the supplementary sources used.

Table 3.9 Justification on the Relevance of the Supplementary Sources

Source/document		Justification
Supplementary source	Halal industry's occupational framework	This document provides an overall view of the Halal Industry's Occupational Structure and Occupational Descriptions that would assist to further understand the job requirements of the various occupations in the industry.
	Malaysian standard for halal profession	The standard provides the list of personal attributes required for halal profession, and an organised structure for halal profession requirements to certify and recognise in order for them to provide their services to halal industry.

Subsequently, an expert review is conducted to validate and provide feedback on the identified KSAs. Based on the experts' evaluation, the list is further modified to ensure accuracy, relevance, and alignment with industry expectations. The final integrated list of KSAs was then used as a survey questionnaire for the quantitative phase. This integration ensures that the quantitative data collection is grounded in the qualitative findings, thereby achieving methodological coherence in the sequential exploratory mixed-method design.

3.7.3 Phase 2: Quantitative Method

3.7.3.1 Data Collection Plan

In this phase, a structured survey questionnaire was developed based on the integrated list of KSAs obtained through qualitative data analysis after refinement and an expert validation process. The purpose of the collection of quantitative data is to comprehensively rank the importance of the identified KSAs for the halal profession, as well as identify the gaps between supply and demand in the perceived importance. A total of 172 respondents completed the questionnaire, consisting of 58 academicians representing the supply side and 114 industry players representing the demand side.

Referring to the list of HEIs (*refer to Tables 2.3 and 2.4*), the researcher contacted the person in charge of each HEI in various ways. This depended on the information provided on the HEIs' official website, which varied between email, WhatsApp messenger, office phone number, and inquiry form. The survey questionnaire, along with the poster (*attached as Appendix E*), was then distributed through email to the potential respondents.

At this stage, follow-up emails were necessary for the researcher to receive a response. In the process of approaching the respondents, there were challenges that the researcher had to overcome. For instance, the unavailability of direct contact with the HEIs and no information about the academic staff that teach halal management programme at diploma and bachelor's degree levels, on the HEI's official website.

Moreover, after contacting the HEIs, it was found that several no longer offer halal programmes. In fact, five halal programmes have been discontinued.

For the demand side, potential respondents were approached through several platforms. LinkedIn was particularly useful as it allowed the researcher to identify and connect with individuals who met the specific criteria required for the study. Meanwhile, WhatsApp groups related to halal and Facebook pages of halal communities were mainly used as channels to disseminate the survey more widely, ensuring that it reached the targeted respondents for this study.

3.7.3.2 Data Analysis Procedures

Reliability analysis was conducted to assess the internal consistency of the questionnaire items before conducting the main statistical analysis. The findings showed that the entire instrument had a high level of reliability with a Cronbach's Alpha value of $\alpha = 0.91 - 0.94$. For each domain, the reliability values were also satisfactory, as for the knowledge variable ($\alpha = 0.94$), skills ($\alpha = 0.91$), and attributes ($\alpha = 0.92$). These results indicate that the questionnaire items are consistent and reliable for subsequent data collection (Nunnally, 1978). Table 3.10 below summarises the Cronbach's Alpha values for each KSA with the reliability level.

Table 3.10 Reliability of Data

Variable	Number of items	Cronbach's Alpha	Reliability Level
Knowledge	40	0.94	Excellent
Skills	27	0.91	Excellent
Attributes	12	0.92	Excellent

After confirming the reliability of the data collected, the data were further analysed based on the rate of importance of KSAs using descriptive statistics such as means, standard deviations, and ranking scores. The highest mean value was determined to be the most important perceived KSAs, which would be ranked as one (1).

Furthermore, it also indicates that there are differences between the perceptions of academicians supply and industry demand regarding the KSAs. Besides, a gap analysis of KSAs was carried out by measuring mean average differences between supply (academicians) and demand (industry players). The formula for gap analysis is as follows:

$$\text{KSAs gap} = \sum_{i=1}^n = [\text{academician} - \text{industry player}] / n$$

where, i = ith respondents, n = total number of respondents

The KSAs are considered more important for industry players when the mean gap is a negative value. Conversely, the academicians perceived the KSAs as being of greater importance when the result exhibits a positive mean gap score. In addition, an independent t-test was also conducted to examine statistically significant differences (Yong & Ling, 2023) in the perceived importance of KSAs between academicians (supply) and industry players (demand) by using the Statistical Package for the Social Sciences (SPSS) software (version 31.0).

3.8 ETHICAL CONSIDERATIONS

Ethical considerations are essential in ensuring that research is conducted responsibly, protecting the rights and welfare of the participants involved. In the qualitative phase, this research included document analysis (job postings, programme standards for halal studies, and programme curriculum). Since no direct human participation was required, the analysis did not pose ethical concerns regarding privacy or confidentiality.

For the quantitative phase, an application was submitted to the Research Ethics Committee of the International Institute for Halal Research and Training (INHART), International Islamic University Malaysia (IIUM), prior to distributing the survey questionnaire (*attached as Appendix C*). This research qualifies for exemption from

ethics review, as it poses minimal risk to participants and does not involve sensitive or high-risk data collection. Furthermore, informed consent was obtained from all respondents before they answered the survey questionnaire. The purpose of the study, voluntary participation, confidentiality of responses, and the right to withdraw at any stage without penalty were clearly explained. All data collected was securely stored and accessible only to the researcher, strictly for academic purposes.

3.9 CHAPTER SUMMARY

In order to conduct a systematic and comprehensive research study on the gap analysis between the supply and demand of KSAs for the halal profession, the research design and procedures have been presented in this chapter. The data collection plan and data analysis procedures were also elaborated to establish a clear step for the qualitative phase, integration, quantitative phase, as well as the ethical considerations. Table 3.11 below summarises the data analysis, sample/population, and outcome based on the research objective of this study.

Table 3.11 Summary of Research Objective, Data Analysis, Sample/Population And Outcome

Phase	Research Objective	Data Analysis	Sample /Population	Outcome
Phase 1: Qualitative method	R1- To identify the supply of knowledge, skills, and attributes of halal management graduates in Malaysia.	Document (Content analysis)	Programme standards and programme curriculum	List of KSAs
	R2- To identify the knowledge, skills and attributes that are in demand for halal profession in the halal industry.	Document (Content analysis)	Job posting	List of KSAs

Integration & Instrument Development	Refinement Supplementary sources: Occupational framework and Malaysian standard Conduct an Expert review Modification The findings from expert validation			Integrated list of KSAs
Phase 2: Quantitative method	R3- To determine the ranking of the most crucial knowledge, skills, and attributes for halal profession in the halal industry.	Questionnaire (Descriptive analysis by using SPSS)	Industry players and academicians	Ranking of the most crucial KSAs
	R4- To examine the gap between supply and demand of knowledge, skills, and attributes for halal profession in the halal industry.	Questionnaire (Descriptive analysis and independent t-test by using SPSS)	Industry players and academicians	The gaps in KSAs between supply and demand

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 INTRODUCTION

This chapter presents the findings for this study, which mainly aim to address the gaps between the supply and demand of knowledge, skills, and attributes (KSAs) for the halal profession in Malaysia. The study employed a sequential exploratory mixed-method design, involving the collection and analysis of qualitative and quantitative data. The qualitative phase focuses on identifying the supply and demand of KSAs, in line with the research objectives (1) and (2). In the integration and instrument development phase, the results of the qualitative phase were then refined through the supplementary sources, which are the halal industry's occupational framework (HIOF) and the Malaysian standard for halal profession (MS). Then, modifications were also made based on the findings from expert validation to establish the foundation for the quantitative phase.

Subsequently, the quantitative phase further determines and measures the importance of KSAs through responses from academicians (supply) and industry players (demand). The purpose is to reveal the ranking of the most crucial KSAs (research objective 3), as well as to examine the gap of KSAs between supply and demand (research objective 4).

4.2 PHASE 1: QUALITATIVE

This section presents the findings related to Research Objective 1 (identify the supply of KSAs) and Research Objective 2 (identify the KSAs that are in demand). The results are based on document analysis of existing data that were collected from programme standards for halal studies (PS) and 23 halal programme curricula (PC) representing the supply side, and 200 halal job postings (JP) representing the demand side.

These findings are presented through a combined list of KSAs identified from both supply and demand. Instead of separating the findings for each supply and demand, each KSA is consolidated into a combined list, where the source is indicated, whether it is derived from programme standards, programme curriculum, or job postings.

4.2.1 Document Analysis

4.2.1.1 Supply Side: Programme Standard and Curricula

The supply side of this study focused on the KSAs supplied by Higher Education Institutions (HEIs) to graduates of halal-related management programmes, at diploma and bachelor's degree levels. Data were collected from programme standards for halal studies and 23 programme curricula, specifically course outlines that were available on the official websites of the selected HEIs.

The programme standard for halal studies serves as a reference and guidance for HEIs to offer halal-related courses, covering only fundamental KSAs supplied and expected of graduates. In contrast, the programme curricula provided a more comprehensive view, encompassing a wide range of KSA areas since they combined information from 23 different curricula. Table 4.1 lists the HEIs and levels of halal programmes that were selected for document review. The curricula obtained from these HEIs formed the basis for analysing the core and specialised KSAs supplied to graduates, allowing comparison with industry demand.

Table 4.1 List of HEIs and Levels of Halal Programmes Reviewed in the Programme Curriculum Analysis

No.	HEIs	Level
1	Universiti Teknologi MARA (UiTM) Puncak Alam	Diploma
2	Politeknik Sultan Haji Ahmad Shah (POLISAS)	Diploma
3	Politeknik Merlimau Melaka	Diploma
4	Politeknik Sultan Idris Shah	Diploma
5	Kolej Profesional MARA Bandar Melaka	Diploma

6	SPACE College	Diploma
7	FELCRA College	Diploma
8	Kolej Teknologi Antarabangsa Cybernetics	Diploma
9	UNITI College PD	Diploma
10	UNITI College Kota Bharu	Diploma
11	International Islamic College (IIC)	Diploma
12	Kolej Islam Teknologi Antarabangsa (KITAB)	Diploma
13	International Islamic University Malaysia (IIUM)	Bachelor
14	Universiti Teknologi MARA (UiTM) Shah Alam	Bachelor
15	Universiti Sultan Zainal Abidin (UniSZA)	Bachelor
16	Universiti Sains Islam Malaysia (USIM)	Bachelor
17	Sultan Ismail Petra International Islamic University College	Bachelor
18	Universiti Islam Melaka (UNIMEL)	Bachelor
19	Management and Science University	Bachelor
20	Universiti Islam Selangor	Bachelor
21	University College of Yayasan Pahang	Bachelor
22	Universiti Utara Malaysia	Bachelor
23	Universiti MISI	Bachelor

4.2.1.2 Demand Side: Job Postings

For the demand side, the document analysis was conducted on 200 halal-related job postings across various industry sectors, focusing on positions explicitly related to the halal profession. The KSAs were extracted from job advertisements sourced from multiple online platforms, including Indeed, Jobstreet, LinkedIn, Maukerja, MyJora, Jooble, Hiredly, Glassdoor, MYFuture Jobs, Facebook, and Joblum, covering the period from March to June 2024.

The analysis revealed a wide range of halal job positions advertised in the Malaysian job market, such as Halal Executive, Halal Officer, Halal Admin, Halal Assistant, Halal Manager, Halal Consultant, and Halal Supervisor. Figure 4.1 provides a visual representation of the job title distribution. Notably, Halal Executive emerged as the most prominent role, accounting for 82% of all halal job postings analysed. Hence, the findings of this study are likely to be most applicable and relevant to this role in particular.

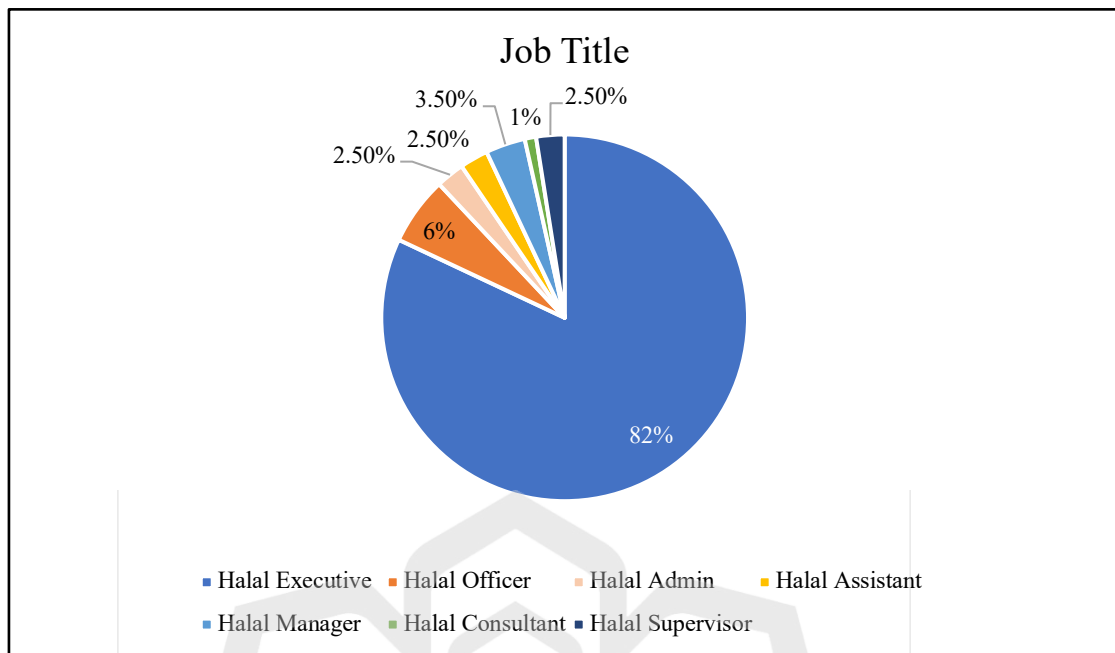


Figure 4.1 Distribution of Halal-related Job Titles in the Malaysian Job Market

The analysis further reveals that while the majority of postings were for the Halal Executive position, these positions can be categorised into two groups: (i) exclusive role (stand-alone Halal Executive) and (ii) combined role (Halal Executive combined with other responsibilities). According to Table 4.2, most job postings fell under the combined role category. For instance, Halal Executive cum Kitchen Inventory Admin or Quality Assurance (QA) and Quality Control (QC) cum Halal Manager.

A similar trend was also observed for other job titles, such as Halal Officer and Halal Manager, which were frequently advertised in combination with additional functions. This indicates that the industry tends to prefer offering combined positions, reflecting that employers are generally not willing to allocate a dedicated salary for a specific halal position. This situation also reflects the demand for multi-tasking skills and versatility in halal-related professions.

Table 4.2 List of Halal-related Job Titles Identified from the Malaysian Job Market

Job Title	Role (n = 200)		Example of Multi-Role
	Exclusive	Combined	
Halal Executive	44	120	• Halal Executive cum ISO Coordinator • Halal Executive & Kitchen Inventory Admin
Halal Officer	6	6	• Factory/ Warehouse Assistant Executive cum Halal Officer • Assistant Warehouse Executive Cum Halal Officer
Halal Admin	0	5	• Halal Administrator cum QA • QC & Halal Admin Assistant
Halal Assistant	1	4	• Production Admin cum Halal Assistant • QA Executive cum Halal Assistant
Halal Manager	4	3	• QA/QC cum Halal Manager • Procurement & Halal Compliance Manager
Halal Consultant	1	1	• Halal Consultant cum Food Safety Consultant
Halal Supervisor	5	0	N/A

Note. N/A: Not Available

Furthermore, Figure 4.2 presents the distribution of industry sectors represented in the 200 job postings analysed. The majority of job postings originated from the food and beverage (F&B) sector, which accounted for 79% of the total, followed by pharmaceutical and other related industries. This suggests that the KSAs extracted in this study may be more reflective and relevant to halal professions within the F&B sector, given its strong representation in the dataset. Overall, the findings indicate that this study's results are likely to be most relevant to the Halal Executive role and to halal professions in the F&B sector, as these categories were most prominently represented in the job postings reviewed.

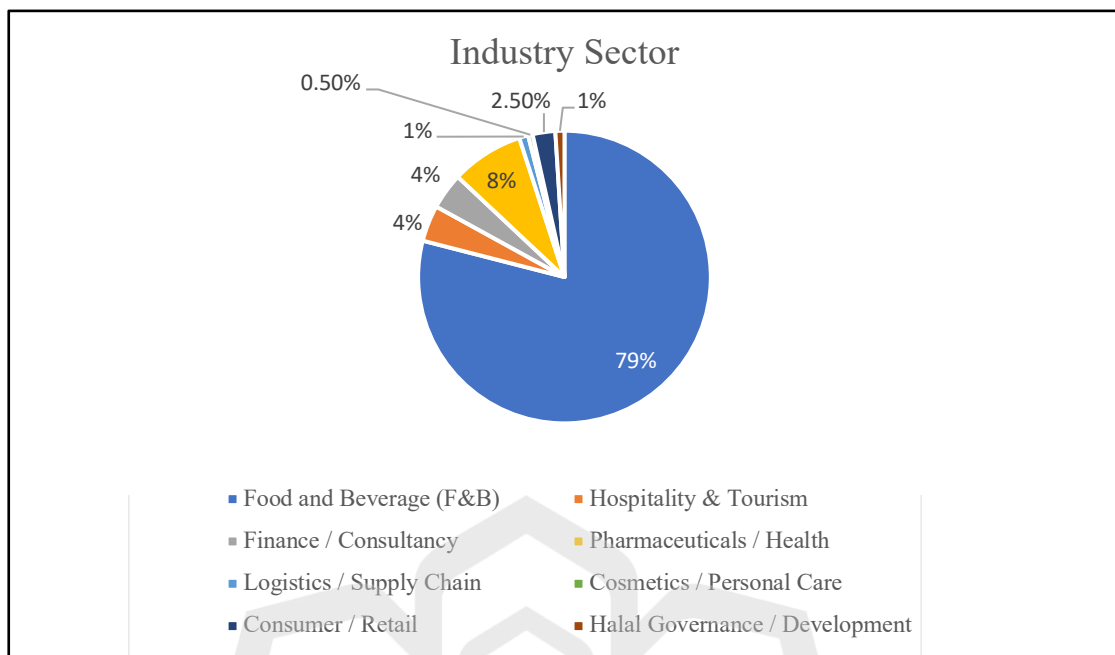


Figure 4.2 Distribution of Halal-related Job Postings by Industry Sector

This distribution is further elaborated in Table 4.3, providing a clearer overview of the industry sectors of companies offering halal-related job positions in Malaysia. It can be concluded that the F&B sector dominates halal-related job opportunities, as reflected by the high number of companies from F&B sector, such as Texas Chicken (Malaysia) Sdn Bhd and Emperor Food Industries Sdn Bhd. In comparison, other sectors, including pharmaceuticals and finance, are represented by fewer companies, such as Lifetree Biotech Sdn Bhd and DagangAsia Network Holding, indicating more limited but emerging demand beyond the core sector.

Table 4.3 Industry Sectors of Companies Offering Halal-related Job Positions in Malaysia

Industry Sector	Company (n = 200)	Example of Company
Food and Beverage (F&B)	158	- Texas Chicken (Malaysia) Sdn Bhd - Emperor Food Industries Sdn Bhd

Pharmaceuticals / Health	16	• Lifetree Biotech Sdn Bhd • Bioalpha International Sdn Bhd
Finance / Consultancy	8	• DagangAsia Network Holding • Rubix International Consultancy
Hospitality & Tourism	5	• Mines Beach Resort
Consumer / Retail	5	• IKEA • Trendcell Sdn Bhd (Jaya Grocer)
Logistics / Supply Chain	2	• Quanterm Logistics Sdn Bhd • CJ Century Logistics Sdn Bhd
Halal Governance / Development	2	• Halal Development Corporation
Cosmetics / Personal Care	1	• Sugarbomb Worldwide Sdn. Bhd.

4.2.2 Knowledge Identified from Supply and Demand

This study identified three main domains of knowledge critical for the halal profession, which include seven (7) *shariah*-related areas (Table 4.1), 25 technical areas (Table 4.2), and six (6) science and technology areas (Table 4.3).

4.2.2.1 Shariah Knowledge

Shariah knowledge is the foundation for ensuring that all activities in the halal industry comply with Islamic teachings and maintain integrity in halal practices. There are seven key *Shariah* knowledge areas identified for the halal profession. Based on Table 4.4, all seven *shariah* knowledge were provided by HEIs with a solid foundation, such as halal knowledge and awareness, Islamic Theology (*Aqidah Islamiah*), Quran, hadith and Arabic language, Islamic Jurisprudence (*Fiqh*), Islamic Legal Maxim (*Qawaid Fiqhiyyah*), Islamic Law of Consumerism (*Fiqh al-Istihlak al-Islami*), and Objectives of Islamic Law (*Maqasid al-Shariah*). Meanwhile, analysis of halal job postings revealed that only two of these areas were explicitly stated as required by employers, reflecting limited emphasis on these areas.

This misalignment suggests that while HEIs offer comprehensive coverage of *shariah* knowledge that forms a strong academic base, its application in workplace settings remains underdeveloped. Consistent with Alina et al. (2013), this study confirms that there is a shortage of a knowledgeable workforce that can understand the *Shariah* requirements and implement *Shariah* knowledge into actual industrial practice. This situation remains as a major challenge faced by the halal industry, and exhibits that existing HEIs' curricula tend to focus more on theoretical foundations with less emphasis on practical applications. This results in graduates who may have strong theoretical knowledge but lack the ability to apply *Shariah* principles effectively in industry settings, such as interpreting and implementing *fatwa* decisions in business operations.

Mohd Shuhaimi et al. (2025) also highlight that halal executives often carry out their responsibilities based on their personal understanding of Islamic principles, rather than adhering to the standards established by the Internal Halal Assurance System (IHAS). A solid grasp of *shariah* principles is essential for halal professionals involved in certification, auditing, and policy-making, as it ensures decisions are guided by Islamic jurisprudence, ethical standards, and *maqasid al-shariah* principles. Nevertheless, the integration of *shariah* knowledge with technical and managerial knowledge is crucial to produce well-rounded halal professionals capable of bridging religious understanding with industry practice (Hassan et al., 2015; Hamdan & Hashim, 2025).

Table 4.4 List of *Shariah* Knowledge Identified from Supply and Demand

No.	<i>Shariah</i> Knowledge	Source		
		Supply		Demand
		PS	PC	JP
1	Halal knowledge and awareness Halal concepts, global halal standards, and consumer awareness	√	√	√
2	Islamic theology (<i>aqidah Islamiyah</i>) Core beliefs in Islam and the development of different schools of thought (<i>mazhab</i>)	√	√	

3	Quran, hadith and Arabic language Islamic teachings from Quran and hadith, with basic Arabic comprehension		√	
4	Islamic jurisprudence (<i>fiqh</i>) Fatwa and contemporary Islamic rulings on halal issues, and their application in modern halal industry contexts	√	√	
5	Islamic legal maxim (<i>qawaid fiqhiyyah</i>) General legal principles used to interpret Islamic laws	√	√	
6	Islamic law of consumerism (<i>fiqh al-istihlak al-Islami</i>) Guidelines on ethical consumption, including halal food, transaction, and purification practices	√	√	√
7	Objectives of Islamic law (<i>Maqasid al-Shariah</i>) 5 main principles; protection of life, faith, property, intellect, and lineage	√	√	

Note. PS: Programme Standard, PC: Programme Curriculum, JP: Job Posting

4.2.2.2 Technical Knowledge

Technical knowledge refers to the hands-on and operational understanding that enables halal professionals to implement halal practices effectively and ensure halal regulatory compliance, quality assurance, understanding of halal governance, and effective business management in the halal industry. Table 4.5 identified 25 technical knowledge areas, each playing a critical role in the effective implementation of halal standards. The identified knowledge was categorised into four (4) sub-domains, which are halal regulatory compliance, halal quality and assurance, halal governance, and business and management.

Among these knowledge areas, halal regulatory compliance encompasses a broad range of components that ensure adherence to established standards and best practices within the halal industry. This entails compliance with licensing requirements, acquiring halal certification along with the other pertinent certifications, and undergoing halal audits to verify conformity. In addition, it involves implementing halal risk management, managing halal supply chains, and aligning with international halal supply chain standards to facilitate global market acceptance and consumer confidence.

Nik Mohd Rosli et al. (2022) also highlighted that halal executives must possess a comprehensive understanding of halal certification, auditing, and food safety regulations to perform effectively in halal-related industries. This area ensures that halal professionals can navigate complex regulatory requirements and maintain compliance across various operational stages. In addition to regulatory compliance, halal quality and assurance play a central role in upholding product integrity.

In terms of halal quality and assurance, technical knowledge is required in order to maintain integrity and transparency throughout the production and distribution process. This includes knowledge areas such as Malaysian halal standards, halal assurance management system, quality management system, industry-specific practices, traceability, halal hygiene, sanitation and safety, corrective and preventive actions, and ethics and *toyyiban* concept. This evidence is in line with the study by Yaacob et al. (2023), who show that the halal logistics industry requires a competent workforce, especially in controlling critical control points in the halal supply chain, which require strict handling procedures and hygiene practices.

Besides, technical knowledge also covered halal governance, involving knowledge on certification bodies, industry regulatory and enforcement bodies, halal-related acts and regulations, halal trade laws and requirements, and international import regulations and guidelines. This knowledge is particularly vital in their leadership roles within the Internal Halal Committee (IHC), where they oversee compliance initiatives and coordinate efforts to meet regulatory requirements.

Additionally, technical knowledge extends to business and management, focusing on business operations, developing a business that complies with halal principles, ethical marketing, business risk management, and international trade. This area equips professionals with the ability to address operational disruptions and maintain consumer trust during challenging situations. These findings suggest that while HEIs provide a broad foundation in technical knowledge, greater emphasis on practical skills, particularly in halal assurance and governance, is required to align with industry expectations (Jaapar & Mohd Najib, 2025).

Table 4.5 List of Technical Knowledge Identified from Supply and Demand

No.	Technical Knowledge	Source		
		Supply		Demand
		PS	PC	JP
Halal regulatory compliance				
1	Licensing e.g., Food premises license (by PBT)	√	√	√
2	Certification (other than halal certification) e.g., <i>Makanan Selamat Tanggungjawab Industri</i> (MeSTI)	√	√	√
3	Halal certification e.g., Malaysian Halal Certification Procedure Manual (MPPHM)	√	√	√
4	Halal audit Coordinate pre-audit, opening and closing meeting	√	√	√
5	Halal risk management e.g., Halal Control Point (HCP)	√	√	√
6	Halal supply chain management e.g., halal logistic, halal transportation, halal warehouse, etc.	√	√	√
7	International halal supply chain standards e.g., OIC SMIIC standards		√	√
Halal quality and assurance				
8	Malaysian halal standards e.g., MS 1500:2019, etc.	√	√	√
9	Halal assurance management system e.g., Malaysian Halal Management System (MHMS), Halal Assurance System (HAS), Internal Halal Control System (IHCS), corrective and preventive actions, etc.	√	√	√
10	Quality management system e.g., Food Safety Management System (FSMS), ISO MS 1900:2014, ISO 9001:2015, ISO 13485		√	√
11	Industry-specific practices e.g., Good Manufacturing Practices (GMP), Good Laboratory Practice (GLP), Good Hygiene Practice (GHP), Malaysian Good Agricultural Practices (MyGAP), etc.	√	√	√
12	Traceability Barcode, blockchain for halal supply chain		√	√
13	Halal hygiene, sanitation and safety e.g., <i>sertu</i> (Islamic cleansing), halal pest control		√	√
14	Corrective and preventive actions Fix issues and prevent future non-compliance	√	√	√

15	Ethics and <i>toyyiban</i> concept Ensure products and services are ethical, safe, effective, sustainable, and aligned with Environmental, Social, and Governance (ESG) principles	√	√	
Halal governance				
16	Certification bodies e.g., Department of Islamic Development Malaysia (JAKIM)	√	√	√
17	Industry regulatory and enforcement bodies e.g., Ministry of Health Malaysia (MOH), Ministry of Investment, Trade, and Industry Malaysia (MITI), Malaysian Quarantine and Inspection Services (MAQIS), National Pharmaceutical Regulatory Agency (NPRA)	√	√	√
18	Halal-related acts and regulations e.g., Food Act 1983, Consumer Protection Act 1999	√	√	√
19	Halal trade laws and requirements e.g., Trade Description Acts 2011	√	√	
20	International import regulations and guidelines e.g., GACC (China), US FDA (United States)		√	√
Business and management				
21	Business management Business operations, retail sales, customer service and basic accounting		√	√
22	Halal entrepreneurship Develop a business that complies with halal principles		√	
23	Halal marketing Marketing halal products/services in compliance with Islamic ethics	√	√	√
24	Business risk management Identify and manage risks that could affect business operations	√		√
25	International trade Manage the shipment and distribution of goods across borders		√	√

Note. PS: Programme Standard, PC: Programme Curriculum, JP: Job Posting

4.2.2.3 Science and Technology (S&T) Knowledge

Science and technology knowledge refers to the knowledge that applies scientific validation and technological efficiency to support innovation and ensure integrity in the halal industry. There are six key science and technology knowledge areas that were identified, including laboratory testing, applied science, technological advances, industrial process and operations, logistics and supply chain technology, and product and service innovation.

Analysis of the curriculum documents revealed a significant underrepresentation of these knowledges from the supply side. This indicates that while most of these knowledges are demanded by the halal industry, HEIs only cover one science and technology knowledge, which is regarding logistics and supply chain technology. This shortfall may occur due to halal management programmes remain heavily theoretical and focus more on the aspects of *shariah*, management, and halal compliance, with insufficient integration of applied science and technological innovation necessary for modern halal assurance processes.

This gap indicates that graduates may not be technically prepared to meet the increasingly technology-driven needs of the halal industry, such as the use of halal traceability systems and automation (Riani et al., 2025). Besides, Harun et al. (2023) also highlighted that this concern may pose a challenge for industry professionals, as halal compliance requires not only an understanding of Islamic jurisprudence but also scientific knowledge on food processing, safety, and modern supply chains to be industry-ready. For instance, positions like "Regulatory Affairs cum Halal Executive" and "Food Safety, Halal and HACCP Executive" reflect the industry's preference for candidates with practical, science-based knowledge alongside managerial capabilities.

Without an adequate exposure to this knowledge, graduates may struggle to address industry-specific halal assurance requirements and regulatory expectations (Nuratifah et al., 2019). Overall, this finding calls for an urgent need for HEIs to enhance science and technology knowledge to better align with industry demands. By bridging this knowledge gap, HEIs can equip graduates with the capabilities needed to navigate the halal industry landscape effectively and contribute to its growth. Thus,

strengthening the science and technology components within halal curricula would also enable graduates to better interpret laboratory data, apply food safety protocols, and manage halal-compliant production processes, thus enhancing their employability and the overall integrity of the halal industry.

Table 4.6 List of Science and Technology Knowledge Identified from Supply and Demand

No.	Science and Technology Knowledge	Source		
		Supply		Demand
		PS	PC	JP
1	Laboratory testing Basic quality control and interpretation of laboratory results			√
2	Applied science Industrial microbiology, organic chemistry, and nutrition		√	
3	Technological advances Green technology compliance, biotechnology and halal verification technology		√	√
4	Industrial process and operations Machine for manufacturing, production, and operational activities in halal industries			√
5	Logistic and supply chain technology e.g., blockchain, halal tracker, Global Positioning System (GPS)	√	√	√
6	Product and service innovation Conduct research, development, and innovation (R&D&I) to identify and enhance product ingredients in line with halal requirements		√	√

Note. PS: Programme Standard, PC: Programme Curriculum, JP: Job Posting

4.2.3 Skills Identified from Supply and Demand

This study identified two main domains of skills critical for the halal profession from both supply and demand. The identified skills include 17 soft skills areas (Table 4.7) and 9 hard skills (Table 4.8).

4.2.3.1 Soft Skills

Soft skills are personal and social abilities that support effective interaction, communication, and teamwork. A total of 13 key soft skills, together with four language proficiency identified from both supply and demand. The soft skills that employers frequently seek include cognitive skills, interpersonal skills, communication skills, leadership skills, personal skills, entrepreneurial skills, teamwork skills, problem solving skills, adaptability skills, critical and analytical thinking skills, creative thinking skills, negotiation skills, and managerial and coordination skills. In addition to the identified soft skills, language proficiency is also considered important for the halal profession. The languages identified through job postings were Malay, English, Mandarin, and Tamil.

The findings in Table 4.7 show that all skills are highlighted in the demand sources, indicating that the industry expects a wide range of competencies from halal professionals. From the supply side, the programme curriculum covers most of these skills across 23 course outlines, whereas the programme standard alone only covers six skills from the list, which are cognitive skills, interpersonal skills, communication skills, leadership skills, personal skills, and entrepreneurial skills. The discrepancy between the programme standard and industry demand may indicate potential gaps in supply, as this standard serves as a reference and guidance for HEIs in designing and offering halal programmes. This indicates that employers value multi-dimensional competencies that go beyond technical expertise. The emphasis on communication, teamwork, and adaptability suggests the halal profession requires professionals who can collaborate across disciplines and cultural boundaries.

Nik Mohd Rosli et al. (2022) propose a conceptual core competency model for halal executives, identifying four key competency domains: knowledge, personal competencies, managerial competencies, and technical skills. Their findings emphasise that, aside from regulatory and technical expertise, halal professionals must develop critical leadership, critical and analytical thinking skills, and problem-solving skills to successfully manage halal operations. Furthermore, soft skills such as communication, collaboration, and leadership are consistently highlighted as critical for success in halal-related roles.

Employers emphasise the need for graduates who can engage effectively with stakeholders, manage cross-functional teams, and navigate regulatory complexities (Nesaratnam et al., 2018). For instance, the role of a Halal Executive involves dealing with various stakeholders such as JAKIM, suppliers, auditors, and company management, as well as managing internal teams to ensure compliance with halal requirements. While HEI programmes traditionally focus on building technical knowledge, a more holistic approach that includes soft skills development would better prepare graduates for the diverse challenges of the halal industry. Therefore, these findings highlight the need for enhancement of the programme standard, ensuring that it incorporates a broader range of skills aligned with current industry expectations.

Table 4.7 List of Soft Skills Identified from Supply and Demand

No.	Soft Skills	Source		
		Supply		Demand
		PS	PC	JP
1	Cognitive skills Think, learn, and process information effectively	√	√	√
2	Interpersonal skills Interact and build positive relationships with others	√	√	√
3	Communication skills Expressing ideas clearly, both verbally and in writing	√	√	√
4	Leadership skills Leading, making decisions, and taking ownership of tasks	√	√	√

5	Personal skills Self-awareness, confidence, and emotional intelligence in daily tasks	√	√	√
6	Entrepreneurial skills Identify opportunities, take initiative, and manage risks	√	√	√
7	Teamwork skills Working well with others to achieve common goals		√	√
8	Problem solving skills Identifying issues and finding effective solutions		√	√
9	Adaptability skills Adjusting to changes and handling new challenges effectively			√
10	Critical and analytical thinking skills Evaluating situations logically to make sound decisions		√	√
11	Creative thinking skills Generating innovative ideas and unique solutions		√	√
12	Negotiation skills Reaching agreements and resolving conflicts effectively			√
13	Managerial and coordination skills Planning, organising, and managing people and tasks efficiently		√	√
Language Proficiency				
14	Malay language			√
15	English language		√	√
16	Mandarin language			√
17	Tamil language			√

Note. PS: Programme Standard, PC: Programme Curriculum, JP: Job Posting

4.2.3.2 Hard Skills

Hard skills are measurable and teachable abilities gained through training or education to perform specific tasks. There are nine hard skills that were identified for the halal profession, extracted through document analysis from programme standards, programme curriculum, and halal job postings. The skills involved were numeracy

skills, practical skills, digital and IT skills, report and writing skills, organisational skills, multitasking skills, research skills, laboratory skills, and data management skills.

Similar to soft skills, analysis in Table 4.8 shows that all hard skills are highlighted in the demand sources, demonstrating that a broad range of competencies are expected of halal professionals by the industry. From the supply side, the programme curriculum covers most of these skills, whereas the programme standard only covers three skills from the list, which are numeracy skills, practical skills, and digital and IT skills. This misalignment may cause graduates to lack hard skills, particularly in practical skills, thereby limiting their ability to meet the operational and technical demands of the halal industry. This evidence is in line with Zainuddin et al. (2021), who reported that existing halal programmes remain certification-oriented, tend to focus more on theoretical foundations with less emphasis on practical applications. As shown in Table 4.8, practical skills were covered by both supply and demand.

However, Nik Mohd Rosli et al. (2022) highlighted that graduates in the workforce lack expertise in the practical implementation of halal standards, making it challenging to align theoretical knowledge with industry needs. For example, graduates may have a theoretical understanding of halal procedures such as Halal Assurance System (HAS) or Halal Control Point (HCP), but struggle when it comes to conducting halal internal audits, preparing actual documentation, or dealing with compliance issues in the field. This suggests that HEIs need to emphasise hands-on practical training to ensure graduates have real-world experience and are prepared to perform tasks in real job situations in the halal industry.

Besides hands-on ability to perform tasks effectively in real-world situations, professionals are expected to have proficiency in using Microsoft Office, Google applications, and software. Muhammad et al. (2020) also highlighted that having basic knowledge of IT skills is important for halal executives as halal certificate applications are now required to be conducted through the MYeHALAL system developed by JAKIM. Additionally, they also expected to perform quality control testing and demonstrate proficiency in digital tools such as Structured Query Language (SQL) and inventory management systems to ensure product quality and traceability.

This finding highlights the increasing reliance on modern technology. To further enhance industry readiness, efforts can be made to strengthen the practical aspects of academic offerings. HEIs should consider enhancing their curriculum by incorporating practical modules that focus on regulatory compliance, supply chain management, and technological applications relevant to the halal industry (Jaapar & Mohd Najib, 2025). The absence of emphasis on advanced digital and analytical competencies may hinder graduates' ability to meet the growing technological demands of halal certification, auditing, and traceability systems.

Table 4.8 List of Hard Skills Identified from Supply and Demand

No.	Hard Skills	Source		
		Supply		Demand
		PS	PC	JP
1	Numeracy skills Ability to work with numbers, calculations, and data analysis	√		√
2	Practical skills Hands-on ability to perform tasks effectively in real-world situations	√	√	√
3	Digital and IT skills Proficiency in using Microsoft Office, Google applications, software, and other digital tools	√	√	√
4	Report and writing skills Ability to write clear, structured, and detailed reports		√	√
5	Organisational skills Effectively plans, prioritises, and manages tasks efficiently			√
6	Multitasking skills Handles multiple tasks simultaneously while maintaining quality		√	√
7	Research skills Ability to gather, analyse, and interpret information systematically		√	√
8	Laboratory skills Competence in performing lab tests, handling equipment, and analysing results			√

9	Data management skills Organising, storing, and interpreting data accurately and securely		√	√
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Note. PS: Programme Standard, PC: Programme Curriculum, JP: Job Posting

4.2.4 Attributes Identified from Supply and Demand

In addition to knowledge and skills, several personal attributes are also considered essential for halal professionals. Attributes refer to inherent personal traits or characteristics that influence behaviour and work ethic. A total of 12 attributes were identified, including being ethical and having integrity, adherence to Islamic values and practices, accountable, perceptive, versatile, decisive, self-reliant, meticulous, systematic, professional, tenacious, and being a lifelong learner.

As shown in Table 4.9, the findings indicate that HEIs have generally integrated most of the essential attributes required by the halal industry, although the coverage remains limited and may not fully reflect the breadth of attributes demanded by employers. This also indicated that HEIs perceive these attributes as important for preparing competent graduates in the halal profession. Kadir et al. (2020) stated that graduates without good attributes will have difficulty finding work in the future. These include ethics and integrity, which ensure transparency and trustworthiness in halal-related matters, as well as ethical awareness to uphold Islamic principles in decision-making. For example, an ethical and integrity-based halal officer will not compromise on raw materials of questionable halal status even when pressured by management to reduce costs.

This action demonstrates ethical awareness and commitment to Islamic principles in decision-making, thus ensuring the accuracy and reliability of halal products in the market. In addition, professionalism and accountability are also fundamental for maintaining credibility and ensuring tasks are carried out with diligence. The strong emphasis on ethical integrity and professionalism demonstrates that the halal industry prioritises moral conduct alongside technical competence. These

traits ensure that halal professionals maintain consumer trust and uphold the sanctity of halal principles, whereas unethical behaviour could give a bad image to the integrity of halal compliance (Siti Aminah et al., 2020).

Furthermore, adherence to Islamic values and practices, perceptive, decisive, meticulous, systematic, and tenacious, were among the attributes that are in demand among employers. A strong lifelong learning attitude, together with versatility, also enables halal professionals to continuously improve and remain relevant in a global halal market. This aligns with the findings of Md Nawi et al. (2022), who highlight that attitude plays a crucial role in ensuring firms' commitment to halal standard practices, reinforcing the need for HEIs to foster positive attributes alongside *shariah*, technical, and science and technology knowledge. Overall, the findings indicate that personal attributes, particularly integrity, professionalism, and a commitment to lifelong learning, are as vital as technical competence in sustaining consumer confidence and advancing the global halal ecosystem.

Table 4.9 List of Attributes Identified from Supply and Demand

No.	Attributes	Source		
		Supply		Demand
		PS	PC	JP
1	Ethical and has integrity Fair, honest, confidentiality, practice halal ethics	√	√	√
2	Adherence to Islamic values and practices Understanding and commitment to Islamic values	√		√
3	Accountable Takes responsibility for actions and ensures reliability in duties	√	√	√
4	Perceptive Recognises the need for change and seeks continuous improvement	√	√	√
5	Versatile Adapts to different situations and provides creative solutions	√	√	√
6	Decisive Makes firm, fair, and well-informed decisions when needed	√		√

7	Self-reliant Works independently while collaborating effectively with others	√	√	√
8	Meticulous Pays close attention to detail and ensures accuracy in tasks		√	√
9	Systematic Approaches tasks in an organised and structured manner			√
10	Professionalism Maintains high ethical standards and a responsible work attitude	√	√	√
11	Tenacious Remains dedicated, persistent, and focused on achieving goals	√	√	√
12	Lifelong learner Continuously seeks knowledge and personal development	√	√	√

Note. PS: Programme Standard, PC: Programme Curriculum, JP: Job Posting

4.3 INTEGRATION AND INSTRUMENT DEVELOPMENT

This study employed a sequential exploratory mixed-method design, in which the findings from the qualitative phase were integrated to build the development of the quantitative instrument. The lists of KSAs identified in the qualitative phase were refined through the findings from document analysis of supplementary sources, and further validated through expert review to ensure clarity and relevance before being carried forward into the quantitative phase.

4.3.1 Refinement through Supplementary Sources

Before proceeding to the expert review stage, supplementary documents were also analysed to ensure a more comprehensive representation of KSAs required for the halal profession. These sources, which include the halal industry's occupational framework (HIOF) and the Malaysian standard for halal profession (MS). However, further

analysis revealed that no additional KSAs were added, as all the items identified were covered by the programme curriculum.

4.3.2 Modification from Expert Validation

The Content Validity Index (CVI) was used to evaluate relevance and clarity of the items for each KSA, based on the expert review (ER) stage. The criterion of necessity was excluded, as the primary aim of the validation was to ensure that the items developed were both appropriate in representing the construct (relevance) and understandable to the respondents (clarity). Thus, the inclusion of relevance and clarity was deemed sufficient.

The number of experts who rated the item as relevant or clear (rating 3) was divided by the total number of experts to determine the CVI at the item level (I-CVI). (Shomah et al., 2024). The item was appropriate if the CVI was greater than 0.79, conversely, if it was less than 0.79, it needed to be revised. The content validity results for knowledge items indicate that the majority of items are appropriate (Table 4.10). However, nine items require revision based on expert evaluation, suggesting the need for further refinement to improve their clarity and relevance.

Table 4.10 Item-Level Content Validity Index (I-CVI) Results for Knowledge

No.	Item	I-CVI		Interpretation
		Relevance	Clarity	
Shariah Knowledge				
1	Halal knowledge and awareness	1	0.8	Appropriate
2	Islamic theology (<i>aqidah Islamiah</i>)	0.6	0.8	Need Revision
3	Quran, hadith and Arabic language	0.8	0.4	Need Revision
4	Islamic jurisprudence (<i>fiqh</i>)	1	1	Appropriate
5	Islamic legal maxim (<i>qawaid fiqhiyyah</i>)	1	0.8	Appropriate
6	Islamic law of consumerism (<i>fiqh al-istihlak al-Islami</i>)	0.8	1	Appropriate

7	Objectives of Islamic law (Maqasid al-Shariah)	1	1	Appropriate
Technical Knowledge				
Halal regulatory compliance				
8	Licensing	1	0.8	Appropriate
9	Certification (other than halal certification)	1	0.6	Need Revision
10	Halal certification	1	1	Appropriate
11	Halal audit	1	1	Appropriate
12	Halal risk management	1	1	Appropriate
13	Halal supply chain management	1	1	Appropriate
14	International halal supply chain standards	0.6	0.8	Need Revision
Halal quality and assurance				
15	Malaysian halal standards	1	1	Appropriate
16	Halal assurance management system	1	1	Appropriate
17	Quality management system	0.8	0.8	Appropriate
18	Industry-specific practices	1	0.8	Appropriate
19	Traceability	0.8	0.8	Appropriate
20	Halal hygiene, sanitation and safety	1	1	Appropriate
21	Corrective and preventive actions	0.6	1	Need Revision
22	Ethics and toyyiban concept	1	1	Appropriate
Halal governance				
23	Certification bodies	1	1	Appropriate
24	Industry regulatory and enforcement bodies	1	1	Appropriate
25	Halal-related acts and regulations	1	1	Appropriate
26	Halal trade laws and requirements	1	1	Appropriate
27	International import regulations and guidelines	0.6	0.6	Need Revision
Business and management				
28	Business management	0.8	0.8	Appropriate
29	Halal entrepreneurship	1	1	Appropriate
30	Halal marketing	1	0.6	Need Revision
31	Business risk management	0.8	0.8	Appropriate
32	International trade	1	1	Appropriate
Science and Technology Knowledge				
33	Laboratory testing	0.8	0.8	Appropriate
34	Applied science	1	0.6	Need Revision
35	Technological advances	0.8	0.8	Appropriate
36	Industrial process and operations	0.8	1	Appropriate
37	Logistic and supply chain technology	0.8	0.8	Appropriate

38	Product and service innovation	0.8	0.6	Need Revision
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In contrast, the content validity results for skills items show that almost all items are appropriate, with only one item requiring revision (Table 4.11). This indicates that the skills component is generally well-developed with minimal adjustment needed.

Table 4.11 Item-Level Content Validity Index (I-CVI) Results for Skills

No.	Item	I-CVI		Description
		Relevance	Clarity	
Soft Skills				
1	Cognitive skills	1	1	Appropriate
2	Interpersonal skills	1	1	Appropriate
3	Communication skills	1	1	Appropriate
4	Leadership skills	1	1	Appropriate
5	Personal skills	1	1	Appropriate
6	Entrepreneurial skills	0.8	0.8	Appropriate
7	Teamwork skills	1	1	Appropriate
8	Problem solving skills	1	1	Appropriate
9	Adaptability skills	1	1	Appropriate
10	Critical and analytical thinking skills	1	1	Appropriate
11	Creative thinking skills	1	1	Appropriate
12	Negotiation skills	1	1	Appropriate
13	Managerial and coordination skills	1	1	Appropriate
14	Language Proficiency Malay language English language Mandarin language Tamil language	1	0.8	Appropriate
Hard Skills				
15	Numeracy skills	0.8	0.8	Appropriate
16	Practical skills	1	1	Appropriate
17	Digital and IT skills	1	1	Appropriate
18	Report and writing skills	0.8	0.8	Appropriate
19	Organisational skills	1	1	Appropriate
20	Multitasking skills	1	1	Appropriate
21	Research skills	1	1	Appropriate
22	Laboratory skills	0.6	0.6	Need Revision
23	Data management skills	1	0.8	Appropriate

Notably, all attribute items are considered appropriate, indicating strong content validity and reflecting their relevance in measuring the attributes component (Table 4.12).

Table 4.12 Item-Level Content Validity Index (I-CVI) Results for Attributes

No.	Item	I-CVI		Description
		Relevance	Clarity	
1	Ethical and has integrity	1	1	Appropriate
2	Adherence to Islamic values and practices	1	1	Appropriate
3	Accountable	1	1	Appropriate
4	Perceptive	0.8	1	Appropriate
5	Versatile	1	1	Appropriate
6	Decisive	1	1	Appropriate
7	Self-reliant	1	1	Appropriate
8	Meticulous	0.8	0.8	Appropriate
9	Systematic	1	0.8	Appropriate
10	Professionalism	1	1	Appropriate
11	Tenacious	1	1	Appropriate
12	Lifelong learner	1	1	Appropriate

Based on the results of the Item-Level Content Validity Index (I-CVI) and the feedback provided by the panel of experts, several modifications were made to the initial list of KSAs. The modification process involved three main actions, which are revision, removal, and addition of new items for KSAs.

4.3.2.1 Revision of Items

Based on Tables 4.10, 4.11, and 4.12, there are 10 items that were revised due to low I-CVI values that fell below the acceptable threshold, indicating the need for improvement in wording and clarity. The revised items were nine (9) items from knowledge and one (1) item from skills, while the remaining items were considered relevant and clear, and therefore were retained in their original form.

In addition, other minor revisions were also made to certain items based on experts' qualitative comments, such as simplifying the language, wording, and adding short descriptions or examples to help clarify the meaning of an item and ensure that respondents would have a common understanding. Among the minor revisions made was adding Good Manufacturing Practice (GMP) as an additional example for the knowledge description under the "Industry-specific practices" knowledge, providing an understandable and clearer illustration of the context of the application for that knowledge in halal operations.

4.3.2.2 Removal of Items

Item "Corrective and preventive actions" under technical knowledge for the category halal quality and assurance was removed as a standalone main item based on expert recommendation. Nevertheless, the content of this item was not discarded, instead, it was reclassified and placed under the same category, which is "Halal assurance management system". The action is to avoid redundancy and to maintain coherence in the structure of the list.

4.3.2.3 Addition of New Items

A total of 4 new items were introduced based on experts' suggestions to cover important areas that were not captured in the initial list. The added items are shown in Table 4.13 below.

Table 4.13 Addition of New Items Based on Expert Review

No.	New Item	Placement in Questionnaire
1	Foreign halal certification bodies	Section B: Technical knowledge (halal governance)
2	Corporate communication	Section B: Technical knowledge (Business and management)
3	Human resource management	Section B: Technical knowledge (Business and management)
4	Arabic language	Section C: Soft skills (Language proficiency)

4.3.3 Integrated List of KSAs

The integrated list was developed through a process of merging and refining based on various sources, including Programme Standard (PS) and Programme Curriculum (PC) from supply side, job postings (JP) from industry demand, as well as supplementary sources such as the Halal Industry Occupational Framework (HIOF), Malaysian Standards (MS), and expert review (ER). As a result, this new list of KSAs is more comprehensive, relevant, and represents the real needs of the halal profession in Malaysia.

Table 4.14 presents an integrated list of knowledge for the halal profession. This knowledge is divided into three main categories, namely *Shariah* knowledge, technical knowledge, and science and technology knowledge. *Shariah* knowledge includes seven items. Technical knowledge is divided into four subcategories, namely halal regulatory compliance (7 items), halal quality and assurance (7 items), halal governance (6 items), and business and management (7 items). In addition, science and technology knowledge includes six items.

Table 4.14 Integrated List of Knowledge for Halal Profession

No.	Item	Source					
		Supply		Demand	Supplementary		Validity
		PS	PC	JP	HIOF	MS	ER
Shariah Knowledge							
1	Halal knowledge and awareness Halal concepts, global halal standards, and consumer awareness	√	√	√	√		
2	Islamic theology (<i>aqidah Islamiyah</i>) Core beliefs in Islam and the development of different schools of thought (<i>mazhab</i>)	√	√				
3	Quran, hadith and Arabic language Islamic teachings from Quran and hadith, with basic Arabic comprehension		√				
4	Islamic jurisprudence (<i>fiqh</i>) Fatwa and contemporary Islamic rulings on halal issues, and their application in modern halal industry contexts	√	√		√		
5	Islamic legal maxim (<i>qawaid fiqhiyyah</i>) General legal principles used to interpret Islamic laws	√	√				
6	Islamic law of consumerism (<i>fiqh al-istihlak al-Islami</i>) Guidelines on ethical consumption, including halal food, transaction, and purification practices	√	√	√			
7	Objectives of Islamic law (<i>Maqasid al-Shariah</i>) 5 main principles; protection of life, faith, property, intellect, and lineage	√	√				
Technical Knowledge							
Halal regulatory compliance							
8	Licensing e.g., Food premises license (by PBT)	√	√	√			

9	Halal certification e.g., Malaysian Halal Certification Procedure Manual (MPPHM)	√	√	√	√		
10	Certification (other than halal certification) e.g., <i>Makanan Selamat Tanggungjawab Industri</i> (MeSTI)	√	√	√			
11	Halal audit Coordinate pre-audit, opening and closing meeting	√	√	√	√		
12	Halal risk management e.g., Halal Control Point (HCP)	√	√	√	√		
13	Halal supply chain management e.g., halal logistic, halal transportation, halal warehouse, etc.	√	√	√	√		
14	International halal supply chain standards e.g., OIC SMIIC standards		√	√	√		
Halal quality and assurance							
15	Malaysian halal standards e.g., MS 1500:2019, etc.	√	√	√	√		
16	Halal assurance management system e.g., Malaysian Halal Management System (MHMS), Halal Assurance System (HAS), Internal Halal Control System (IHCS), corrective and preventive actions, etc.	√	√	√	√		
17	Quality management system e.g., Food Safety Management System (FSMS), ISO MS 1900:2014, ISO 9001:2015, ISO 13485		√	√			
18	Industry-specific practices e.g., Good Manufacturing Practices (GMP), Good Laboratory Practice (GLP), Good Hygiene Practice (GHP), Malaysian Good Agricultural Practices (MyGAP), etc.	√	√	√	√		
19	Traceability Barcode, blockchain for halal supply chain		√	√			

20	Halal hygiene, sanitation and safety e.g., <i>sertu</i> (Islamic cleansing), halal pest control		√	√			
21	Ethics and <i>toyyiban</i> concept Ensure products and services are ethical, safe, effective, sustainable, and aligned with Environmental, Social, and Governance (ESG) principles	√	√		√		
Halal governance							
22	Certification bodies e.g., Department of Islamic Development Malaysia (JAKIM)	√	√	√	√		
23	Foreign halal certification bodies e.g., Badan Penyelenggara Jaminan Produk Halal (Indonesia)						√
24	Industry regulatory and enforcement bodies e.g., Ministry of Health Malaysia (MOH), Ministry of Investment, Trade, and Industry Malaysia (MITI), Malaysian Quarantine and Inspection Services (MAQIS), National Pharmaceutical Regulatory Agency (NPRA)	√	√	√			
25	Halal-related acts and regulations e.g., Food Act 1983, Consumer Protection Act 1999	√	√	√			
26	Halal trade laws and requirements e.g., Trade Description Acts 2011	√	√		√		
27	International import regulations and guidelines e.g., GACC (China), US FDA (United States)		√	√			
Business and management							
28	Business management Business operations, retail sales, customer service and basic accounting		√	√	√		
29	Halal entrepreneurship Develop a business that complies with halal principles		√				
30	Halal marketing Marketing halal products/services in compliance with Islamic ethics	√	√	√			
31	Business risk management Identify and manage risks that could affect business operations	√		√	√		

32	Corporate communication Effectively manage internal and external communication to maintain a positive corporate image						√
33	International trade Manage the shipment and distribution of goods across borders		√	√			
34	Human resource management Manage development and retention of talent to support organisational goals and ensure regulatory compliance						√
Science and Technology Knowledge							
35	Laboratory testing Basic quality control and interpretation of laboratory results			√			
36	Applied science Industrial microbiology, organic chemistry, and nutrition		√				
37	Technological advances Green technology compliance, biotechnology and halal verification technology		√	√			
38	Industrial process and operations Machine for manufacturing, production, and operational activities in halal industries			√	√		
39	Logistic and supply chain technology e.g., blockchain, halal tracker, Global Positioning System (GPS)	√	√	√	√		
40	Product and service innovation Conduct research, development, and innovation (R&D&I) to identify and enhance product ingredients in line with halal requirements		√	√	√		

Note. PS: Programme Standard, PC: Programme Curriculum, JP: Job Posting, HIOF: Halal Industry Occupational Framework, MS: Malaysian Standard, ER: Expert Review

Table 4.15 presents an integrated list of skills for the halal profession. These skills are divided into two main categories, namely soft skills and hard skills. Soft skills include 18 items, including 13 general soft skills and 5 language proficiency. Hard skills include 9 items related to specific needs in the halal industry.

Table 4.15 Integrated List of Skills for Halal Profession

No.	Item	Source					
		Supply		Demand	Supplementary		Validity
		PS	PC	JP	HIOF	MS	ER
Soft Skills							
1	Cognitive skills Think, learn, and process information effectively	√	√	√			
2	Interpersonal skills Interact and build positive relationships with others	√	√	√	√		
3	Communication skills Expressing ideas clearly, both verbally and in writing	√	√	√	√	√	
4	Leadership skills Leading, making decisions, and taking ownership of tasks	√	√	√	√		
5	Personal skills Self-awareness, confidence, and emotional intelligence in daily tasks	√	√	√			
6	Entrepreneurial skills Identify opportunities, take initiative, and manage risks	√	√	√			
7	Teamwork skills Working well with others to achieve common goals		√	√	√		

8	Problem solving skills Identifying issues and finding effective solutions		√	√	√		
9	Adaptability skills Adjusting to changes and handling new challenges effectively			√			
10	Critical and analytical thinking skills Evaluating situations logically to make sound decisions		√	√	√		
11	Creative thinking skills Generating innovative ideas and unique solutions		√	√			
12	Negotiation skills Reaching agreements and resolving conflicts effectively			√			
13	Managerial and coordination skills Planning, organising, and managing people and tasks efficiently		√	√			
Language proficiency							
14	Malay language			√			
15	English language		√	√			
16	Mandarin language			√			
17	Tamil language			√			
18	Arabic language						√
Hard Skills							
19	Numeracy skills Ability to work with numbers, calculations, and data analysis	√		√			
20	Practical skills Hands-on ability to perform tasks effectively in real-world situations	√	√	√	√	√	
21	Digital and IT skills Proficiency in using Microsoft Office, Google applications, software, and other digital tools	√	√	√	√		
22	Report and writing skills Ability to write clear, structured, and detailed reports		√	√	√		

23	Organisational skills Effectively plans, prioritises, and manages tasks efficiently			√			
24	Multitasking skills Handles multiple tasks simultaneously while maintaining quality		√	√			
25	Research skills Ability to gather, analyse, and interpret information systematically		√	√			
26	Laboratory skills Competence in performing lab tests, handling equipment, and analysing results			√			
27	Data management skills Organising, storing, and interpreting data accurately and securely		√	√	√		

Note. PS: Programme Standard, PC: Programme Curriculum, JP: Job Posting, HIOF: Halal Industry Occupational Framework, MS: Malaysian Standard, ER: Expert Review

Table 4.16 presents an integrated list of attributes for the halal profession. In total, there are 12 attribute items identified, which reflect the personal characteristics and professional values required in meeting the needs of the halal industry.

Table 4.16 Integrated List of Attributes for Halal Profession

No.	Item	Source					
		Supply		Demand	Supplementary		Validity
		PS	PC	JP	HIOF	MS	ER
Soft Skills							
1	Ethical and has integrity Fair, honest, confidentiality, practice halal ethics	√	√	√	√	√	

2	Adherence to Islamic values and practices Understanding and commitment to Islamic values	√		√	√	√	
3	Accountable Takes responsibility for actions and ensures reliability in duties	√	√	√	√	√	
4	Perceptive Recognises the need for change and seeks continuous improvement	√	√	√	√	√	
5	Versatile Adapts to different situations and provides creative solutions	√	√	√	√	√	
6	Decisive Makes firm, fair, and well-informed decisions when needed	√		√	√	√	
7	Self-reliant Works independently while collaborating effectively with others	√	√	√	√	√	
8	Meticulous Pays close attention to detail and ensures accuracy in tasks		√	√	√		
9	Systematic Approaches tasks in an organised and structured manner			√	√		
10	Professionalism Maintains high ethical standards and a responsible work attitude	√	√	√			
11	Tenacious Remains dedicated, persistent, and focused on achieving goals	√	√	√	√	√	
12	Lifelong learner Continuously seeks knowledge and personal development	√	√	√			

Note. PS: Programme Standard, PC: Programme Curriculum, JP: Job Posting, HIOF: Halal Industry Occupational Framework, MS: Malaysian Standard, ER: Expert Review

4.4 PHASE 2: QUANTITATIVE

This section presents the findings related to Research Objective 3 and Research Objective 4. Thus, this section explains and discusses the results of data collection from the survey questionnaire developed based on the findings from the qualitative phase and the integration process (*attached as Appendix F*). The purpose of the data collection is to comprehensively rank the importance of the identified KSAs for the halal profession, as well as identify the gaps between supply and demand.

The following sections provide a discussion on the data screening, demographic of the respondents' profile, and descriptive statistical analysis of the data collected from both academicians (supply) and industry players (demand). Descriptive statistics, such as the mean and standard deviation (SD), were used to summarise the respondents' perceptions of the KSAs required for the halal profession. Besides, an independent sample t-test was also conducted to determine whether the KSAs listed have a statistically significant difference in the perceived importance between the academicians' supply and industry players' demand. The data were analysed by using the Statistical Package for the Social Sciences (SPSS) software (version 31.0).

4.4.1 Data Screening

Data screening in quantitative research is an essential preliminary step to ensure the dataset is reliable, valid, and high-quality data before proceeding with the quantitative analysis. The four primary steps of the data screening process were identification, screening, eligibility, and inclusion, as shown in Figure 4.3.

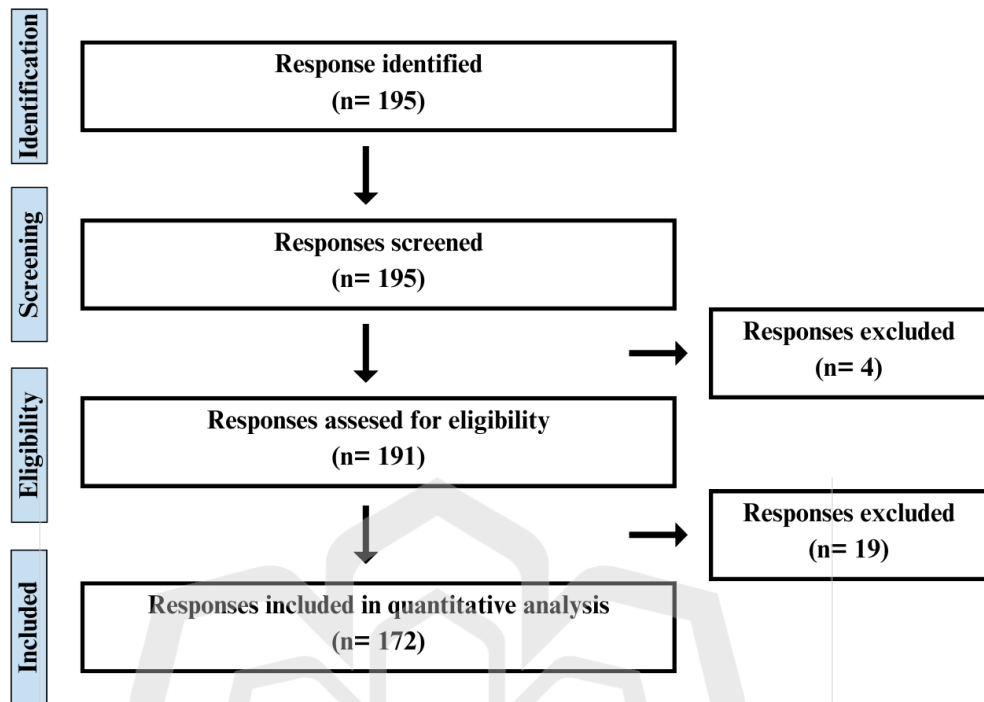


Figure 4.3 Steps for Data Screening of Responses from Survey Questionnaire

4.4.1.1 Identification

The survey questionnaire was distributed to the targeted respondents, and all responses obtained were initially recorded in the database. A total of 195 individuals successfully completed the survey. The responses consisted of 62 academicians, representing the supply side, and 133 industry players, representing the demand side.

4.4.1.2 Screening

During this stage, the responses were screened to identify redundant or duplicate responses. A total of four (4) responses were found to be duplicated and redundant, and therefore were removed from the list of responses. This step is necessary to prevent bias and ensure that each respondent contributed only one valid response to the study. By eliminating such cases, the dataset was refined and prepared for the eligibility stage, where a more detailed assessment was conducted.

4.4.1.3 Eligibility

At this point, the responses were further evaluated against the specific inclusion criteria of the study. This step is essential to guarantee that the data accurately represents the perspectives of the targeted population by meeting the specific criteria that have been set (Table 3.2). A total of 19 responses were excluded for not fulfilling the required conditions. On the supply side, the excluded responses came from academicians who either did not teach a halal management programme at diploma or bachelor's degree level, or had no prior involvement in developing a halal-related syllabus. On the demand side, job positions that did not explicitly include the term "halal" were excluded, such as quality checker, quality assurance and purchasing assistant manager, quality assurance coordinator, and manufacturing manager.

4.4.1.4 Inclusion

After completing the data screening process, these responses represented participants who met all the eligibility requirements and provided valid and reliable data. Besides, Table 4.17 reports that no missing data were identified across the examined variables, by using SPSS. This absence of missing values enhances the reliability of the findings, ensuring that the dataset is complete and representative of the entire sample.

Table 4.17 Table of Missing Data (N = 172)

Variable	Cases					
	Valid		Missing		Total	
	N	Percentage	N	Percentage	N	Percentage
Knowledge	172	100%	0	0%	172	100%
Skills	172	100%	0	0%	172	100%
Attributes	172	100%	0	0%	172	100%

The final pool captured insights from both the supply side (academicians) and the demand side (industry players), which was essential for examining the alignment

between higher education programmes and the halal industry. The number of included responses is 172 and is still within the minimum sample size required for this study, as suggested by the G*Power analysis. Table 4.18 shows the category of respondents included for the quantitative analysis.

Table 4.18 Category of Respondents (N = 172)

Category	Number of respondents
Academician (supply)	58
Industry player (demand)	114

4.4.2 Demographic Profile

The detailed information on the demographic profile of 172 respondents was given in Table 4.19 to provide a clearer understanding of their background and characteristics. Out of the total respondents, 118 (68.6%) were female, while 54 (3.4%) were male, indicating a slightly higher representation of female respondents in this study. The respondents were distributed across various age groups, with the largest proportion falling within the 26-40 years old category (43%, n=74). All respondents in this study were Muslims (100%, n=172), which reflects the nature of the research context that focuses on the halal profession and industry.

In terms of education level, the majority of academicians hold a PhD (44.8%, n=26), demonstrating their advanced expertise and capacity to teach halal industry management at the diploma and bachelor levels. Conversely, most industry respondents, particularly those from the Food & Beverage (F&B) sector, possess a bachelor's degree (80.7%, n=92), which corresponds to the operational and professional requirements of the halal industry. Regarding the professional certification, the majority of both academicians and industry players hold the Certificate of Halal Executive (59.3%, n=102). Besides, 44 respondents (25.6%) hold both the Certificate of Halal Executive and Internal Halal Auditor.

Table 4.19 Demographic Profile of Respondents (overall)

Characteristics	Item	Supply (N = 58)		Demand (N = 114)		Total (N = 172)	
		N	%	N	%	N	%
Gender	Male	24	41.4	30	26.3	54	31.4
	Female	34	58.6	84	73.7	118	68.6
Age	21 – 25	4	6.9	23	20.2	27	15.7
	26 – 30	5	8.6	69	60.5	74	43.0
	31 – 35	14	24.1	16	14.0	30	17.4
	36 – 40	15	25.9	4	3.5	19	11.0
	41 – 45	14	24.1	0	0	14	8.1
	46 – 50	3	5.2	2	1.8	5	2.9
	51 – 60	3	5.2	0	0	3	1.7
Religion	Islam	58	100	114	100	172	100
Income monthly	Below RM 2,000	4	6.9	4	3.5	8	4.7
	RM 2,001 – RM 4,000	17	29.3	91	79.8	108	62.8
	RM 4,001 – RM 6,000	7	12.1	15	13.2	22	12.8
	RM 6,001 – RM 8,000	11	19.0	0	0	11	6.4
	RM 8,001 – RM 10,000	8	13.8	3	2.6	11	6.4
	RM 10,001 – RM 15,000	7	12.1	0	0	7	4.1
	Above RM 15,000	2	3.4	0	0	2	1.2
	Prefer not to say	2	3.4	1	0.9	3	1.7
Highest Education Level	SPM / O-Level	0	0	1	0.9	1	0.6
	STPM / A-Level / Foundation / Matriculation	0	0	0	0	0	0
	Diploma	1	1.8	10	8.8	11	6.4
	Bachelor's Degree	6	10.3	92	80.7	98	57.0
	Master's Degree	25	43.1	11	9.6	36	20.9
	Doctor of Philosophy (PhD)	26	44.8	0	0	26	15.1
Do you possess any Halal Professional Certificate under Halal Professional Board by JAKIM?	Certificate of Halal Executive	25	43.1	77	67.5	102	59.3
	Certificate of Halal Internal Auditor	1	1.7	0	0	1	0.6
	Certificate of Halal Trainer	4	6.9	0	0	4	2.3
	Certificate of Halal Competency	0	0	1	0.9	1	0.6
	Certificate of Halal Executive & Certificate of Halal Trainer	6	10.3	0	0	6	3.5
	Certificate of Halal Executive &	11	19.0	33	28.9	44	25.6

	Certificate of Halal Internal Auditor						
	Certificate of Halal Executive, Certificate of Halal Internal Auditor & Halal MUI	0	0	1	0.9	1	0.6
	Certificate Supervisor						
	None	11	19.0	2	1.8	13	7.6
Do you have any Sijil Kemahiran Malaysia (SKIM) related to the halal industry?	Yes	8	13.8	4	3.5	12	7.0
	No	50	86.2	110	96.5	160	93.0

4.4.2.1 Academics' Demographic Profile

This section describes the demographic profile of respondents representing the supply side (academics). These additional questions are designed specifically to ensure that they meet the criteria required for this study. The survey was distributed to all HEIs that offer halal management programmes at diploma and bachelor's degree levels. However, only 18 HEIs responded and completed the survey. Among these, the largest number of respondents came from IIUM (12.1%, n=7), followed by USIM (10.3%, N=6).

Regarding the teaching experience of the halal management programme, 15 academics teach at the diploma level, 25 at the bachelor's degree level, and 7 academics teach at both diploma and bachelor's degree levels (12.1%). The majority of respondents have been involved in the development of halal course syllabus (89.7%, n=52) and members of academic units (91.4%, n=53) at their own HEIs. Out of 58 respondents, only 19 academics have experience working in the halal food sector (32.8%), and 8 academics have experience working in the non-halal food sector (13.8%). Table 4.20 summarises the demographic profile of the academics who participated in the study.

Table 4.20 Demographic Profile of Academicians (Supply)

Characteristics	Item	Total (N = 58)	
		N	%
University /Institution	International Islamic University Malaysia (IIUM)	7	12.1
	International Islamic College (IIC)	4	6.9
	Universiti Utara Malaysia	4	6.9
	Politeknik Tuanku Syed Sirajuddin (PTSS)	3	5.2
	Politeknik Sultan Haji Ahmad Shah (POLISAS)	1	1.7
	Universiti Teknologi MARA (UiTM) Shah Alam	5	8.6
	Kolej Antarabangsa Murni	2	3.4
	Sultan Ismail Petra International Islamic University College	3	5.2
	Management and Science University	1	1.7
	Universiti Sains Islam Malaysia (USIM)	6	10.3
	Kolej Islam Teknologi Antarabangsa (KITAB)	5	8.6
	University College of Yayasan Pahang	5	8.6
	Kolej Universiti Islam Johor Sultan Ibrahim (KUIJSI)	5	8.6
	Baitulmal Professional College Kuala Lumpur	1	1.7
	Politeknik Merlimau Melaka	1	1.7
	Universiti Islam Antarabangsa Sultan Abdul Halim Mu'adzam Shah	3	5.2
	FELCRA College	1	1.7
	Universiti Sultan Zainal Abidin (UniSZA)	1	1.7
Level of Study Taught (Halal Programmes /Courses)	Diploma	18	31.0
	Bachelor's Degree	17	29.3
	Diploma, Bachelor's Degree	7	12.1
	Bachelor's Degree, Master's Degree	4	6.9
	Bachelor's Degree, Master's Degree, Doctor of Philosophy (PhD)	7	12.1
	Diploma, Bachelor's Degree, Master's Degree, Doctor of Philosophy (PhD)	1	1.7
	None of the above	4	6.9
Involvement in the development of halal course syllabus	Yes	52	89.7
	No	6	10.3
Member of academic unit	Yes	53	91.4
	No	5	8.6
Experience working in the halal industry	Yes (halal food sector)	19	32.8
	Yes (non-halal food sector)	8	13.8
	No	31	53.4

4.4.2.2. Industry Players' Demographic Profile

This section presents additional questions specifically for respondents from the demand side (industry players), designed to ensure that they meet the criteria required for this study. The total number of respondents for industry players was 114, and all of them were employees with 'halal' term job positions from the F&B company. The demographic data of industry respondents were summarised based on job title, food sector, work experience, and work location. Figure 4.4 below illustrates the percentage distribution of respondents according to their job titles.

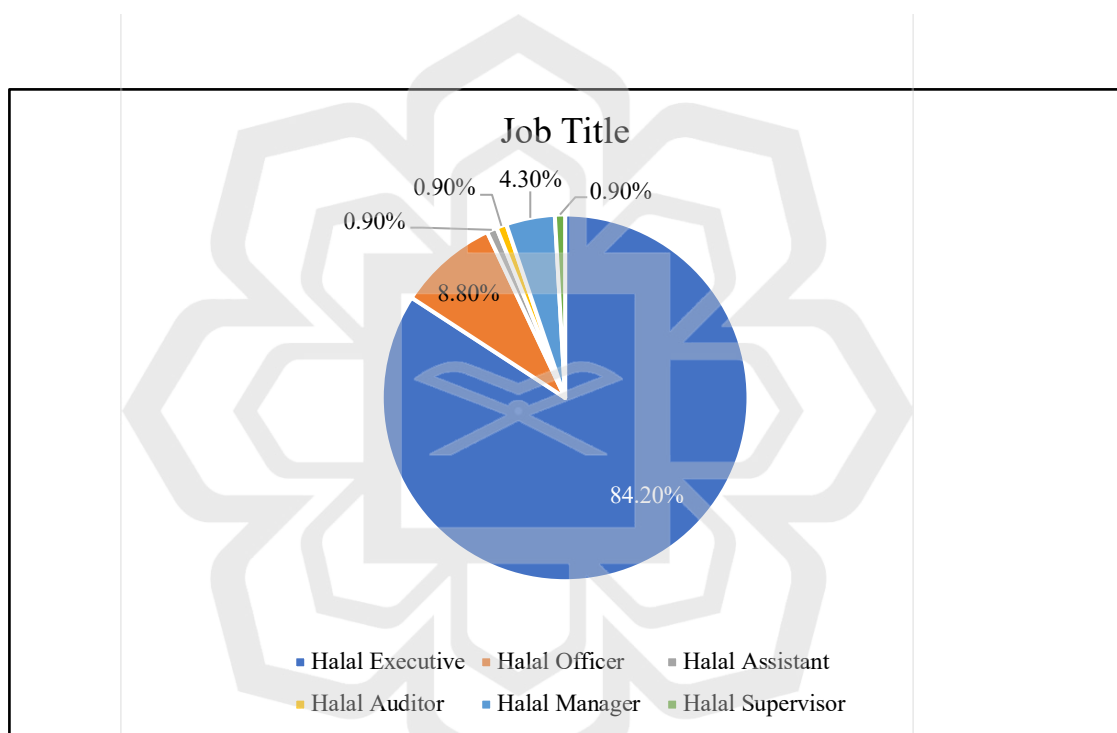


Figure 4.4 Percentage Distribution of Industry Respondents by Job Title

Furthermore, Table 4.21 provides a detailed summary of the specific job titles represented. For instance, their job title include Halal Executive, Halal Officer, Halal Assistant, Halal Auditor, Halal Manager, Halal Supervisor, and several combinations of halal-related roles often combine technical, administrative, and managerial roles. The findings indicate that the majority of respondents hold the position of Halal Executive. This highlights the central role of the Halal Executive in the halal industry workforce. Accordingly, while the KSAs assessed in the survey questionnaire are applicable to

various halal-related job positions, they may be particularly relevant and reflective of the Halal Executive role, given its dominance among the respondents.

Table 4.21 Summary of Job Titles Reported by Industry Respondents

Job Title	Role (n = 114)		Example of Multi-Role
	Exclusive	Combine	
Halal Executive	46	50	• Halal Executive cum Operations • HR cum Halal Executive
Halal Officer	6	4	• Food safety and hygiene cum Halal Officer • Quality Assurance cum Halal Officer
Halal Assistant	1	0	N/A
Halal Auditor	0	1	• Halal & Halal Auditor Executive Cum OSHC
Halal Manager	2	3	• QHSE & Halal Assistant Manager • Multi-Property Halal Liaison Manager
Halal Supervisor	1	0	N/A

Note. N/A: Not Available

Furthermore, Table 4.22 exhibits that the respondents came from different sectors in the F&B industry, where most of them were from food manufacturing (62.3%, n=71), followed by food premises (25.4%, n=29). In terms of work experience, the respondents represented a wide range of professional backgrounds, from those with less than 1 year of work experience (32.5%, n=37) to those with extensive involvement in halal-related roles with more than 10 years' work experience (3.5%, n=4).

Table 4.22 Demographic Profile of Industry Players (Demand)

Characteristics	Item	Total (N = 114)	
		N	%
Food sector	Manufacturing	71	62.3
	Premise	29	25.4
	Retail	6	5.3
	Slaughterhouse	4	3.5
	Catering	2	1.8
	Hotel	2	1.8
Work location	Selangor	69	60.5
	Kuala Lumpur	16	14.0
	Putrajaya	2	1.7
	Johor	9	7.9
	Perak	6	5.2
	Kedah	1	0.9
	Penang	3	2.6
	Melaka	2	1.8
	Negeri Sembilan	2	1.8
	Sabah	2	1.8
	Sarawak	2	1.8
Work experience	Less than 1 year	37	32.5
	1 – 2 years	38	33.3
	3 – 4 years	27	23.7
	5 – 6 years	5	4.4
	7 – 8 years	3	2.6
	More than 10 years	4	3.5

4.4.3 Descriptive Statistics of Knowledge for Halal Profession

4.4.3.1 Shariah Knowledge

This section presents the academicians' and industry players' perceptions regarding the importance of *Shariah* knowledge for the halal profession. Based on Tables 4.23, academicians, on average, perceived that the top three *shariah* knowledge considered most important were (1) Halal knowledge and awareness ($M = 4.88$, $SD = 0.33$), (2) Islamic theology (*aqidah Islamiah*) ($M = 4.72$, $SD = 0.52$), and (3) Islamic jurisprudence (*fiqh*) ($M = 4.69$, $SD = 0.47$). All the *shariah* knowledge was given a more than average mean score of 4.20, and above. This indicates that all *Shariah* knowledge was perceived as most important among academicians.

Similarly, industry players also perceived that all *shariah* knowledge was most important, with a class interval of 4.20 and above, as shown in Table 4.24. In order, top three the most important *shariah* knowledge perceived by industry players were (1) Halal knowledge and awareness ($M = 4.84$, $SD = 0.39$), (2) Islamic jurisprudence (*fiqh*) ($M = 4.79$, $SD = 0.49$), and (3) Islamic law of consumerism (*fiqh al-istihlak al-Islami*) ($M = 4.67$, $SD = 0.62$).

The high perception among academicians shows the awareness that *shariah* elements are foundational to halal-related programmes, while industry players' high rating indicates growing recognition that employees must possess sound *shariah* understanding to ensure compliance. These findings reflect a shared understanding of the central role of *shariah* knowledge in sustaining halal integrity within the halal industry, in line with the study by Hamdan and Hashim (2024). Furthermore, it is believed that a strong foundation in *Shariah* knowledge is crucial for roles related to policy-making, regulatory interpretation, and consumer trust, where an in-depth understanding of Islamic jurisprudence is required to guide halal operations within a religious framework.

This statement aligns with Hamdan and Hashim (2025), who reported that *shariah* knowledge is among the critical aspects for halal supervisors, enabling them to uphold *shariah* values across various sectors and maintain compliance. Hassan et al. (2015) also stated that halal executives can only empower their understanding of IHAS once they have *shariah* and technical knowledge. In summary, possessing *shariah* knowledge not only enables graduates to perform their roles effectively but also enhances their credibility and competitiveness. Indirectly, allowing them to sustain and advance in their careers within the halal industry.

Table 4.23 Academicians' Perceptions of the Importance of *Shariah* Knowledge for the Halal Profession

No.	<i>Shariah</i> Knowledge	Mean	SD	Description	Rank
K1	Halal knowledge and awareness	4.88	0.33	Most Important	1
K2	Islamic theology (<i>aqidah Islamiyah</i>)	4.72	0.52	Most Important	2
K3	Quran, hadith and Arabic language	4.29	0.84	Most Important	7
K4	Islamic jurisprudence (<i>fiqh</i>)	4.69	0.47	Most Important	3
K5	Islamic legal maxim (<i>qawaid fihiyyah</i>)	4.47	0.66	Most Important	6
K6	Islamic law of consumerism (<i>fiqh al-istihlak al-Islami</i>)	4.64	0.49	Most Important	4
K7	Objectives of Islamic law (<i>Maqasid al-Shariah</i>)	4.64	0.55	Most Important	5

Table 4.24 Industry Players' Perceptions of the Importance of *Shariah* Knowledge for the Halal Profession

No.	<i>Shariah</i> Knowledge	Mean	SD	Description	Rank
K1	Halal knowledge and awareness	4.84	0.39	Most Important	1
K2	Islamic theology (<i>aqidah Islamiyah</i>)	4.50	0.69	Most Important	4
K3	Quran, hadith and Arabic language	4.34	0.82	Most Important	7
K4	Islamic jurisprudence (<i>fiqh</i>)	4.79	0.49	Most Important	2
K5	Islamic legal maxim (<i>qawaid fihiyyah</i>)	4.48	0.76	Most Important	5
K6	Islamic law of consumerism (<i>fiqh al-istihlak al-Islami</i>)	4.67	0.62	Most Important	3
K7	Objectives of Islamic law (<i>Maqasid al-Shariah</i>)	4.48	0.76	Most Important	5

4.4.3.1.1 Gap Analysis of *Shariah* Knowledge

In achieving the objective of this study, a gap analysis of *shariah* knowledge was conducted to examine the mean difference of *shariah* knowledge as perceived by academicians and industry players. The overall mean differences for most *shariah* knowledge items were negative, showing that the industry rated these knowledge areas

as more important than academicians did. The finding suggests that industry players perceive *shariah* knowledge as a crucial component in the halal profession. This evidence is in line with Nasri et al. (2025), who highlighted that halal professionals may struggle to uphold the integrity of halal practices and make decisions related to compliance without adequate *Shariah* knowledge.

Based on Table 4.25, the results show the mean difference of the importance of *shariah* knowledge ranged from -0.10 to 0.22. The knowledge “Islamic theology (*aqidah Islamiah*)” exhibits the highest knowledge gap of 0.22 between academicians’ supply ($M = 4.72$, $SD = 0.52$) and industry players’ demand ($M = 4.50$, $SD = 0.69$). An independent sample t-test was also conducted and shows that there was a statistically significant difference for this knowledge, with $t = 2.37$, $p = 0.019$ ($p < 0.05$), with a small-to-moderate effect size (Cohen’s $d = 0.36$), indicating a meaningful gap between supply and demand.

The findings show that academicians rated “Islamic theology (*aqidah Islamiah*)” higher than industry players, with this item displaying the largest gap among all *shariah* knowledges. Although a noticeable difference exists, it is important to note that the industry still rated this knowledge as most important, indicating that both stakeholders recognise its value. The difference may be due to academicians’ view this knowledge as the backbone of *shariah* knowledge, as it covers the core beliefs in Islam and the knowledge on the development of different schools of thought (*mazhab*).

A study by Nandala and Azrak (2024) also explains that halal is not just a technical compliance but is rooted in Islamic theology and Jurisprudence. However, industry players may prioritise applied and operational knowledge, which can be directly implemented in halal auditing, certification, and business operations. If HEIs continue to place disproportionate emphasis on practical aspects, there is a risk of producing graduates who are well-versed in theory but lack the applied competencies that meet the industry requirement.

This concern also may lead to employers having to be inundated with applications from candidates who do not fully meet industry needs (Jaapar & Mohd Najib, 2025). Therefore, these findings suggest that HEIs should review and align their

curriculum with industry expectations, to ensure that theological understanding is balanced with practical and application. This alignment would enable graduates to meet industry requirements while still maintaining the *shariah* integrity of the halal profession.

Table 4.25 Gap Analysis of *Shariah* Knowledge for the Halal Profession

No.	Shariah Knowledge	Mean		Mean difference	t	Sig.
		Academician	Industry			
K1	Halal knowledge and awareness	4.88	4.84	0.04	0.62	0.534
K2	Islamic theology (<i>aqidah Islamiah</i>)	4.72	4.50	0.22	2.37	0.019
K3	Quran, hadith and Arabic language	4.29	4.34	-0.05	-0.37	0.713
K4	Islamic jurisprudence (<i>fiqh</i>)	4.69	4.79	-0.10	-1.29	0.200
K5	Islamic legal maxim (<i>qawaid fiqhiyyah</i>)	4.47	4.48	-0.01	-0.15	0.885
K6	Islamic law of consumerism (<i>fiqh al-istihlak al-Islami</i>)	4.64	4.67	-0.03	-0.31	0.758
K7	Objectives of Islamic law (<i>Maqasid al-Shariah</i>)	4.64	4.48	0.16	1.53	0.127

4.4.3.1.2 Ranking of the Most Crucial *Shariah* Knowledge

This section shows the ranking of the most crucial *Shariah* knowledge for the halal profession, based on the mean score. In cases where items obtained the same score, the ranking was determined by considering the standard deviation (SD), with a lower standard deviation indicating a stronger consensus among respondents. Based on the ranking in Table 4.26, both academicians and industry players agreed that “Halal knowledge and awareness” is the most important knowledge under *Shariah* knowledge, and rated it with the highest mean score, placing it at rank (1).

This finding indicates a strong consensus across both stakeholders regarding the critical role of this knowledge in the halal profession. Similarly, a study by Musa and Hashim (2022) found that halal knowledge is a crucial concept in Islam and acts as a key employability factor for graduates entering the halal profession. Consistent with Hashim et al. (2020), who emphasised that the development of halal human capital requires a combination of knowledge, awareness, and a positive attitude towards the halal concept, to strengthen the skills of industry workers.

This can be illustrated through the role of halal supervisors who are required to be well-versed in the understanding of what constitutes permitted and prohibited food in Islam, to prevent contamination with non-halal substances (Hamdan & Hashim, 2025). Thus, graduates possessing strong awareness and knowledge of halal are expected to be highly sought after by the halal industry, as they play an important role in ensuring the operations, services, and products comply with *shariah* principles.

Table 4.26 *Shariah* Knowledge Based on Rank According to Importance Between Academicians and Industry Players

No.	Academicians		Industry player	
1	K1	Halal knowledge and awareness	K1	Halal knowledge and awareness
2	K2	Islamic theology (<i>aqidah Islamiah</i>)	K4	Islamic jurisprudence (<i>fiqh</i>)
3	K4	Islamic jurisprudence (<i>fiqh</i>)	K6	Islamic law of consumerism (<i>fiqh al-istihlak al-Islami</i>)
4	K6	Islamic law of consumerism (<i>fiqh al-istihlak al-Islami</i>)	K2	Islamic theology (<i>aqidah Islamiah</i>)
5	K7	Objectives of Islamic law (<i>Maqasid al-Shariah</i>)	K5	Islamic legal maxim (<i>qawaid fiqhiyyah</i>)
6	K5	Islamic legal maxim (<i>qawaid fiqhiyyah</i>)	K7	Objectives of Islamic law (<i>Maqasid al-Shariah</i>)
7	K3	Quran, hadith and Arabic language	K3	Quran, hadith and Arabic language

4.4.3.2 Technical Knowledge

This section exhibits the academicians' and industry players' perceptions regarding the importance of technical knowledge for the halal profession. Out of 27 technical knowledge identified, all were considered by academicians as the most important knowledge for the future workforce in the halal industry, except for five knowledge related to business and management, with a class interval range between 3.40 – 4.20.

As shown in Table 4.27, these five knowledges were “business management” ($M = 4.02$, $SD = 0.78$), “business risk management” ($M = 4.16$, $SD = 0.75$), “corporate communication” ($M = 4.07$, $SD = 0.84$), “international trade” ($M = 4.07$, $SD = 0.92$), and “human resource management” ($M = 4.12$, $SD = 0.84$). Conversely, for industry players, only two knowledge areas were considered important, while the rest were considered most important and give average mean score of 4.20 and above. Based on Table 4.28, the overall mean score ranges between 4.13 – 4.96. The two knowledge areas that industry players considered least important than the other were “international halal supply chain standards” ($M = 4.19$, $SD = 0.88$) and “business management” ($M = 4.13$, $SD = 0.84$).

These findings show that both academicians and industry players generally agree on the importance of technical knowledge in the halal profession. In terms of business and management, knowledge such as business risk management is very important in the halal industry, as existing risks may cause significant losses. An effective risk management system enables the detection, control, and mitigation of these risks so that the halal integrity of the product remains guaranteed and consumer trust is maintained (Osman, 2022). This helps the halal industry avoid legal problems and remain competitive.

However, the slightly lower rating for business and management-related knowledge among academicians suggests that HEIs may focus more on compliance and regulatory aspects rather than business operation, risk management, and human resource management. Therefore, HEIs should enhance the inclusion of business risk management, human resource management, and corporate communication in halal

programme curricula. Strengthening these areas would ensure that graduates are capable of managing organisational risks, leading teams effectively, and communicating professionally.

Besides, there is a discrepancy in the perception of “international halal supply chain standards” and “international trade” between supply and demand. The findings indicate that academicians prioritise international halal supply chain standards over knowledge of international trade, and vice versa for industry players. This knowledge area generally refers to international halal standards such as the Organisation of Islamic Cooperation/The Standards and Metrology Institute for Islamic Countries (OIC/SMIIC), which serve as a global benchmark for halal compliance.

However, the lower rating by industry players may be due to the fact that Malaysia’s halal exports are usually aligned with specific importing countries’ requirements, as covered in the knowledge “International import regulations and guidelines”, rather than OIC/SMIIC, which are still in the process of broader international adoption (Hakim & Amaliyah, 2024). Thus, the need for this knowledge may be less compared to knowledge on ‘international trade’, which encompasses the management of shipment and distribution for goods across borders.

While Halal Development Corporation Berhad (2021) reported that the majority of halal companies engaged in domestic markets, international trade remain as critical knowledge for the halal industry. This is due to the internationalisation of local companies, which is among the strategic goals outlined in the Halal Industry Master Plan 2030 (HIMP 2030) (Ministry of Investment, Trade and Industry, 2023). This finding suggests that HEIs should continue to supply and prioritise this knowledge, as it aligns with the national agenda under HIMP 2030. Giving exposure to graduates on international trade knowledge will provide them with the understanding required to support the industry's future expansion into international markets.

Table 4.27 Academicians' Perceptions of the Importance of Technical Knowledge for the Halal Profession

No.	Technical Knowledge	Mean	SD	Description	Rank
Halal regulatory compliance					
K8	Licensing	4.71	0.56	Most Important	11
K9	Halal certification	4.86	0.40	Most Important	3
K10	Certification (other than halal certification)	4.45	0.68	Most Important	17
K11	Halal audit	4.69	0.63	Most Important	12
K12	Halal risk management	4.74	0.58	Most Important	8
K13	Halal supply chain management	4.72	0.56	Most Important	10
K14	International halal supply chain standards	4.31	0.75	Most Important	22
Halal quality and assurance					
K15	Malaysian halal standards	4.90	0.36	Most Important	1
K16	Halal assurance management system	4.86	0.40	Most Important	3
K17	Quality management system	4.57	0.60	Most Important	14
K18	Industry-specific practices	4.52	0.63	Most Important	15
K19	Traceability	4.50	0.78	Most Important	16
K20	Halal hygiene, sanitation and safety	4.78	0.53	Most Important	6
K21	Ethics and <i>toyyiban</i> concept	4.74	0.66	Most Important	9
Halal governance					
K22	Certification bodies	4.88	0.38	Most Important	2
K23	Foreign halal certification bodies	4.45	0.71	Most Important	18
K24	Industry regulatory and enforcement bodies	4.64	0.61	Most Important	13
K25	Halal-related acts and regulations	4.81	0.44	Most Important	5
K26	Halal trade laws and requirements	4.76	0.47	Most Important	7
K27	International import regulations and guidelines	4.43	0.78	Most Important	20
Business and management					
K28	Business management	4.02	0.78	Important	27
K29	Halal entrepreneurship	4.43	0.70	Most Important	19
K30	Halal marketing	4.40	0.70	Most Important	21
K31	Business risk management	4.16	0.75	Important	23
K32	Corporate communication	4.07	0.84	Important	25
K33	International trade	4.07	0.92	Important	26
K34	Human resource management	4.12	0.84	Important	24

Table 4.28 Industry Players' Perceptions of the Importance of Technical Knowledge for the Halal Profession

No.	Technical Knowledge	Mean	SD	Description	Rank
Halal regulatory compliance					
K8	Licensing	4.77	0.58	Most Important	9
K9	Halal certification	4.88	0.46	Most Important	3
K10	Certification (other than halal certification)	4.29	0.84	Most Important	22
K11	Halal audit	4.77	0.55	Most Important	8
K12	Halal risk management	4.82	0.52	Most Important	6
K13	Halal supply chain management	4.80	0.52	Most Important	7
K14	International halal supply chain standards	4.19	0.88	Important	26
Halal quality and assurance					
K15	Malaysian halal standards	4.93	0.29	Most Important	2
K16	Halal assurance management system	4.96	0.19	Most Important	1
K17	Quality management system	4.57	0.64	Most Important	16
K18	Industry-specific practices	4.61	0.65	Most Important	14
K19	Traceability	4.73	0.58	Most Important	10
K20	Halal hygiene, sanitation and safety	4.87	0.37	Most Important	4
K21	Ethics and <i>toyyiban</i> concept	4.72	0.52	Most Important	11
Halal governance					
K22	Certification bodies	4.86	0.46	Most Important	5
K23	Foreign halal certification bodies	4.54	0.72	Most Important	17
K24	Industry regulatory and enforcement bodies	4.59	0.71	Most Important	15
K25	Halal-related acts and regulations	4.72	0.63	Most Important	12
K26	Halal trade laws and requirements	4.63	0.71	Most Important	13
K27	International import regulations and guidelines	4.29	0.89	Most Important	23
Business and management					
K28	Business management	4.13	0.84	Important	27
K29	Halal entrepreneurship	4.45	0.75	Most Important	20
K30	Halal marketing	4.54	0.73	Most Important	18
K31	Business risk management	4.32	0.86	Most Important	21
K32	Corporate communication	4.47	0.73	Most Important	19
K33	International trade	4.28	0.84	Most Important	24
K34	Human resource management	4.28	0.89	Most Important	25

4.4.3.2.1 Gap Analysis of Technical Knowledge

The analysis of mean scores and standard deviation revealed a gap between the academicians (supply) and industry players (demand) stakeholders. Out of 27 technical knowledge items identified, 18 items were rated higher by industry players compared to academicians, while only nine items received higher ratings from academicians. This finding highlights the strong emphasis placed by the industry on technical knowledge and indicates that employers expect graduates to possess a higher level of technical knowledge. This evidence aligns with Nuratifah et al. (2019), who underscored that halal professionals need to have strong technical knowledge to ensure the effective implementation of halal practices and the overall efficiency of halal operations within the industry.

Based on Table 4.29, the results show a gap analysis of technical knowledge for the halal profession. For instance, in the item “corporate communication”, industry players reported a slightly higher mean score ($M = 4.47$, $SD = 0.73$) compared to academicians ($M = 4.07$, $SD = 0.84$), resulting in a negative mean difference score -0.40, and demonstrates the presence of a gap. An independent sample t-test analysis was also conducted and shows that there was a statistically significant difference between supply and demand, on this “corporate communication” knowledge, with $t = -3.27$, $p = 0.001$ ($p < 0.05$), with a moderate effect size (Cohen’s $d = 0.51$), indicating a meaningful gap between supply and demand.

The findings show that industry players rated “corporate communication” higher than academicians, with this item displaying the largest gap among all technical knowledge. This knowledge refers to the way an organisation manages and facilitates communication to build a positive image, ensure clarity, and achieve business goals. In addition, Ahmad and Taib (2024) also highlighted that corporate communication is critical in the halal business for building a distinct halal brand identity that goes beyond the halal certification emblem to include ethical values like quality, safety, sustainability, and social responsibility. Hence, this calls for continuous review and enhancement of the halal programme curriculum to include corporate communication, ensuring graduates fulfil current and future halal industry demands.

Table 4.29 Gap Analysis of Technical Knowledge for the Halal Profession

No.	Technical Knowledge	Mean		Mean difference	t	Sig.
		Academician	Industry			
Halal regulatory compliance						
K8	Licensing	4.71	4.77	-0.06	-0.70	0.484
K9	Halal certification	4.86	4.88	-0.01	-0.21	0.832
K10	Certification (other than halal certification)	4.45	4.29	0.16	1.25	0.214
K11	Halal audit	4.69	4.77	-0.08	-0.89	0.377
K12	Halal risk management	4.74	4.82	-0.08	-0.96	0.341
K13	Halal supply chain management	4.72	4.80	-0.08	-0.87	0.388
K14	International halal supply chain standards	4.31	4.19	0.12	0.87	0.388
Halal quality and assurance						
K15	Malaysian halal standards	4.90	4.93	-0.03	-0.66	0.513
K16	Halal assurance management system	4.86	4.96	-0.10	-1.88	0.064
K17	Quality management system	4.57	4.57	0.00	-0.01	0.990
K18	Industry-specific practices	4.52	4.61	-0.09	-0.85	0.395
K19	Traceability	4.50	4.73	-0.23	-1.97	0.052
K20	Halal hygiene, sanitation and safety	4.78	4.87	-0.09	-1.19	0.237
K21	Ethics and <i>toyyiban</i> concept	4.74	4.72	0.02	0.24	0.812
Halal governance						
K22	Certification bodies	4.88	4.86	0.02	0.28	0.779
K23	Foreign halal certification bodies	4.45	4.54	-0.09	-0.75	0.452
K24	Industry regulatory and enforcement bodies	4.64	4.59	0.05	0.46	0.649
K25	Halal-related acts and regulations	4.81	4.72	0.09	1.10	0.271
K26	Halal trade laws and requirements	4.76	4.63	0.13	1.40	0.163
K27	International import regulations and guidelines	4.43	4.29	0.14	1.03	0.305

Business and management						
K28	Business management	4.02	4.13	-0.11	-0.87	0.388
K29	Halal entrepreneurship	4.43	4.45	-0.02	-0.14	0.891
K30	Halal marketing	4.40	4.54	-0.14	-1.19	0.235
K31	Business risk management	4.16	4.32	-0.16	-1.28	0.203
K32	Corporate communication	4.07	4.47	-0.40	-3.27	0.001
K33	International trade	4.07	4.28	-0.21	-1.52	0.130
K34	Human resource management	4.12	4.28	-0.16	-1.14	0.257

4.4.3.2.2 Ranking of the Most Crucial Technical Knowledge

The ranking of technical knowledge according to importance between academicians and industry players was shown in Table 4.30. Based on the result, both academicians and industry players ranked “business management” with the lowest mean score, placing it at rank (27). This finding indicates a strong consensus across both stakeholders regarding the least crucial technical knowledge for the halal profession. In contrast, both stakeholders have different perception on the most crucial technical knowledge in the halal industry. While academicians placed “Malaysian halal standards” at the top of the list, industry players assigned the highest rank to “Halal assurance management system”.

Malaysia’s halal standard refers to the understanding of MS 1500:2019 document that provides a framework for halal standards that must be adhered to, while Halal assurance management system is a system that must be implemented to ensure continuous compliance with halal standards throughout the supply chain (Al-Azmi & Hamid, 2025). In summary, both knowledges on Malaysian halal standards and HAS complement each other and are very important to guarantee quality and trusted halal products in Malaysia. Therefore, by mastering this knowledge, graduates can carry out their responsibilities more effectively, increase their efficiency, marketability, and ability to enter the halal job market.

Table 4.30 Technical Knowledge Based on Rank According to Importance Between Academicians and Industry Players

No.	Academicians		Industry player	
1	K15	Malaysian halal standards	K16	Halal assurance management system
2	K22	Certification bodies	K15	Malaysian halal standards
3	K9	Halal certification	K9	Halal certification
4	K16	Halal assurance management system	K20	Halal hygiene, sanitation and safety
5	K25	Halal-related acts and regulations	K22	Certification bodies
6	K20	Halal hygiene, sanitation and safety	K12	Halal risk management
7	K26	Halal trade laws and requirements	K13	Halal supply chain management
8	K12	Halal risk management	K11	Halal audit
9	K21	Ethics and <i>toyyiban</i> concept	K8	Licensing
10	K13	Halal supply chain management	K19	Traceability
11	K8	Licensing	K21	Ethics and <i>toyyiban</i> concept
12	K11	Halal audit	K25	Halal-related acts and regulations
13	K24	Industry regulatory and enforcement bodies	K26	Halal trade laws and requirements
14	K17	Quality management system	K18	Industry-specific practices
15	K18	Industry-specific practices	K24	Industry regulatory and enforcement bodies
16	K19	Traceability	K17	Quality management system
17	K10	Certification (other than halal certification)	K23	Foreign halal certification bodies
18	K23	Foreign halal certification bodies	K30	Halal marketing
19	K29	Halal entrepreneurship	K32	Corporate communication
20	K27	International import regulations and guidelines	K29	Halal entrepreneurship
21	K30	Halal marketing	K31	Business risk management
22	K14	International halal supply chain standards	K10	Certification (other than halal certification)
23	K31	Business risk management	K27	International import regulations and guidelines
24	K34	Human resource management	K33	International trade
25	K32	Corporate communication	K34	Human resource management
26	K33	International trade	K14	International halal supply chain standards
27	K28	Business management	K28	Business management

4.4.3.3 Science and Technology (S&T) Knowledge

This section presents the academicians' and industry players' perceptions regarding the importance of science and technology knowledge for the halal profession. Out of 6 science and technology knowledge identified, all were considered by academicians as the most important knowledge for the future workforce in the halal industry, except for knowledge "Laboratory testing" ($M = 4.19$, $SD = 0.85$) and "Applied science" ($M = 4.14$, $SD = 0.87$). Both knowledge were considered important with a class interval below 4.20. Conversely, for industry players, only one knowledge was considered important, while the rest were considered most important and give average mean score of 4.20 and above. That knowledge is "Technological advances" ($M = 4.20$, $SD = 0.78$).

In order, industry players has agreed that the top five most important science and technology knowledge were (1) Product and service innovation ($M = 4.57$, $SD = 0.62$), (2) Logistic and supply chain technology (4.53 , $SD = 0.67$), (3) Industrial process and operations ($M = 4.49$, $SD = 0.68$), (4) Laboratory testing ($M = 4.47$, $SD = 0.71$), and (5) Applied science ($M = 4.32$, $SD = 0.75$). The range of mean scores from industry players was between 4.20 – 4.57. These findings indicate that both academicians and industry players generally agree on the importance of science and technology knowledge in the halal profession. However, while industry players considered knowledge on laboratory testing and applied science as most important, academicians tend to place less emphasis on these areas.

A study by Al-Azmi and Hamid (2025) highlighted that laboratory testing is important for the halal profession, as it is required to detect cross-contamination, ensure the absence of *haram* or impure substances, and assess the chemical and microbiological content of halal products to ensure food safety and compliance with halal standards. Similarly, Manalo and Falco (2025) also underscored that applied science knowledge is needed among halal industry personnel. Therefore, graduates who possess this knowledge will be more relevant in the halal job market, compared to graduates who do not have this knowledge.

Table 4.31 Academicians' Perceptions of the Importance of Science and Technology Knowledge for the Halal Profession

No.	Science and Technology Knowledge	Mean	SD	Description	Rank
K35	Laboratory testing	4.19	0.85	Important	5
K36	Applied science	4.14	0.87	Important	6
K37	Technological advances	4.24	0.80	Most Important	4
K38	Industrial process and operations	4.40	0.82	Most Important	1
K39	Logistic and supply chain technology	4.31	0.84	Most Important	3
K40	Product and service innovation	4.38	0.88	Most Important	2

Table 4.32 Industry Players' Perceptions of the Importance of Science and Technology Knowledge for the Halal Profession

No.	Science and Technology Knowledge	Mean	SD	Description	Rank
K35	Laboratory testing	4.47	0.71	Most Important	4
K36	Applied science	4.32	0.75	Most Important	5
K37	Technological advances	4.20	0.78	Important	6
K38	Industrial process and operations	4.49	0.68	Most Important	3
K39	Logistic and supply chain technology	4.53	0.67	Most Important	2
K40	Product and service innovation	4.57	0.62	Most Important	1

4.4.3.3.1 Gap Analysis of Science and Technology Knowledge

According to the result of gap analysis for science and technology knowledge, it can be concluded that the overall mean differences for most items in science and technology knowledge were negative, showing that the industry rated these knowledge areas as more important than academicians did. In contrast, only one knowledge that rated by academicians as more important than industry players did. The finding suggests that industry players perceive science and technology knowledge as a crucial competency to perform in the halal industry. This aligns with Nik Mohd Rosli et al. (2022), who also

shows that professionals with science and technology knowledge are often employed to bridge the gap between halal compliance and scientific requirements.

According to the result of gap analysis for science and technology knowledge shown in Table 4.33, it can be concluded that there was a statistically significant difference between academicians (supply) and industry players (demand). The knowledge was considered to have a statistically significant difference when p (sig.) = <0.05 . For science and technology knowledge, “Laboratory testing” knowledge shows as the highest knowledge gap of -0.28, between academicians ($M = 4.19$, $SD = 0.85$) and industry players ($M = 4.47$, $SD = 0.71$), with $t = -2.33$, $p = 0.021$ and a small-to-moderate effect size (Cohen’s $d = 0.36$), indicating a meaningful gap in this knowledge area.

The finding indicates that industry players rated “Laboratory testing” higher than academicians, with this item displaying the largest gap among all science and technology knowledge. This evidence aligns with Nazri et al. (2025), who highlighted that scientific laboratory testing methods play a crucial role in halal verification, and halal professionals that involved in certification must understand the advanced laboratory techniques used, such as the Polymerase Chain Reaction (PCR) test. This shows that laboratory testing knowledge is important to ensure halal assurance, a workforce with this knowledge is also needed in the halal industry. Therefore, this finding underscores the need for HEIs to strengthen the delivery and coverage of industry-relevant knowledge to ensure better alignment with current and future industry demands.

Table 4.33 Gap Analysis of Science and Technology Knowledge for the Halal Profession

No.	Science and Technology Knowledge	Mean		Mean difference	t	Sig.
		Academician	Industry			
K35	Laboratory testing	4.19	4.47	-0.28	-2.33	0.021
K36	Applied science	4.14	4.32	-0.18	1.47	0.144
K37	Technological advances	4.24	4.20	0.04	0.31	0.755

K38	Industrial process and operations	4.40	4.49	-0.09	-0.76	0.449
K39	Logistic and supply chain technology	4.31	4.53	-0.22	-1.70	0.092
K40	Product and service innovation	4.38	4.57	-0.19	-1.48	0.142

4.4.3.3.2 Ranking of the Most Crucial Science and Technology Knowledge

The ranking of the six science and technology knowledge areas according to importance between academicians and industry players was shown in Table 4.34. Based on the result, it can be concluded that both academicians and industry players have different perceptions regarding the crucial science and technology knowledge for the halal profession. While academicians placed “Industrial process and operations” at the top of the list, industry players assigned the highest rank to “Product and service innovation”.

This ranking may reflect the current technological needs that demand the use of cutting-edge technology in industrial processes and operations. In addition, the knowledge of product and service innovation also plays an important role in maintaining competitiveness in the growing halal industry. In addition, Tukiran et al. (2025) highlighted that manufacturing technology and Industry 4.0 innovations significantly impact the halal industry. Thus, graduates with both of these knowledges are expected to improve operational efficiency and contribute to the development of more innovative and competitive halal products, as well as sustain their careers in the halal industry.

Table 4.34 Science and Technology Knowledge Based on Rank According to Importance Between Academicians and Industry Players

No.	Academicians		Industry player	
1	K38	Industrial process and operations	K40	Product and service innovation
2	K40	Product and service innovation	K39	Logistic and supply chain technology

3	K39	Logistic and supply chain technology	K38	Industrial process and operations
4	K37	Technological advances	K35	Laboratory testing
5	K35	Laboratory testing	K36	Applied science
6	K36	Applied science	K37	Technological advances

4.4.4 Descriptive Statistics of Skills for Halal Profession

4.4.4.1 Soft Skills

This section describes the academicians' and industry players' perceptions regarding the importance of soft skills for the halal profession. Based on Table 4.35, all soft skills were considered most important among academicians, except for three languages under language proficiency. Those languages were "Arabic language" ($M = 3.71$, $SD = 0.77$) considered important, "Mandarin language" ($M = 3.45$, $SD = 1.01$) considered important, and "Tamil language" ($M = 2.78$, $SD = 0.90$) considered somewhat important. Similar to the academicians' perception, "Arabic language" ($M = 2.91$, $SD = 0.89$), "Mandarin language" ($M = 2.82$, $SD = 1.09$), and "Tamil language" ($M = 2.29$, $SD = 0.98$) were considered least important compared to others by industry players, as shown in Table 4.36.

These languages may be considered important and applicable only for certain companies that operate within specific market segments or engage with clients, suppliers, or partners who use these languages. Consequently, their relevance may vary depending on the company's target market and operational scope within the halal industry. These findings also indicate that all soft skills except for language proficiency were perceived as most important among both academicians' supply and industry demand.

This evidence is parallel with the Technical Education and Skills Development Authority (TESDA) (2023), which highlighted that halal professionals not only require in-depth technical knowledge but also important soft skills such as communication skills, critical thinking, customer service, decision-making, flexibility, leadership, and negotiation, which are highly relevant for halal workers and management. For example,

a halal auditor needs to have communication and interpersonal skills to engage with employees during an audit, as well as decision-making and critical thinking skills to assess whether a process complies with halal standards. While HEIs are on the right track in providing these skills to graduates, this study suggests that HEIs continue strengthening and improving their practical and experiential teaching approaches to ensure that these skills can be truly applied by graduates in real-world employment situations in the halal industry.

Table 4.35 Academicians' Perceptions of the Importance of Soft Skills for the Halal Profession

No.	Soft Skills	Mean	SD	Description	Rank
S1	Cognitive skills	4.67	0.60	Most Important	6
S2	Interpersonal skills	4.67	0.60	Most Important	6
S3	Communication skills	4.71	0.53	Most Important	2
S4	Leadership skills	4.67	0.57	Most Important	5
S5	Personal skills	4.64	0.67	Most Important	9
S6	Entrepreneurial skills	4.45	0.71	Most Important	13
S7	Teamwork skills	4.71	0.53	Most Important	2
S8	Problem solving skills	4.78	0.50	Most Important	1
S9	Adaptability skills	4.64	0.61	Most Important	8
S10	Critical and analytical thinking skills	4.71	0.53	Most Important	2
S11	Creative thinking skills	4.53	0.68	Most Important	11
S12	Negotiation skills	4.53	0.68	Most Important	11
S13	Managerial and coordination skills	4.60	0.59	Most Important	10
Language Proficiency					
S14	Malay language	4.91	0.28	Most Important	1
S15	English language	4.79	0.41	Most Important	2
S16	Mandarin language	3.45	1.01	Important	4
S17	Tamil language	2.78	0.90	Somewhat Important	5
S18	Arabic language	3.71	0.77	Important	3

Table 4.36 Industry Players' Perceptions of the Importance of Soft Skills for the Halal Profession

No.	Soft Skills	Mean	SD	Description	Rank
S1	Cognitive skills	4.71	0.53	Most Important	10
S2	Interpersonal skills	4.83	0.40	Most Important	2
S3	Communication skills	4.75	0.47	Most Important	8
S4	Leadership skills	4.75	0.47	Most Important	8
S5	Personal skills	4.77	0.48	Most Important	6
S6	Entrepreneurial skills	4.43	0.74	Most Important	13
S7	Teamwork skills	4.77	0.50	Most Important	7
S8	Problem solving skills	4.84	0.39	Most Important	1
S9	Adaptability skills	4.79	0.41	Most Important	4
S10	Critical and analytical thinking skills	4.82	0.38	Most Important	3
S11	Creative thinking skills	4.65	0.60	Most Important	11
S12	Negotiation skills	4.61	0.57	Most Important	12
S13	Managerial and coordination skills	4.78	0.44	Most Important	5
Language Proficiency					
S14	Malay language	4.92	0.27	Most Important	1
S15	English language	4.69	0.52	Most Important	2
S16	Mandarin language	2.82	1.09	Somewhat Important	4
S17	Tamil language	2.29	0.98	Less Important	5
S18	Arabic language	2.91	0.89	Somewhat Important	3

4.4.4.1.1 Gap Analysis of Soft Skills

The analysis of mean scores and standard deviation revealed a gap between the academicians (supply) and industry players (demand) stakeholders. Out of 18 soft skills, only one soft skill and four language proficiency skills showed a positive mean difference. This indicates that the rest were rated higher by industry than academician. This result also exhibits that the industry has higher expectations of graduates' soft skills, especially in the areas of communication, teamwork, and critical and analytical thinking skills in the workplace. This finding is consistent with a study by Mohd Nor et al. (2024), which stated that soft skills are an important element in ensuring graduates' marketability and their ability to adapt to real industry needs.

To further examine whether the gaps were statistically significant, an independent sample t-test was conducted, as shown in Table 4.37. The result revealed that there are four soft skills has significant difference, consisting of one skill and three language proficiency. Those items are “Managerial and coordination skills” ($t = -2.02$, $p = 0.046$), “Mandarin language” ($t = 3.68$, $p = < 0.001$), “Tamil language” ($t = 3.15$, $p = 0.002$), and “Arabic language” ($t = 5.79$, $p = < 0.001$). In addition, “Managerial and coordination skills” with mean difference -0.18 and a small-to-moderate effect size (Cohen’s $d = 0.35$), and “Arabic language” with mean difference 0.80 and a large effect size (Cohen’s $d = 0.96$), indicate a significant gap between the perceptions of academicians and industry players, thus indicating a mismatch between the skills provided by HEIs and the skills required by the halal industry.

This mismatch can be evidenced by Jaapar and Mohd Najib (2025), who reported that while graduates have strong academic knowledge of halal certification, they tend to lack preparation for the roles that need technical, managerial, and coordination skills. For instance, a position such as halal supply chain officer not only has to organise the flow of raw materials and products to comply with halal standards, but also ensure that every stage from suppliers, production, storage, to distribution runs efficiently and free from any risk of cross-contamination.

Therefore, graduates with soft skills such as managerial and coordination skills are capable of planning, coordinating, and managing, in ensuring halal integrity throughout the supply chain. Hence, HEIs should re-examine their current curricula to ensure that the development of soft skills among students adequately meets industry expectations and prepares graduates to perform effectively in real working environments.

Table 4.37 Gap Analysis of Soft Skills for the Halal Profession

No.	Soft Skills	Mean		Mean difference	t	Sig.
		Academician	Industry			
S1	Cognitive skills	4.67	4.71	-0.04	-0.43	0.670
S2	Interpersonal skills	4.67	4.83	-0.16	-1.84	0.070

S3	Communication skills	4.71	4.75	-0.05	-0.60	0.550
S4	Leadership skills	4.67	4.75	-0.08	-0.94	0.350
S5	Personal skills	4.64	4.77	-0.13	-1.36	0.177
S6	Entrepreneurial skills	4.45	4.43	0.02	0.16	0.875
S7	Teamwork skills	4.71	4.77	-0.06	-0.79	0.430
S8	Problem solving skills	4.78	4.84	-0.06	-0.96	0.339
S9	Adaptability skills	4.64	4.79	-0.15	-1.70	0.093
S10	Critical and analytical thinking skills	4.71	4.82	-0.11	-1.50	0.136
S11	Creative thinking skills	4.53	4.65	-0.12	-1.14	0.257
S12	Negotiation skills	4.53	4.61	-0.08	-0.81	0.421
S13	Managerial and coordination skills	4.60	4.78	-0.18	-2.02	0.046
Language Proficiency						
S14	Malay language	4.91	4.92	-0.01	-0.16	0.870
S15	English language	4.79	4.69	0.10	1.28	0.201
S16	Mandarin language	3.45	2.82	0.63	3.68	<0.001
S17	Tamil language	2.78	2.29	0.49	3.15	0.002
S18	Arabic language	3.71	2.91	c	5.79	<0.001

4.4.4.1.2 Ranking of the Most Crucial Soft Skills

This section shows the ranking of the most crucial soft skills for the halal profession, based on the mean score. In cases where items obtained the same score, the ranking was determined by considering the standard deviation (SD), with a lower standard deviation indicating a stronger consensus among respondents. Based on the ranking in Table 4.38, both academicians and industry players agreed that “problem solving skills” is the most important soft skill, and rated it with the highest mean score, placing it at rank (1).

This finding aligns with Nik Mohd Rosli et al. (2022), who considered this skill as one of the key elements of halal management skills in the halal industry. For example, halal executives have to face various challenges in halal implementation and management, which require them to think critically and solve problems arising from various levels of operations. Therefore, graduates need to be instilled with this skill to enable them to perform their duties as halal executives effectively and be able to make

accurate and effective decisions when faced with complex situations or issues related to halal compliance.

In terms of language proficiency, the ranking order was identical for both stakeholders, indicating strong agreement regarding the relative importance of these items. Specifically, “Malay language” was ranked the highest, followed by “English language”, “Arabic language”, and “Mandarin language”. Meanwhile, “Tamil language” was consistently ranked the lowest. This consistency suggests that there is a shared understanding between academicians and industry players in terms of the importance of language proficiency within the halal profession.

Table 4.38 Soft Skills Based on Rank According to Importance Between Academicians and Industry Players

No.	Academicians		Industry player	
1	S8	Problem solving skills	S8	Problem solving skills
2	S3	Communication skills	S2	Interpersonal skills
3	S7	Teamwork skills	S10	Critical and analytical thinking skills
4	S10	Critical and analytical thinking skills	S9	Adaptability skills
5	S4	Leadership skills	S13	Managerial and coordination skills
6	S1	Cognitive skills	S5	Personal skills
7	S2	Interpersonal skills	S7	Teamwork skills
8	S9	Adaptability skills	S3	Communication skills
9	S5	Personal skills	S4	Leadership skills
10	S13	Managerial and coordination skills	S1	Cognitive skills
11	S11	Creative thinking skills	S11	Creative thinking skills
12	S12	Negotiation skills	S12	Negotiation skills
13	S6	Entrepreneurial skills	S6	Entrepreneurial skills
Language Proficiency				
1	S14	Malay language	S14	Malay language
2	S15	English language	S15	English language
3	S16	Arabic language	S16	Arabic language
4	S17	Mandarin language	S17	Mandarin language
5	S18	Tamil language	S18	Tamil language

4.4.4.2 Hard Skills

This section presents the academicians' and industry players' perceptions regarding the importance of hard skills for the future workforce in the halal industry. Based on Table 4.39, all hard skills were considered most important among academicians, except "Numeracy skills" ($M = 4.14$, $SD = 0.66$) and "Laboratory skills" ($M = 4.05$, $SD = 0.76$). Both were considered important with a class interval below 4.20. Similarly, the industry players' perceptions were in line with the academicians', regarding the two (2) skills; "Numeracy skills" ($M = 4.02$, $SD = 0.84$) and "Laboratory skills" ($M = 3.97$, $SD = 0.95$), were considered important with a class interval range between 3.41 – 4.20. Meanwhile, the other seven skills were given a mean score of 4.20 and above, and considered as the most important hard skills, as shown in Table 4.40.

These findings show that numeracy skills and laboratory skills are considered less important than other skills in the halal industry. This may be due to the relative importance of the tasks, where many positions in the industry place more emphasis on management, compliance, communication, and teamwork skills (Borhan et al., 2023) than on numeracy or laboratory skills. Furthermore, not all halal companies are involved in intensive production or research, as some companies are more focused on distribution or service. For example, roles such as halal executive or quality assurance officer require an emphasis on halal compliance, documentation management, and teamwork (Mohd Mokhtar, 2021), while tasks requiring laboratory and computational skills are usually more relevant to roles such as halal auditor or product development officer.

Despite the low mean score, these skills are still important, especially for graduates who wish to be involved in production operations, quality control, and research of halal products. HEIs could consider providing basic numeracy and practical laboratory training as additional support to enhance the employability of graduates in more technical sectors.

Table 4.39 Academicians' Perceptions of the Importance of Hard Skills for the Halal Profession

No.	Hard Skills	Mean	SD	Description	Rank
S19	Numeracy skills	4.14	0.66	Important	8
S20	Practical skills	4.48	0.60	Most Important	3
S21	Digital and IT skills	4.47	0.68	Most Important	4
S22	Report and writing skills	4.57	0.57	Most Important	1
S23	Organisational skills	4.57	0.57	Most Important	1
S24	Multitasking skills	4.36	0.77	Most Important	7
S25	Research skills	4.41	0.65	Most Important	6
S26	Laboratory skills	4.05	0.76	Important	9
S27	Data management skills	4.43	0.73	Most Important	5

Table 4.40 Industry Players' Perceptions of the Importance of Hard Skills for the Halal Profession

No.	Hard Skills	Mean	SD	Description	Rank
S19	Numeracy skills	4.02	0.84	Important	8
S20	Practical skills	4.67	0.58	Most Important	4
S21	Digital and IT skills	4.50	0.64	Most Important	6
S22	Report and writing skills	4.69	0.52	Most Important	2
S23	Organisational skills	4.68	0.49	Most Important	3
S24	Multitasking skills	4.70	0.50	Most Important	1
S25	Research skills	4.48	0.66	Most Important	7
S26	Laboratory skills	3.97	0.95	Important	9
S27	Data management skills	4.54	0.63	Most Important	5

4.4.4.2.1 Gap Analysis of Hard Skills

Similar to soft skills, hard skills were also rated lower by academicians compared to industry players. This indicates the existence of a skills gap that may stem from academicians' limited understanding of the specific skills required in the industry. When such a gap exists, graduates may face challenges in performing effectively and meeting job requirements. Parallel with the study by Mohd Nor et al. (2024), who reported that graduates need to possess sufficient hard skills to perform tasks effectively, otherwise, they will struggle to secure employment in the industry. This could happen when the skills emphasised in academic programmes may not fully align

with those demanded in the workplace. Therefore, continual collaboration between academicians and industry is required to ensure that the curriculum remains relevant and responsive to changing industrial needs.

An independent sample t-test analysis of hard skills was conducted to examine the gap analysis between academicians (supply) and industry players (demand). The result confirms that the gap observed is not due to random variation but reflects a real difference in perception between the two stakeholders. Based on Table 4.41, “Multitasking skills” showed a significant different between academicians ($M = 4.36$, $SD = 0.77$) and industry players ($M = 4.70$, $SD = 0.50$), with $t = -3.07$, $p = 0.003$ and a moderate effect size (Cohen’s $d = 0.52$), indicating a meaningful gap between supply and demand in this skill area. Indirectly, this skill is also considered the highest skills gap between supply and demand, as the mean difference shows -0.34.

These results show that the industry places great importance on multitasking skills. Consistent with Mohd Mokhtar (2021), who indicated that almost the majority of the company offers halal positions combined with other management roles, such as food safety and hygiene cum halal officer. Undeniably, this evidence shows the reason that multitasking skills are considered to be of utmost importance in the industry, as halal professionals need to manage multiple tasks and responsibilities simultaneously to ensure halal operations run smoothly and adhere to strict standards. Although this combination of roles presents a high workload for halal professionals as reported by Mohd Mokhtar (2021), multitasking skills remain essential for graduates to maintain their careers and reduce the risk of unemployment, as this skill enable them to manage multiple responsibilities efficiently.

Table 4.41 Gap Analysis of Hard Skills for the Halal Profession

No.	Hard Skills	Mean		Mean difference	t	Sig.
		Academician	Industry			
S19	Numeracy skills	4.14	4.02	0.12	0.95	0.343
S20	Practical skills	4.48	4.67	-0.19	-1.96	0.052
S21	Digital and IT skills	4.47	4.50	-0.03	-0.33	0.745

S22	Report and writing skills	4.57	4.69	-0.12	-1.44	0.152
S23	Organisational skills	4.57	4.68	-0.11	-1.22	0.225
S24	Multitasking skills	4.36	4.70	-0.34	-3.07	0.003
S25	Research skills	4.41	4.48	-0.07	-0.65	0.515
S26	Laboratory skills	4.05	3.97	0.08	0.55	0.586
S27	Data management skills	4.43	4.54	-0.11	-0.97	0.331

4.4.4.2.2 Ranking of the Most Crucial Hard Skills

The ranking of the nine hard skills according to importance between academicians and industry players was shown in Table 4.42. Based on the result, both academicians and industry players agreed that “Numeracy skills” and “Laboratory skills” are considered the least important hard skills compared to other skills, and rated them with the lowest mean score, placing them at the bottom with rankings (8) and (9). Furthermore, these findings also indicate that both academicians and industry players have different perceptions regarding the most crucial hard skills for the halal profession. While academicians placed either “Report and writing skills” and “Organisational skills” at the top of the list, industry players assigned the highest rank to “Multitasking skills”.

Without a doubt, multitasking skill is among the most important skills as most job offers by employers now combine several roles in one position. This is also proven through survey findings of this study (*refer to Table 4.21*), which show that many respondents fill positions that combine roles such as halal executive cum quality assurance officer or halal executive cum marketing officer. On the other hand, academicians prioritise report and writing, and organisational skills over multitasking skills.

Report and writing skills are especially important for roles such as halal officers who need to prepare halal audit reports, compliance documentation, and periodic monitoring reports (Abdul Aziz & Che Hussin, 2024b). Meanwhile, organisational skills are also significant because a halal executive needs to organise internal audit schedules, coordinate halal documentation, and ensure that all processes run according to set standards (Nasri et al., 2025). In conclusion, these three skills play an important

role and are needed by graduates to ensure they can perform their tasks effectively and adapt to the current demands of the halal industry.

Table 4.42 Hard Skills Based on Rank According to Importance Between Academicians and Industry Players

No.	Academicians		Industry player	
1	S22	Report and writing skills	S24	Multitasking skills
2	S23	Organisational skills	S22	Report and writing skills
3	S20	Practical skills	S23	Organisational skills
4	S21	Digital and IT skills	S20	Practical skills
5	S27	Data management skills	S27	Data management skills
6	S25	Research skills	S21	Digital and IT skills
7	S24	Multitasking skills	S25	Research skills
8	S19	Numeracy skills	S19	Numeracy skills
9	S26	Laboratory skills	S26	Laboratory skills

4.4.5 Descriptive Statistics of Attributes for Halal Profession

4.4.5.1 Attributes

This section presents the academicians' and industry players' perceptions regarding the importance of attributes for the halal profession. Based on the result in Table 4.43, academicians, on average, perceived that the top five attributes considered most important were (1) "Ethical and has integrity" ($M = 4.98$, $SD = 0.13$), (2) "Adherence to Islamic values and practices" ($M = 4.97$, $SD = 0.18$), and (3) "Accountable" ($M = 4.90$, $SD = 0.31$). In addition, the mean score for all the attributes listed *ranged* between 4.59 – 4.98. This indicates that all attributes were perceived as most important among academicians.

Same perceptions with industry players, as shown in Table 4.44, there are 12 skills that were given a more than average mean score of 4.20 and above, and considered as the most important skills. In order, the top three the most important attributes perceived by industry players were (1) "Ethical and has integrity" ($M = 4.89$, $SD =$

0.31), (2) “Adherence to Islamic values and practices” ($M = 4.87$, $SD = 0.37$), and “Lifelong learner” ($M = 4.86$, $SD = 0.37$). The findings of this study are consistent with those reported by Mohd Nor et al. (2024), who also listed similar attributes and emphasised their importance for graduates pursuing careers in the halal profession. This alignment indicates that all identified attributes are essential in shaping competent and ethical halal professionals.

This evidence is in line with Mohd Kamaruzaman et al. (2019), who highlighted that graduates with good personal attributes also play an important role in ensuring the effectiveness of task execution and career continuity in the current job market. Thus, these positive attributes not only reflect the professionalism of a graduate but also help build the trust of employers and strengthen the organisation's reputation in the halal industry. This highlights the idea that personal qualities such as ethical conduct and integrity, adherence to Islamic values and practices, lifelong learning, and accountability play a critical role in ensuring professionalism and sustainability within the halal industry.

Table 4.43 Academicians’ Perceptions of the Importance of Attributes for the Halal Profession

No.	Attributes	Mean	SD	Description	Rank
A1	Ethical and has integrity	4.98	0.13	Most Important	1
A2	Adherence to Islamic values and practices	4.97	0.18	Most Important	2
A3	Accountable	4.90	0.31	Most Important	3
A4	Perceptive	4.72	0.45	Most Important	6
A5	Versatile	4.59	0.59	Most Important	12
A6	Decisive	4.71	0.50	Most Important	8
A7	Self-reliant	4.60	0.62	Most Important	11
A8	Meticulous	4.71	0.50	Most Important	8
A9	Systematic	4.71	0.46	Most Important	7
A10	Professionalism	4.81	0.40	Most Important	4
A11	Tenacious	4.66	0.52	Most Important	10
A12	Lifelong learner	4.76	0.47	Most Important	5

Table 4.44 Industry Players' Perceptions of the Importance of Attributes for the Halal Profession

No.	Attributes	Mean	SD	Description	Rank
A1	Ethical and has integrity	4.89	0.31	Most Important	1
A2	Adherence to Islamic values and practices	4.87	0.37	Most Important	2
A3	Accountable	4.84	0.39	Most Important	5
A4	Perceptive	4.76	0.47	Most Important	9
A5	Versatile	4.71	0.54	Most Important	11
A6	Decisive	4.81	0.40	Most Important	7
A7	Self-reliant	4.68	0.60	Most Important	12
A8	Meticulous	4.82	0.43	Most Important	6
A9	Systematic	4.78	0.42	Most Important	8
A10	Professionalism	4.85	0.36	Most Important	4
A11	Tenacious	4.75	0.44	Most Important	10
A12	Lifelong learner	4.86	0.37	Most Important	3

4.4.5.1.1 Gap Analysis of Attributes

In order to strengthen the analysis, independent samples t-tests were conducted to determine whether the mean differences (gaps) between the supply (academicians) and demand (industry players) groups were statistically significant. Based on the result in Table 4.45, there are two attributes that have a significant difference: (1) Ethical and has integrity ($t = 2.62$, $p = 0.010$) and (2) Adherence to Islamic values and practices ($t = 2.32$, $p = 0.021$). The finding also indicates that the overall mean differences for most attributes were negative, showing that the industry rated these attributes as more important than academicians did.

The attribute "Versatile" exhibits the highest attribute gap of -0.12 between academicians supply ($M = 4.59$, $SD = 0.59$) and industry players demand ($M = 4.71$, $SD = 0.54$), with a small effect size (Cohen's $d = 0.21$), indicating a slight but observable difference in expectations between the two groups. The result shows that industry players rated "Versatile" higher than academicians, with this item displaying the largest gap among all attributes. Although a noticeable difference exists, it is important to note that the academicians still rated this attribute as most important, indicating that both stakeholders recognise its value.

Furthermore, Mohd Nor et al. (2025) stated that versatility is an important attribute that allows an individual to adapt to various work situations and be able to provide creative solutions. This shows that graduates who are versatile are more competitive in the halal job market than those who lack such abilities. In line with Jaapar and Mohd Najib (2025), who also emphasise that in today's halal world, graduates need to be more flexible and adaptive to various tasks and work environments.

This is because the halal industry is now growing and diverse, involving sectors such as logistics, hospitality, cosmetics, pharmaceuticals, and tourism, each of which has different needs and challenges. For instance, a halal executive not only needs to ensure compliance with halal standards in factories, but sometimes needs to conduct internal audits, communicate with JAKIM, and resolve customer complaint issues. These tasks require the ability to adapt quickly and solve problems creatively. Therefore, HEIs are advised to emphasise the development of this versatile attribute through more project-based learning methods, industrial training in various sectors, and real work simulation activities so that graduates can build the ability to adapt to the increasingly complex and competitive dynamics of the halal industry.

Table 4.45 Gap Analysis of Attributes for the Halal Profession

No.	Attributes	Mean		Mean difference	t	Sig.
		Academician	Industry			
A1	Ethical and has integrity	4.98	4.89	0.09	2.62	0.010
A2	Adherence to Islamic values and practices	4.97	4.87	0.10	2.32	0.021
A3	Accountable	4.90	4.84	0.06	0.93	0.355
A4	Perceptive	4.72	4.76	-0.04	-0.52	0.601
A5	Versatile	4.59	4.71	-0.12	-1.37	0.171
A6	Decisive	4.71	4.81	-0.10	-1.34	0.185
A7	Self-reliant	4.60	4.68	-0.08	-0.73	0.464
A8	Meticulous	4.71	4.82	-0.11	-1.42	0.159
A9	Systematic	4.71	4.78	-0.07	-1.03	0.306
A10	Professionalism	4.81	4.85	-0.04	-0.68	0.499
A11	Tenacious	4.66	4.75	-0.09	-1.14	0.255
A12	Lifelong learner	4.76	4.86	-0.10	-1.42	0.158

4.4.5.1.2 Ranking of the Most Crucial Attributes

This section shows the ranking of the most crucial attributes for the workforce in the halal industry, according to the mean score. In cases where items obtained the same score, the ranking was determined by considering the standard deviation (SD), with a lower SD indicating a stronger consensus among respondents. Based on the ranking in Table 4.46, both academicians and industry players agreed that “Ethical and has integrity” is the most important attribute, and rated it with the highest mean score, placing it at rank (1), followed by “Adherence to Islamic values and practices” as rank (2). This indicates a strong consensus across both stakeholders regarding the critical role of this attribute for the halal profession.

Ethical and having integrity refer to attributes of adopting fair, truthful, confidentiality, and practicing halal ethics, while adherence to Islamic values and practices refers to a person that understand and commits to Islamic values (Department of Standards Malaysia, 2021). While these two attribute areas show a statistically significant gap between academicians and industry players, they still ranked at the top of the rankings by both stakeholders.

This shows that these two attributes are indeed important and much needed in the halal industry. For example, attributes such as truthfulness and discipline are essential to ensure that every halal-related task is carried out carefully, accurately, and in compliance with *shariah* standards (Md Nawati et al., 2022). If graduates do not possess these attributes, they may find it difficult to adapt to an industry that demands a high level of personal integrity to maintain the integrity of the entire halal process. Therefore, HEIs are suggested to place more emphasis on the development of personal and professional attributes, such as integrity, accountability, and Islamic work ethics. As a result, graduates are not only competent in terms of skills and knowledge, but also have an identity that is in line with true halal values.

Table 4.46 Attributes Based on Rank According to Importance Between
Academicians and Industry Players

No.	Academicians		Industry player	
1	A1	Ethical and has integrity	A1	Ethical and has integrity
2	A2	Adherence to Islamic values and practices	A2	Adherence to Islamic values and practices
3	A3	Accountable	A12	Lifelong learner
4	A10	Professionalism	A10	Professionalism
5	A12	Lifelong learner	A3	Accountable
6	A4	Perceptive	A8	Meticulous
7	A9	Systematic	A6	Decisive
8	A6	Decisive	A9	Systematic
9	A8	Meticulous	A4	Perceptive
10	A11	Tenacious	A11	Tenacious
11	A7	Self-reliant	A5	Versatile
12	A5	Versatile	A7	Self-reliant

4.5 SUMMARY OF FINDINGS

This section summarises the key findings of the study. The initial KSAs were identified through qualitative document analysis and subsequently refined and integrated to form the final list used in the quantitative survey. The analysis highlighted the alignment and misalignment of KSAs between academicians and industry players, the ranking of KSAs by importance, and the gaps between supply and demand.

4.5.1 KSAs Alignment between Supply and Demand

This section presents the alignment of KSAs between academic supply and industry demand based on document analysis. A total of 38 knowledge areas, 26 skills, and 12 attributes were identified from the qualitative phase. Figure 4.5, Figure 4.6, and Figure 4.7 illustrate the number of KSAs covered by each programme standard and 23 programme curricula on the supply side, compared with 200 job postings on the demand side. This visual comparison highlights how well academic programmes align with industry requirements.

4.5.1.1 Knowledge Alignment between Supply and Demand

The knowledge alignment between supply and demand in this section is formed based on the knowledge findings identified from the results of document analysis. Based on Figure 4.5, the demand for *shariah* knowledge was found to be limited in the document analysis of job postings. However, this discrepancy may not reflect its true significance, but rather indicates that the employers may lack clarity or understanding regarding the specific competencies required in the halal profession.

In general, employers may basically only emphasise the need for technical knowledge, such as in the aspects of halal certification management, halal audits, and quality assurance. However, behind the implementation of these technical tasks, halal professionals actually also need *shariah* knowledge to ensure that each process is carried out according to Islamic principles (Nasri et al., 2025). For example, a halal auditor needs to clearly understand what is permissible and prohibited in Islam, to ensure that there is no cross-contamination occurs during the audit process. This shows that the combination of technical and *shariah* knowledge is important to ensure the integrity and credibility of the halal system (Hamdan & Hashim, 2024).

This statement is also supported by findings from the quantitative phase that report a contrasting perspective, as industry players themselves rated most of the *shariah* knowledge items higher than academicians. The result demonstrates that, although *shariah* knowledge was not explicitly highlighted in job postings, it is in fact regarded as important by the industry players for the halal profession. This evidence aligns with Nasri et al. (2025), who also emphasised that a halal professional needs to have *Shariah* knowledge to effectively perform their responsibilities. Moreover, the discrepancy that indicates a limited list of *shariah* knowledge in job postings also shows that employers place less emphasis on providing specific and detailed job descriptions.

According to halal job advertisements analysed by Mohd Mokhtar (2021), it was found that many halal professionals were unclear about the actual tasks to be performed, as these responsibilities are not stated in detail in the job descriptions. That study also indicates that most companies only list basic requirements such as academic

qualifications and minimum experience, without explaining more specific competencies or the scope of work.

This situation is worrying, as graduates may not be able to prepare adequately before entering the workforce, and may potentially face difficulty in performing tasks that are outside the scope of their original work. Therefore, it is recommended that employers detail the job description in the job advertisement, including the knowledge required for the position. This will not only help graduates understand the real needs of the halal industry but will also reduce the knowledge gap between supply and demand in the halal job market.

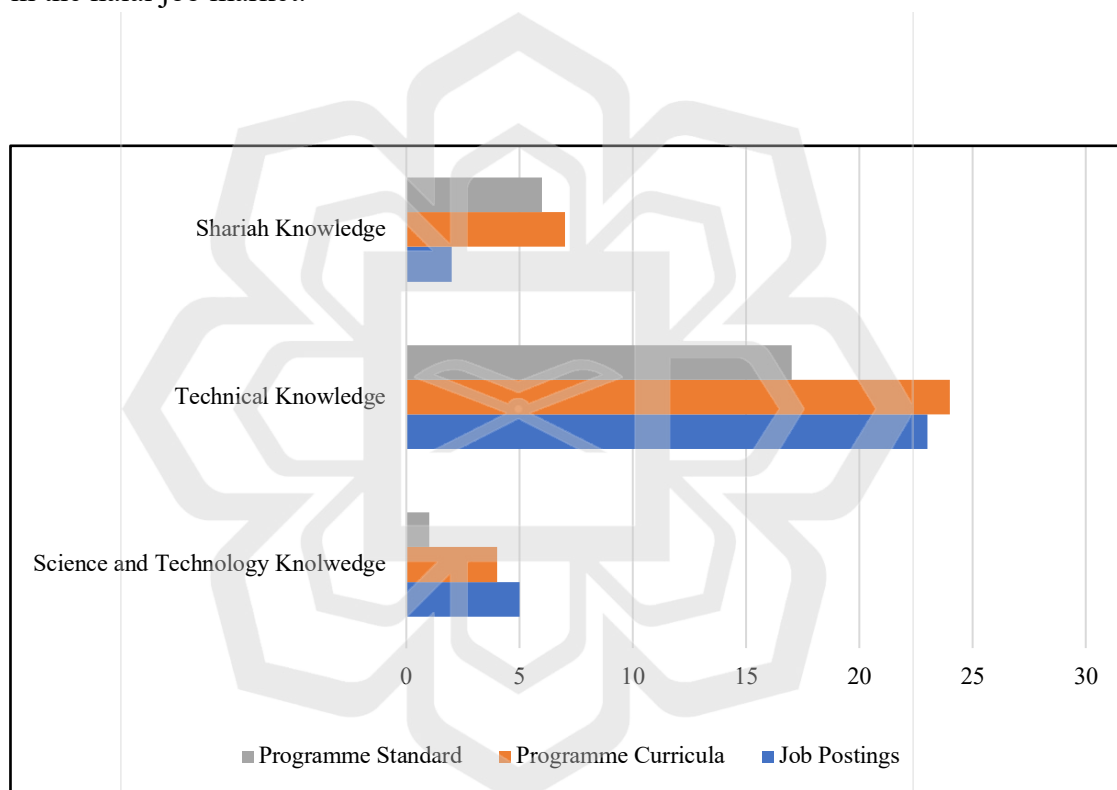


Figure 4.5 Number of Identified Knowledge from Each Document in the Document Analysis

4.5.1.2 Skills Alignment between Supply and Demand

In terms of skills, the qualitative findings revealed that most of the skills identified are in demand by the industry, as shown in Figure 4.6. This aligns with the results from the quantitative phase, which showed that both soft skills and hard skills were generally

perceived as most important by both academicians and industry players. However, the number of skills supplied to graduates appears to be limited, as identified through the analysis of programme standards and curricula.

This may reflect constraints in curriculum design, where skill-based components are less explicitly emphasised. Nevertheless, it is possible that these skills are further developed through pedagogical practices at HEIs, such as case-based learning, simulations, and industrial training, which may not be fully captured in the documented curricula. Therefore, this finding highlights the need for curriculum enhancement to ensure broader coverage of both soft and hard skills that are relevant to industry needs (Wei & Yew, 2024).

Strengthening these components within the curriculum would help produce graduates who are not only competent in technical aspects but also equipped with essential skills such as problem solving, communication, organisational and leadership skills required in the halal industry (Nesaratnam & Prabha, 2018; Tukiran et al., 2025). As a result, graduates are also able to increase competitiveness and perform tasks more effectively, thus maintaining the continuity of their careers in the halal industry.

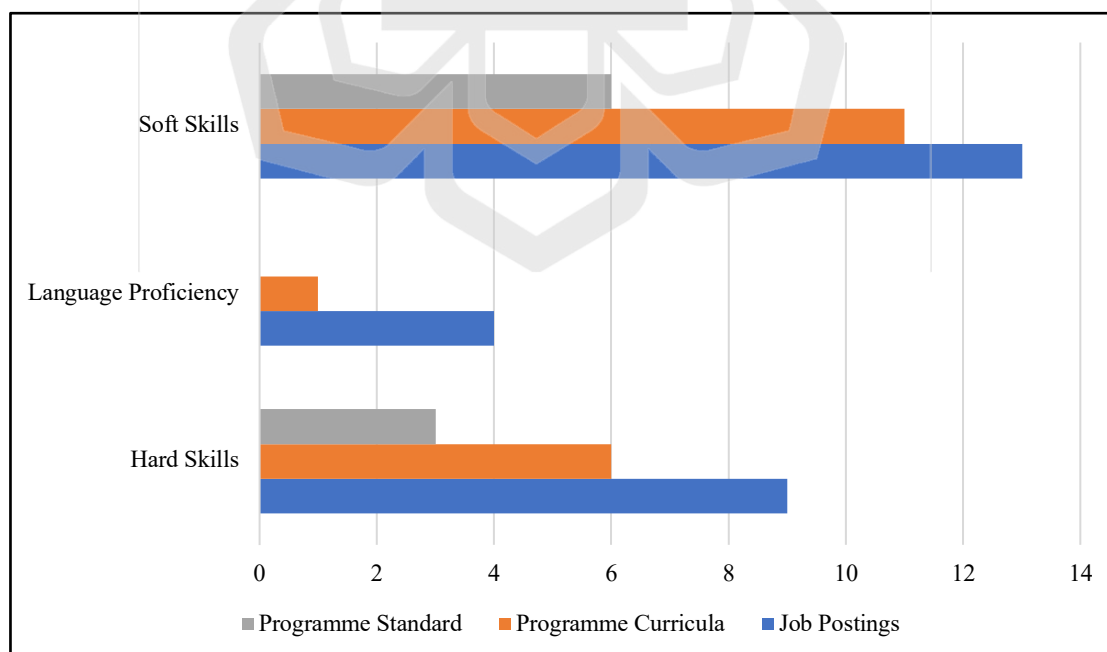


Figure 4.6 Number of Identified Skills from Each Document in the Document Analysis

4.5.1.3 Attributes Alignment between Supply and Demand

In terms of attributes, Figure 4.7 shows that the supply covered almost all the attributes identified, except for the systematic attribute, which focus on perform task in an organised and structured manner. The findings still align with the quantitative results, in which both academicians and industry players rated all listed attributes as most important. This reflects prevailing professional expectations, where graduates are expected to demonstrate not only technical knowledge and skills but also strong ethical values, responsibility, and professionalism in their roles.

The consistent recognition of these attributes across both phases underscores their significance in shaping competent halal professionals who can perform effectively within a dynamic and evolving industry environment. This result is supported by Hashim et al. (2020), who highlighted that halal professionals with good attributes are able to carry out responsibilities more effectively and adapt to job requirements in the halal industry. This shows that personal attributes also play an important role in ensuring the effectiveness of task implementation and the career continuity of graduates. Therefore, emphasis on attribute development should be given the same attention as knowledge and skills to produce a competent and holistic halal workforce.

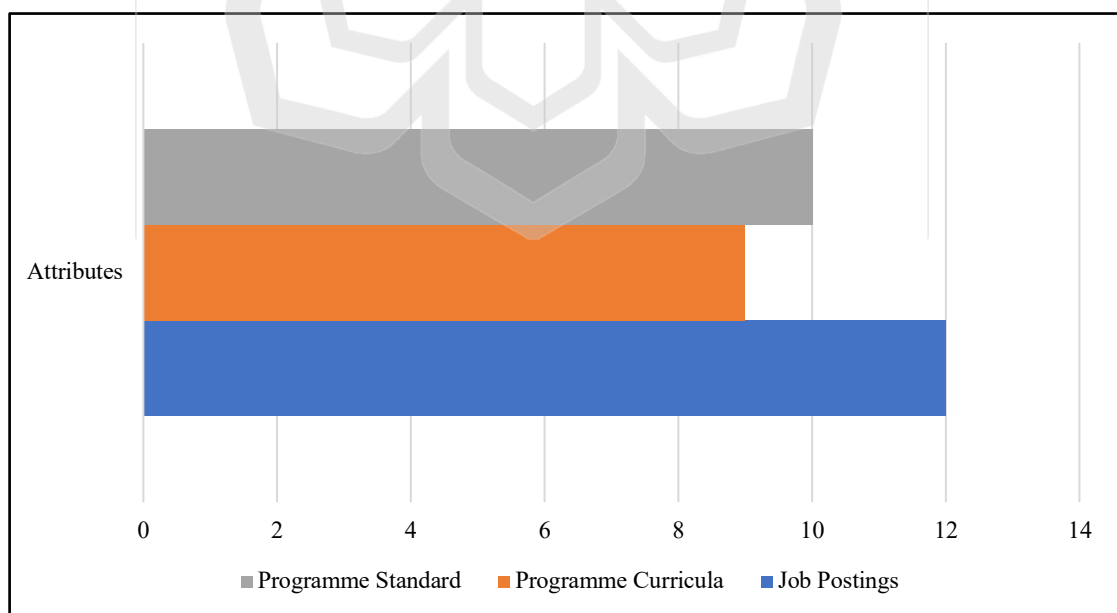


Figure 4.7 Number of Identified Attributes from Each Document in the Document Analysis

Overall, the analysis indicates notable misalignments for each KSA. Table 4.47 summarises the total of KSAs identified from supply and demand through document analysis. For knowledge, job postings tend to emphasise fewer *Shariah*-related KSAs, while academic supply (programme standards and curricula) covers them extensively. In contrast, for skills, most job postings list a wide range of competencies that are not fully addressed in programme standards or curricula, indicating gaps in practical preparation.

Regarding attributes, industry expectations highlight more competencies than those emphasised by academic programmes, suggesting that certain personal and professional qualities expected by employers may not be adequately cultivated in graduates. These patterns reveal that, although some alignment exists, discrepancies persist between what is taught and what is demanded in the halal profession. Therefore, there is a need to re-evaluate the curriculum content to be in line with the actual needs of the halal industry (Ibrahim et al., 2024) and to produce graduates who have the KSAs that are relevant to the needs of the job market.

Table 4.47 Total number of KSAs identified from supply and demand

Items	Total identified	Supply		Demand
		PS	PC	JP
Knowledge				
Shariah Knowledge	7	6/7	7/7	2/7
Technical Knowledge	25	17/25	24/25	23/25
Science and Technology Knowledge	6	1/6	4/6	5/6
Skills				
Soft Skills	13	6/13	11/13	13/13
Language Proficiency	4	0/4	1/4	4/4
Hard Skills	9	3/9	6/9	9/9
Attributes	12	10/12	9/12	12/12

4.5.2 Ranking of the Most Crucial KSAs for Halal Profession

Through the descriptive statistics analysis using mean score (M) and standard deviation (SD), the ranking of KSAs was determined. The mean score was used as the primary indicator to identify the level of importance of each KSA. In cases where two or more KSAs obtained the same mean score, the standard deviation (SD) was referred to. The lower SD indicated a higher level of agreement among respondents, and thus, the KSA was ranked higher. The 10 KSAs ranked by mean score were presented in Figure 4.8, which represent the most important KSAs for the halal profession as perceived by respondents.

The ranking is based on the overall mean score, combining responses from both academicians (supply side) and industry players (demand side). The top-ranked KSAs highlight a strong emphasis on compliance, certification, standards, and professional values. Specifically, the results indicate that knowledge on Halal Assurance Management System, Malaysian Halal Standards, Certification Bodies, and Halal Certification are considered highly critical. These findings reflect that operational and regulatory fundamentals are important in the halal industry (Nik Mohd Rosli et al., 2022).

Alongside these technical and compliance-related KSAs, respondents also prioritised ethical conduct, accountability, professionalism, and the practice of good Islamic values (Siti Aminah et al., 2020). This outcome underscores the significance of character and integrity in halal-related professions. Interestingly, Malay language proficiency and halal knowledge and awareness were also included in the top 10, showing that effective communication in the Malay language and baseline awareness are perceived as key enablers for halal practice, particularly in Malaysia.

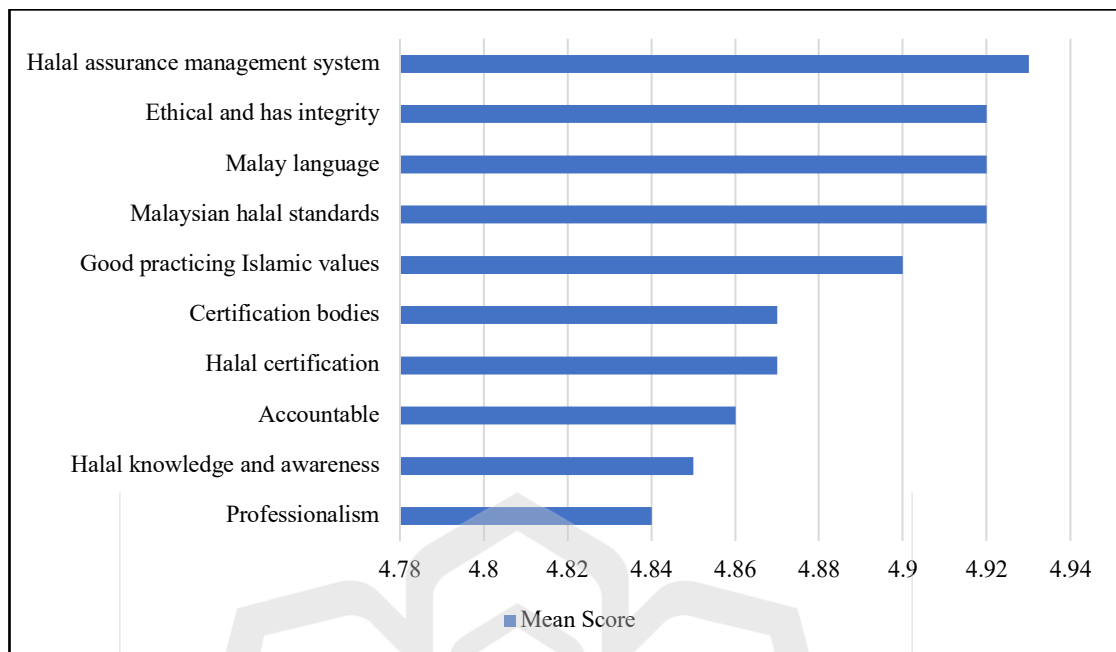


Figure 4.8 Top 10 Most Crucial KSAs in the Halal Profession

In addition to the figure, Table 4.48 provides the full ranking of KSAs as a whole, presenting a complete view of all items assessed in the survey. At the lower end of the ranking, the five least prioritised KSAs were identified, namely numeracy skills, laboratory skills, Arabic language, Mandarin language, and Tamil language. These results suggest that while such skills may provide added value in specific contexts, they are not viewed as essential soft skills for the majority of halal-related professions in Malaysia.

In particular, the lower ranking of language-related KSAs implies that multilingual ability is not considered a primary requirement in the Malaysian halal industry. Similarly, while numeracy and laboratory skills are relevant in certain specialised roles, they may have less universal importance compared to the operational, regulatory, and value-based KSAs highlighted in the top rankings. Tables 4.49, 4.50, and 4.51 present the ranking of the most crucial items for each KSA.

Table 4.48 Ranking of the Most Crucial KSAs for Halal Profession

No.	Item		Mean	SD	Description
1	K16	Halal assurance management system	4.93	0.28	Most Important
2	A1	Ethical and has integrity	4.92	0.27	Most Important
3	S14	Malay language	4.92	0.27	Most Important
4	K15	Malaysian halal standards	4.92	0.31	Most Important
5	A2	Adherence to Islamic values and practices	4.90	0.32	Most Important
6	K22	Certification bodies	4.87	0.43	Most Important
7	K9	Halal certification	4.87	0.44	Most Important
8	A3	Accountable	4.86	0.36	Most Important
9	K1	Halal knowledge and awareness	4.85	0.37	Most Important
10	A10	Professionalism	4.84	0.37	Most Important
11	K20	Halal hygiene, sanitation and safety	4.84	0.43	Most Important
12	A12	Lifelong learner	4.83	0.41	Most Important
13	S8	Problem solving skills	4.82	0.43	Most Important
14	K12	Halal risk management	4.80	0.54	Most Important
15	S10	Critical and analytical thinking skills	4.78	0.44	Most Important
16	A8	Meticulous	4.78	0.46	Most Important
17	S2	Interpersonal skills	4.78	0.48	Most Important
18	A6	Decisive	4.77	0.43	Most Important
19	K13	Halal supply chain management	4.77	0.53	Most Important
20	A9	Systematic	4.76	0.43	Most Important
21	K4	Islamic jurisprudence (<i>fiqh</i>)	4.76	0.48	Most Important
22	A4	Perceptive	4.75	0.46	Most Important
23	S7	Teamwork skills	4.75	0.51	Most Important
24	K8	Licensing	4.75	0.57	Most Important
25	K25	Halal-related acts and regulations	4.75	0.57	Most Important
26	S3	Communication skills	4.74	0.49	Most Important
27	S9	Adaptability skills	4.74	0.49	Most Important
28	K11	Halal audit	4.74	0.58	Most Important
29	S15	English language	4.73	0.49	Most Important
30	S4	Leadership skills	4.73	0.51	Most Important
31	S5	Personal skills	4.73	0.55	Most Important
32	K21	Ethics and <i>toyyiban</i> concept	4.73	0.57	Most Important
33	A11	Tenacious	4.72	0.47	Most Important
34	S13	Managerial and coordination skills	4.72	0.50	Most Important
35	S1	Cognitive skills	4.70	0.55	Most Important
36	A5	Versatile	4.67	0.56	Most Important
37	K26	Halal trade laws and requirements	4.67	0.64	Most Important
38	K6	Islamic law of consumerism (<i>fiqh al-istihlak al-Islami</i>)	4.66	0.58	Most Important
39	S22	Report and writing skills	4.65	0.54	Most Important

40	A7	Self-reliant	4.65	0.61	Most Important
41	K19	Traceability	4.65	0.66	Most Important
42	S23	Organisational skills	4.64	0.52	Most Important
43	S11	Creative thinking skills	4.61	0.63	Most Important
44	S20	Practical skills	4.60	0.59	Most Important
45	K24	Industry regulatory and enforcement bodies	4.60	0.68	Most Important
46	S12	Negotiation skills	4.59	0.61	Most Important
47	S24	Multitasking skills	4.59	0.62	Most Important
48	K18	Industry-specific practices	4.58	0.64	Most Important
49	K2	Islamic theology (<i>aqidah Islamiyah</i>)	4.58	0.65	Most Important
50	K17	Quality management system	4.57	0.62	Most Important
51	K7	Objectives of Islamic law (<i>Maqasid al-Shariah</i>)	4.53	0.70	Most Important
52	K23	Foreign halal certification bodies	4.51	0.71	Most Important
53	K40	Product and service innovation	4.51	0.72	Most Important
54	S27	Data management skills	4.50	0.66	Most Important
55	S21	Digital and IT skills	4.49	0.65	Most Important
56	K30	Halal marketing	4.49	0.72	Most Important
57	K5	Islamic legal maxim (<i>qawaid fihiyyah</i>)	4.48	0.72	Most Important
58	S25	Research skills	4.46	0.65	Most Important
59	K38	Industrial process and operations	4.46	0.73	Most Important
60	K39	Logistic and supply chain technology	4.45	0.74	Most Important
61	S6	Entrepreneurial skills	4.44	0.73	Most Important
62	K29	Halal entrepreneurship	4.44	0.74	Most Important
63	K35	Laboratory testing	4.38	0.77	Most Important
64	K10 K32	Certification (other than halal certification)	4.34	0.79	Most Important
65		Corporate communication	4.34	0.79	Most Important
66	K27	International import regulations and guidelines	4.34	0.85	Most Important
67	K3	Quran, hadith and Arabic language	4.33	0.82	Most Important
68	K31	Business risk management	4.27	0.82	Most Important
69	K36	Applied science	4.26	0.79	Most Important
70	K14	International halal supply chain standards	4.23	0.84	Most Important
71	K34	Human resource management	4.23	0.87	Most Important
72	K37	Technological advances	4.22	0.78	Most Important
73	K33	International trade	4.21	0.87	Most Important
74	K28	Business management	4.09	0.82	Important
75	S19	Numeracy skills	4.06	0.79	Important
76	S26	Laboratory skills	4.00	0.89	Important
77	S18	Arabic language	3.18	0.93	Somewhat Important

78	S16	Mandarin language	3.03	1.11	Somewhat Important
79	S17	Tamil language	2.45	0.98	Least Important

Table 4.49 Ranking of the Most Crucial Knowledge for Halal Profession

No.	Item		Mean	SD	Description
1	K16	Halal assurance management system	4.93	0.28	Most Important
2	K15	Malaysian halal standards	4.92	0.31	Most Important
3	K22	Certification bodies	4.87	0.43	Most Important
4	K9	Halal certification	4.87	0.44	Most Important
5	K1	Halal knowledge and awareness	4.85	0.37	Most Important
6	K20	Halal hygiene, sanitation and safety	4.84	0.43	Most Important
7	K12	Halal risk management	4.80	0.54	Most Important
8	K13	Halal supply chain management	4.77	0.53	Most Important
9	K4	Islamic jurisprudence (<i>fiqh</i>)	4.76	0.48	Most Important
10	K8	Licensing	4.75	0.57	Most Important
11	K25	Halal-related acts and regulations	4.75	0.57	Most Important
12	K11	Halal audit	4.74	0.58	Most Important
13	K21	Ethics and <i>toyyiban</i> concept	4.73	0.57	Most Important
14	K26	Halal trade laws and requirements	4.67	0.64	Most Important
15	K6	Islamic law of consumerism (<i>fiqh al-istihlak al-Islami</i>)	4.66	0.58	Most Important
16	K19	Traceability	4.65	0.66	Most Important
17	K24	Industry regulatory and enforcement bodies	4.60	0.68	Most Important
18	K18	Industry-specific practices	4.58	0.64	Most Important
19	K2	Islamic theology (<i>aqidah Islamiah</i>)	4.58	0.65	Most Important
20	K17	Quality management system	4.57	0.62	Most Important
21	K7	Objectives of Islamic law (<i>Maqasid al-Shariah</i>)	4.53	0.70	Most Important
22	K23	Foreign halal certification bodies	4.51	0.71	Most Important
23	K40	Product and service innovation	4.51	0.72	Most Important
24	K30	Halal marketing	4.49	0.72	Most Important
25	K5	Islamic legal maxim (<i>qawaid fiqhiyyah</i>)	4.48	0.72	Most Important
26	K38	Industrial process and operations	4.46	0.73	Most Important
27	K39	Logistic and supply chain technology	4.45	0.74	Most Important
28	K29	Halal entrepreneurship	4.44	0.74	Most Important
29	K35	Laboratory testing	4.38	0.77	Most Important
30	K10	Certification (other than halal	4.34	0.79	Most Important
31	K32	certification)	4.34	0.79	Most Important

		Corporate communication			
32	K27	International import regulations and guidelines	4.34	0.85	Most Important
33	K3	Quran, hadith and Arabic language	4.33	0.82	Most Important
34	K31	Business risk management	4.27	0.82	Most Important
35	K36	Applied science	4.26	0.79	Most Important
36	K14	International halal supply chain standards	4.23	0.84	Most Important
37	K34	Human resource management	4.23	0.87	Most Important
38	K37	Technological advances	4.22	0.78	Most Important
39	K33	International trade	4.21	0.87	Most Important
40	K28	Business management	4.09	0.82	Important

Table 4.50 Ranking of the Most Crucial Skills for Halal Profession

No.	Item		Mean	SD	Description
1	S14	Malay language	4.92	0.27	Most Important
2	S8	Problem solving skills	4.82	0.43	Most Important
3	S10	Critical and analytical thinking skills	4.78	0.44	Most Important
4	S2	Interpersonal skills	4.78	0.48	Most Important
5	S7	Teamwork skills	4.75	0.51	Most Important
6	S3	Communication skills	4.74	0.49	Most Important
7	S9	Adaptability skills	4.74	0.49	Most Important
8	S15	English language	4.73	0.49	Most Important
9	S4	Leadership skills	4.73	0.51	Most Important
10	S5	Personal skills	4.73	0.55	Most Important
11	S13	Managerial and coordination skills	4.72	0.50	Most Important
12	S1	Cognitive skills	4.70	0.55	Most Important
13	S22	Report and writing skills	4.65	0.54	Most Important
14	S23	Organisational skills	4.64	0.52	Most Important
15	S11	Creative thinking skills	4.61	0.63	Most Important
16	S20	Practical skills	4.60	0.59	Most Important
17	S12	Negotiation skills	4.59	0.61	Most Important
18	S24	Multitasking skills	4.59	0.62	Most Important
19	S27	Data management skills	4.50	0.66	Most Important
20	S21	Digital and IT skills	4.49	0.65	Most Important
21	S25	Research skills	4.46	0.65	Most Important
22	S6	Entrepreneurial skills	4.44	0.73	Most Important
23	S19	Numeracy skills	4.06	0.79	Important
24	S26	Laboratory skills	4.00	0.89	Important
25	S18	Arabic language	3.18	0.93	Somewhat Important

26	S16	Mandarin language	3.03	1.11	Somewhat Important
27	S17	Tamil language	2.45	0.98	Least Important

Table 4.51 Ranking of the Most Crucial Attributes for Halal Profession

No.	Item		Mean	SD	Description
1	A1	Ethical and has integrity	4.92	0.27	Most Important
2	A2	Adherence to Islamic values and practices	4.90	0.32	Most Important
3	A3	Accountable	4.86	0.36	Most Important
4	A10	Professionalism	4.84	0.37	Most Important
5	A12	Lifelong learner	4.83	0.41	Most Important
6	A8	Meticulous	4.78	0.46	Most Important
7	A6	Decisive	4.77	0.43	Most Important
8	A9	Systematic	4.76	0.43	Most Important
9	A4	Perceptive	4.75	0.46	Most Important
10	A11	Tenacious	4.72	0.47	Most Important
11	A5	Versatile	4.67	0.56	Most Important
12	A7	Self-reliant	4.65	0.61	Most Important

4.5.3 Gaps between supply and demand of KSAs

The gaps between supply and demand of KSAs were identified through the differences in mean scores between academicians (supply) and industry players (demand). The larger the mean difference, the greater the gap observed between the two groups' perceptions of importance. This approach allows for a systematic comparison of how each side values specific KSAs, thereby identifying areas of misalignment between academic preparation and industry expectations.

This misalignment may reflect the underlying assumption that graduates are expected to be immediately job-ready and possess industry-relevant competencies upon graduation, while academicians may assume that knowledge and skills development occurs progressively through the curriculum. In addition, structural constraints, such as limitations in curriculum design, semester duration and pedagogical approaches, may restrict the extent to which these KSAs can be fully integrated into HEI's education programmes, contributing to the observed gaps.

4.5.3.1 Gaps Identified: Demand Exceeding Supply

Figure 4.9 illustrates the Top 10 KSAs with the highest negative mean differences (supply – demand), indicating that industry players rated these KSAs more highly than academicians. This reflects areas where the demand side places greater emphasis compared to the supply side, highlighting a misalignment between academic preparation and industry expectations. Among the KSAs that indicate the biggest gaps are corporate communication, multitasking skill, laboratory testing, traceability, logistic and supply chain technology, international trade, product and service innovation, practical skills, applied science, and managerial and coordination skills.

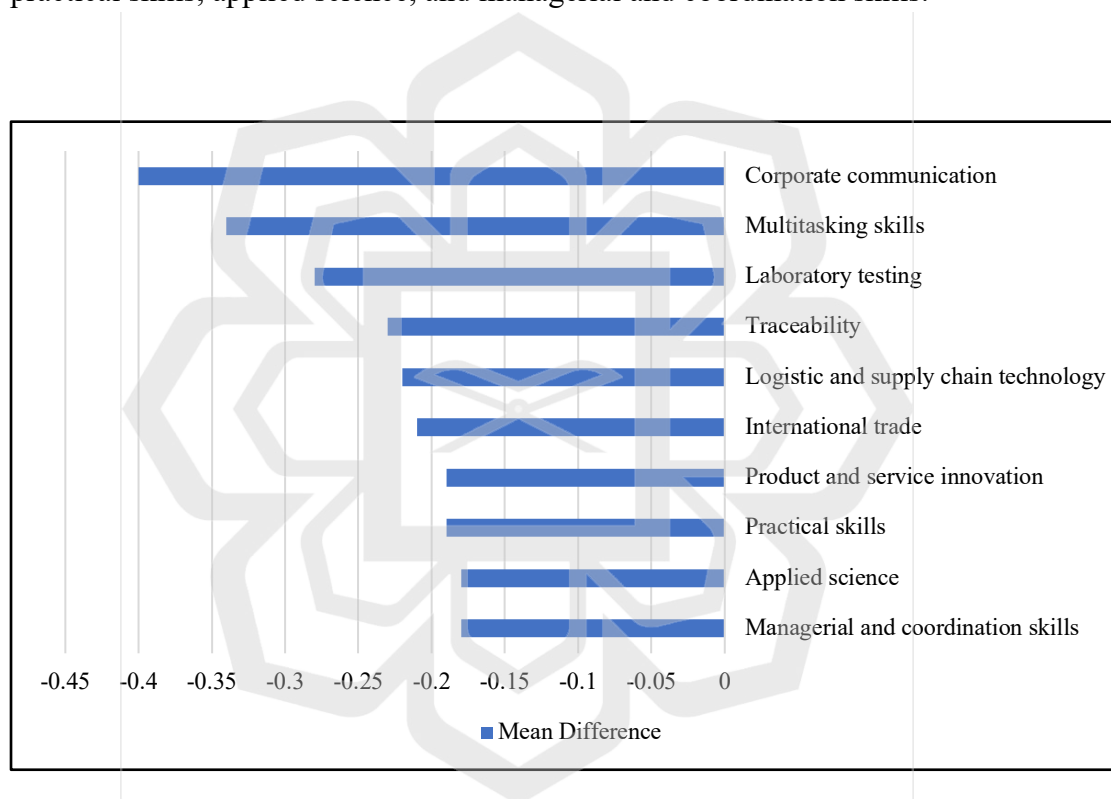


Figure 4.9 Top 10 KSAs with Higher Demand than Supply

In addition, Table 4.52 provides a detailed overview of all KSAs with a negative value for mean difference. This result reveals the gaps (demand > supply), where industry players consistently rated these KSAs higher than academicians. A total of 56 KSAs were identified with such gaps, comprising 27 knowledge areas, 20 skills, and 9 attributes. This distribution highlights that industry expectations are more demanding across all three domains.

Table 4.52 KSAs that Higher Demand than Supply

No.	Item		Mean		Mean Difference
			Academician	Industry	
1	K32	Corporate communication	4.07	4.47	-0.40
2	S24	Multitasking skills	4.36	4.70	-0.34
3	K35	Laboratory testing	4.19	4.47	-0.28
4	K19	Traceability	4.5	4.73	-0.23
5	K39	Logistic and supply chain technology	4.31	4.53	-0.22
6	K33	International trade	4.07	4.28	-0.21
7	K40	Product and service innovation	4.38	4.57	-0.19
8	S20	Practical skills	4.48	4.67	-0.19
9	K36	Applied science	4.14	4.32	-0.18
10	S13	Managerial and coordination skills	4.6	4.78	-0.18
11	K31	Business risk management	4.16	4.32	-0.16
12	K34	Human resource management	4.12	4.28	-0.16
13	S2	Interpersonal skills	4.67	4.83	-0.16
14	S9	Adaptability skills	4.64	4.79	-0.15
15	K30	Halal marketing	4.40	4.54	-0.14
16	S5	Personal skills	4.64	4.77	-0.13
17	S11	Creative thinking skills	4.53	4.65	-0.12
18	S22	Report and writing skills	4.57	4.69	-0.12
19	A5	Versatile	4.59	4.71	-0.12
20	K28	Business management	4.02	4.13	-0.11
21	S10	Critical and analytical thinking skills	4.71	4.82	-0.11
22	S23	Organisational skills	4.57	4.68	-0.11
23	S27	Data management skills	4.43	4.54	-0.11
24	A8	Meticulous	4.71	4.82	-0.11
25	K4	Islamic jurisprudence (<i>fiqh</i>)	4.69	4.79	-0.10
26	K16	Halal assurance management system	4.86	4.96	-0.10
27	A6	Decisive	4.71	4.81	-0.10
28	A12	Lifelong learner	4.76	4.86	-0.10
29	K18	Industry-specific practices	4.52	4.61	-0.09
30	K20	Halal hygiene, sanitation and safety	4.78	4.87	-0.09
31	K23	Foreign halal certification bodies	4.45	4.54	-0.09
32	K38	Industrial process and operations	4.40	4.49	-0.09

33	A11	Tenacious	4.66	4.75	-0.09
34	K11	Halal audit	4.69	4.77	-0.08
35	K12	Halal risk management	4.74	4.82	-0.08
36	K13	Halal supply chain management	4.72	4.80	-0.08
37	S4	Leadership skills	4.67	4.75	-0.08
38	S12	Negotiation skills	4.53	4.61	-0.08
39	A7	Self-reliant	4.60	4.68	-0.08
40	S25	Research skills	4.41	4.48	-0.07
41	A9	Systematic	4.71	4.78	-0.07
42	K8	Licensing	4.71	4.77	-0.06
43	S7	Teamwork skills	4.71	4.77	-0.06
44	S8	Problem solving skills	4.78	4.84	-0.06
45	K3	Quran, hadith and Arabic language	4.29	4.34	-0.05
46	S3	Communication skills	4.71	4.75	-0.05
47	S1	Cognitive skills	4.67	4.71	-0.04
48	A4	Perceptive	4.72	4.76	-0.04
49	A10	Professionalism	4.81	4.85	-0.04
50	K6	Islamic law of consumerism (<i>fiqh al-istihlak al-Islami</i>)	4.64	4.67	-0.03
51	K15	Malaysian halal standards	4.90	4.93	-0.03
52	S21	Digital and IT skills	4.47	4.50	-0.03
53	K29	Halal entrepreneurship	4.43	4.45	-0.02
54	K5	Islamic legal maxim (<i>qawaid fiqhiyyah</i>)	4.47	4.48	-0.01
55	K9	Halal certification	4.86	4.88	-0.01
56	S14	Malay language	4.91	4.92	-0.01

4.5.3.2 Gaps Identified: Supply Exceeding Demand

Table 4.53 presents the KSAs with a positive value for mean difference, indicating the gaps (supply > demand), where academicians rated the KSAs higher than industry players. A total of 23 KSAs were identified, consisting of 13 knowledge areas, 7 skills, and 3 attributes. This reflects a potential misalignment where academicians place higher importance on certain KSAs than what is required by industry practice.

Table 4.53 KSAs that Higher Supply than Demand

No.	Item		Mean		Mean Difference
			Academician	Industry	
1	S18	Arabic language	3.71	2.91	0.80
2	S16	Mandarin language	3.45	2.82	0.63
3	S17	Tamil language	2.78	2.29	0.49
4	K2	Islamic theology (<i>aqidah Islamiah</i>)	4.72	4.50	0.22
5	K7	Objectives of Islamic law (<i>Maqasid al-Shariah</i>)	4.64	4.48	0.16
6	K10	Certification (other than halal certification)	4.45	4.29	0.16
7	K27	International import regulations and guidelines	4.43	4.29	0.14
8	K26	Halal trade laws and requirements	4.76	4.63	0.13
9	K14	International halal supply chain standards	4.31	4.19	0.12
10	S19	Numeracy skills	4.14	4.02	0.12
11	S15	English language	4.79	4.69	0.10
12	A2	Adherence to Islamic values and practices	4.97	4.87	0.10
13	K25	Halal-related acts and regulations	4.81	4.72	0.09
14	A1	Ethical and has integrity	4.98	4.89	0.09
15	S26	Laboratory skills	4.05	3.97	0.08
16	A3	Accountable	4.90	4.84	0.06
17	K24	Industry regulatory and enforcement bodies	4.64	4.59	0.05
18	K1	Halal knowledge and awareness	4.88	4.84	0.04
19	K37	Technological advances	4.24	4.20	0.04
20	K21	Ethics and <i>toyyiban</i> concept	4.74	4.72	0.02
21	K22	Certification bodies	4.88	4.86	0.02
22	S6	Entrepreneurial skills	4.45	4.43	0.02
23	K17	Quality management system	4.57	4.57	0.00

4.5.3.3 Statistically Significant Difference by Independent t-test

This study mainly aims to address the gaps between the supply and demand of KSAs for the halal profession in Malaysia. An independent sample t-test was conducted to

examine whether there were statistically significant differences in the importance ratings of KSAs between academicians (supply) and industry players (demand). The analysis identified a total of 10 KSAs with significant differences at the $p < 0.05$ level, as shown in Table 4.54. In addition, these results indicate that the perception gap between supply and demand of these KSAs is not only numerically visible in the mean difference but also statistically meaningful.

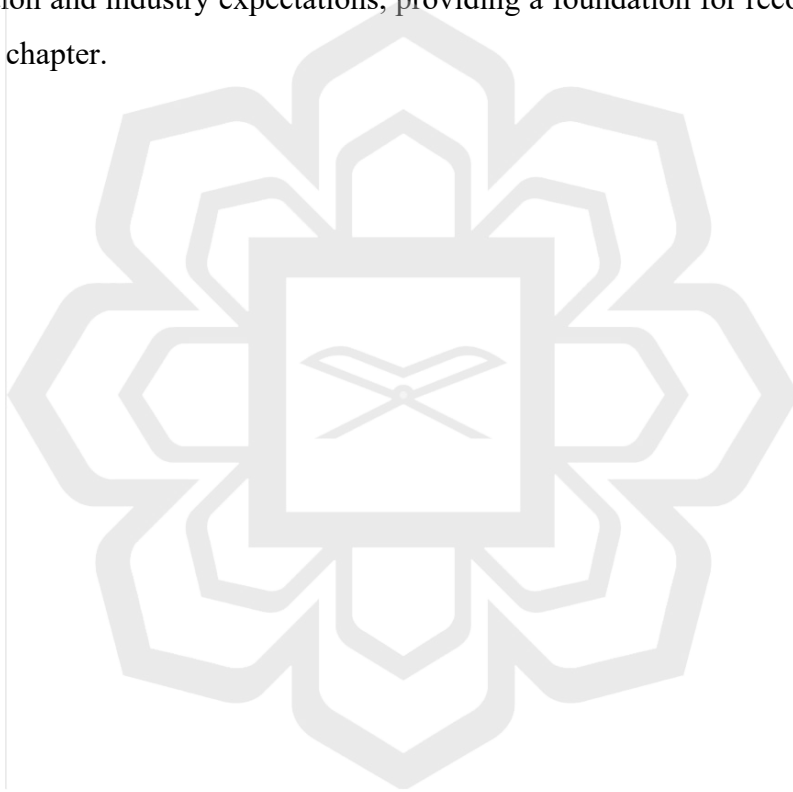
Specifically, industry players rated 56 KSAs significantly higher than academicians, suggesting that these KSAs are perceived as more critical in industry practice than they are emphasised within academic settings. Conversely, 23 KSAs were rated significantly higher by academicians, reflecting a stronger emphasis in education than in industry priorities. Therefore, this statistical evidence strengthens the earlier descriptive findings on gaps between supply and demand. Moreover, this evidence also provides further confirmation that the misalignment in certain KSAs is both substantial and noteworthy.

Table 4.54 KSAs with Statistically Significant Gaps between Supply and Demand

No.	Item	Mean		Mean difference	t	Sig.
		Academician	Industry			
Knowledge						
K2	Islamic theology (<i>aqidah Islamiah</i>)	4.72	4.50	0.22	2.37	0.019
K32	Corporate communication	4.07	4.47	-0.40	-3.27	0.001
K35	Laboratory testing	4.19	4.47	-0.28	-2.33	0.021
Skills						
S13	Managerial and coordination skills	4.60	4.78	-0.18	-2.02	0.046
S16	Mandarin language	3.45	2.82	0.63	3.68	<0.001
S17	Tamil language	2.78	2.29	0.49	3.15	0.002
S18	Arabic language	3.71	2.91	0.80	5.79	<0.001
S24	Multitasking skills	4.36	4.70	-0.34	-3.07	0.003
Attributes						
A1	Ethical and has integrity	4.98	4.89	0.09	2.62	0.010
A2	Adherence to Islamic values and practices	4.97	4.87	0.10	2.32	0.021

4.6 CHAPTER SUMMARY

This chapter presented the results and discussions of the study, covering both the qualitative and quantitative phases. It detailed how the KSAs were identified, refined, and integrated to build a comprehensive list of KSAs for the survey questionnaire. This chapter also examined the relative importance of KSAs, the gaps between supply and demand, and areas of statistically significant differences. Overall, the results highlighted key insights into the alignment and misalignment between academic preparation and industry expectations, providing a foundation for recommendations in the next chapter.



CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 INTRODUCTION

This chapter provides the conclusion and recommendations derived from the overall findings of the study. It begins with an overview of the research, highlighting the objectives, methodology, data analysis used, and major outcomes. The implications of the findings are discussed, together with the recommendations for relevant stakeholders. This chapter also states the limitations encountered by the researcher, followed by suggestions for future research.

5.2 OVERVIEW OF THE STUDY

According to the research objective, this study mainly aims to address the gaps between the supply and demand of knowledge, skills, and attributes (KSAs) for the halal profession in Malaysia. The aim was achieved through the fulfilment of its specific objectives, as summarised in Table 5.1. The table illustrates how each research objective was addressed across the research phases, including the qualitative phase (Phase 1) for KSA identification, the integration phase used for instrument development, and the quantitative phase (Phase 2), which was employed to determine the ranking of KSAs and examine gaps between academic supply and industry demand.

Table 5.1 Summary of Research Process and Main Outcomes

Phase	Research Objective	Data Analysis	Sample /Population	Outcome
Phase 1: Qualitative method	R1- To identify the supply of knowledge, skills, and attributes of halal management graduates in Malaysia.	Document (Content analysis)	Programme standards and programme curriculum	List of KSAs (Table 4.4, 4.5, 4.6, 4.7, 4.8, 4.9)
	R2- To identify the knowledge, skills and attributes that are in demand for halal profession in the halal industry.	Document (Content analysis)	Job posting	List of KSAs (Table 4.4, 4.5, 4.6, 4.7, 4.8, 4.9)
Integration & Instrument Development	Refinement Supplementary sources: Occupational framework and Malaysian standard Conduct an Expert review Modification The findings from expert validation			Integrated list of KSAs (Table 4.14, 4.15, & 4.16)
Phase 2: Quantitative method	R3- To determine the ranking of the most crucial knowledge, skills, and attributes for halal profession in the halal industry.	Questionnaire (Descriptive analysis by using SPSS)	Academician and industry player	Ranking of the most crucial KSAs (Table 4.48)
	R4- To examine the gap between supply and demand of knowledge, skills, and attributes for halal profession in the halal industry.	Questionnaire (Descriptive analysis and independent t-test by using SPSS)	Academician and industry player	The gaps in KSAs between supply and demand (Table 4.52, 4.53 & 4.54)

5.3 IMPLICATION AND RECOMMENDATION

The researcher expected that the findings on the Halal Studies: Education Gap Analysis of Halal Profession in Malaysia would provide an insightful implication, both in terms of theoretical contributions and practical contributions. Based on the findings of this study, several implications can be drawn with the corresponding recommendations for graduates, industry players, education providers, and halal research.

5.3.1 Halal Graduate

The findings of this study reveal the list of the most crucial KSAs for the halal profession. Thus, graduates are expected to be better prepared to enter the halal industry and enhance their employability by prioritising the KSAs that are in demand. This study also highlights that graduates from halal studies programmes generally possess fundamental KSAs as outlined in the programme standard and programme curriculum. However, certain KSAs demanded by the industry are not always explicitly emphasised.

This indicates the need for graduates to be proactive in improving their skills beyond formal education. Soft skills such as problem-solving, interpersonal skills, critical and analytical thinking skills, adaptability, corporate communication, and managerial and coordination skills should be improved in order to improve employability and prepare them for a variety of careers in the halal industry. Furthermore, graduates are recommended to pursue additional training, short courses, or professional certifications that focus on practical skills such as regulatory compliance, halal auditing, and quality assurance. This, in turn, increases the sustainability of halal talent by ensuring a consistent supply of skilled workers.

5.3.2 Halal Industry Player

The findings of this study reveal that the halal industry has a growing demand for professionals who are well-versed not only in halal compliance but also in *shariah*-

related areas, management, regulatory, and operational aspects. However, the study also indicates that job postings often list limited KSA requirements, which could lead to a discrepancy between graduation preparation and industry expectations. Therefore, employers are encouraged to state a clearer job description, so that graduates can better prepare themselves with the requirements needed.

Besides, this condition also implies that many employers may still have an incomplete understanding of the job scope and KSAs required for halal-related positions, as the halal profession itself is relatively new and still at an early stage of talent development. Therefore, this study provides valuable insight for industry players to better define and articulate the KSAs required for halal roles. Employers are encouraged to specify detailed KSAs in job advertisements to help attract more suitable candidates and to create clearer expectations for both job seekers and education providers.

Furthermore, industry players are also suggested to strengthen collaboration with the HEIs in terms of structured internship placements, joint curriculum design, and participation in industry advisory panels. Thus, students will be able to acquire practical skills outside of the classroom and be directly exposed to hands-on industrial practices. Employers then gain from this, since they can hire graduates who are more qualified, well-prepared, and capable of entering the job market as well as meeting organisational demands.

5.3.3 Halal Education Provider

The findings of this study reveal the gaps between the KSAs supplied by HEIs and the KSAs that are in demand for the halal profession. Notably, the findings show that for most of the items, the industry's rating and perception of required competencies are higher compared to what academicians rated and expected for the halal profession. This implies that higher education institutions need to consider industry perspectives more seriously in curriculum development and review. Therefore, HEIs are recommended to foster stronger collaboration with the industry stakeholders, such as facilitating

internships and hands-on training opportunities that provide students with real-world exposure to halal operations.

Besides, the findings found the misalignment on the supply side was mainly due to the programme standard, which did not comprehensively cover the KSAs areas required by the industry. This is because the programme standard only serves as a basic guideline for HEIs upon offering a halal programme. Hence, HEIs are suggested to enhance and continuously develop their halal studies curriculum in line with current developments, industry expectations, and the evolving job market. Moreover, the inclusion of industry certifications knowledge, such as HACCP and ISO standards, within academic programmes can enhance graduates' competitiveness and preparedness for industry roles. By adopting these measures, HEIs can better align their educational offerings with the evolving requirements of the halal industry.

5.3.4 Halal Research

The findings of this study contribute to the field of halal research by addressing a notable gap in the literature and providing empirical evidence on the alignment between supply and demand for KSAs in the halal profession. Besides, the findings of this study expand the understanding of how KSAs are provided through halal study programmes at HEIs and the extent to which they meet industry needs, particularly in terms of management. This contribution helps to bridge the gap in existing halal research which has previously focused more on product certification, consumer behaviour, and the halal supply chain, but has paid less attention to talent development and human capital readiness in the halal industry. Therefore, this study can serve as a reference for future researchers seeking to explore halal curriculum development, graduate preparedness, and competency frameworks in the halal profession.

5.4 LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

This study exclusively examines the halal industry management aspect of halal studies, excluding the applied science field, which is also an essential part of the halal industry. This would involve exploring how scientific and technical skills complement management skills within the industry. To address these limitations, this study can be further improved and should consider expanding its scope by adopting a holistic approach, including both management and applied science. This approach could help to provide a comprehensive understanding of the KSAs required for the halal profession in Malaysia.

Furthermore, this study relied mainly on programme standards, programme curriculum, job postings, occupational frameworks, and the Malaysian standard as the primary sources of data for the qualitative phase. In terms of the quantitative phase, only academicians and industry players were involved. Other important stakeholders' viewpoints, including those of policymakers, halal certification bodies, halal trainers, and graduates themselves, were not fully incorporated. Therefore, the researcher suggests that future research should include these stakeholders and use a qualitative method, such as interviews or focus group discussions (FGD), to capture more diverse insights and to strengthen the findings of this study. The discussion should incorporate a deeper analysis of curriculum content beyond listing KSAs by examining learning outcomes, course sequencing, and pedagogical emphasis, while also addressing teaching strategies such as case studies, simulations, and industrial training, along with their associated limitations.

As the results of this study reveal gaps between supply and demand, future research may focus on bridging the gaps. Moreover, engaging directly with industry stakeholders could help identify emerging trends, technological advancements, and regulatory expectations that may not be explicitly stated in job advertisements. These methods would further strengthen the alignment between HEI programmes and industry needs, ensuring that graduates are equipped with the most relevant and in-demand KSAs for the halal profession.

5.5 CONCLUSION

The study set out to address the gaps between the supply and demand of KSAs for the halal profession in Malaysia. Using a sequential exploratory mixed-methods design, this study combines qualitative and quantitative methods. The findings further found that industry stakeholders consistently rated the importance of KSAs higher than academicians, underscoring the need for stronger collaboration between HEIs and the halal industry. This insight reinforces the notion that curriculum development cannot occur in isolation, instead, it requires continuous dialogue and partnership with industry players to ensure graduates are adequately prepared to meet professional expectations.

Overall, this study also contributes to bridging the gap between education and industry in the halal profession by providing empirical evidence and practical recommendations for graduates, industry stakeholders, and HEIs. It highlights the shared responsibility of all parties in cultivating competent halal professionals who can contribute effectively to the growth and sustainability of the halal sector. With sustained efforts in curriculum enhancement, industry collaboration, and stakeholder engagement, the halal studies field has the potential to evolve into a more dynamic and future-ready discipline. These actions are to ensure that graduates are well-positioned to serve the needs of the halal industry both locally and globally, and indirectly lead to the sustainable development of halal talent.

REFERENCES

- Ab Rahman, A., & Asman, M. N. (2019). The Effectiveness of Global Halal Game (GHG) Gamification in Teaching & Learning and Training to Halal Executives. *Journal of Fatwa Management and Research*, 1(5), 55-70.
- Abdul Aziz, A. R. & Che Hussin, A. R. (2024a). Perceptions of Internal Halal Auditors Toward Digital Halal Audit App in Malaysia. *International Journal of Academic Research in Business & Social Sciences*. 14(1): 1279 – 1290.
- Abdul Aziz, A. R. & Che Hussin, A. R. (2024b). Thematic Analysis of Interview Insights: Challenges in Halal Auditing Practices in Malaysia. *International Journal of Academic Research in Business & Social Sciences*. 14(1): 1439 – 1449.
- Abdul Rahim, N. R., Abdullah, I., Yahya, N. A., Awang, M. N., Muhammad, S. Z., Ahmad Sabri, S. & Ahmad, N. N. (2022). Negotiation of needs towards halal talents sustainability. *Journal of Islamic Marketing (JIMA)*, 13(1): 20-44.
- Adhikari, E. (2015). Understanding Nuances and Commonalities of Job Descriptions. *Journal of Training and Development*, 1, 67-76.
- Ahmad, A. N., Rahman, R. A., Othman, M., & Abidin, U. F. U. Z. (2017). Critical success factors affecting the implementation of halal food management systems: Perspective of halal executives, consultants and auditors. *Food control*, 74, 70-78.
- Ahmad, J., Kadir, A., Bahari, M. A., & Ahmad Nathari, N. S. (2019). The lived Experience of eudaimonic well-being in a religio-economical role: a phenomenological study. *Social and Management Research Journal (SMRJ)*, 16(1), 133-156.
- Ahmad, J., & Taib, F. M. (2024). Enhancing Malaysia's Halal Brand Identity: Insights And Strategies For Sustainable Global Halal Hub. *Kajian Malaysia: Journal of Malaysian Studies*, 42(2).
- Ahmad Nizar, N. N., Taib, M. N., Bujang, A., Zainal Abidin, S. A. S., & Rahmat, A. K. (2022). A pre-and post-training assessment of the halal executive training program towards upholding halal food supply chain. *Journal of Emerging Economies & Islamic Research*, 10(2), 110-126.

- Al-Azmi, A. A. I., & Hamid, A. H. (2025). The Challenges of Implementing Halal Assurance Practices in an Organic Halal-Certified Slaughterhouse at Negeri Sembilan. *Journal of Halal Science and Management Research*, 1(1), 179-188.
- Alina, A. R., Rafida, A. N., Syamsul, H. K. M. W., Mashitoh, A. S., & Yusop, M. H. M. (2013). The academia's multidisciplinary approaches in providing education, scientific training and services to the Malaysian halal industry. *Middle-East Journal of Scientific Research*, 13, 79-84.
- Alshare, K., & Sewailem, M. F. (2018). A Gap Analysis Of Business Students' Skills in the 21st Century: A Case Study Of Qatar. *Academy of Educational Leadership Journal*, 22(1), 1-22.
- Althubaiti, A. (2023). Sample size determination: A practical guide for health researchers. *Journal of General and Family Medicine*, 24(2), 72-78.
- Amoruso, G., Ianniello, A., & Hyasat, A. S. (2023). A study on the skills gap analysis in the Jordanian tourism sector. *GeoJournal of Tourism and Geosites*, 47(2), 613-621.
- Babin, B. J., & Zikmund, W. G. (2015). Exploring marketing research (11th ed.). *Boston, USA: Cengage Learning*.
- Bentley, D. & Squelch, J. (2014). Employer perspectives on essential knowledge, skills and attributes for law graduates to work in a global context. *Legal Education Review*, 24 (1:6), 95-116.
- Borhan, F. P., Shamsudin, M. A., Harun, N. H., Mohd Ashmir Wong, M. S., Mamat, N., & Moidin, S. (2023). Readiness for Core Competencies of Halal Executive Among Halal Undergraduates in UiTM Shah Alam. *Journal of Islamic, Social, Economics and Development (JISED)*, 8(54), 1-10.
- Chaengpromma, N., & Pattanapairoj, S. (2022). A gap study between industry expectations and current competencies of bachelor's degree graduates in industrial engineering in Thailand 4.0 era: A case study of industrial engineering graduates of Khon Kaen University. *Cogent Education*, 9(1), 2093491.
- Creswell, J.W, and Plano Clark, V. (2007). Designing and conducting mixed methods research. Thousand Oaks, CA: *SAGE Publications*.
- Creswell, J. W., & Plano Clark, V. L. (2018). Designing and conducting mixed methods research (3rd ed.). Thousand Oaks, CA: *SAGE Publications*.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297- 334.

- Dasgupta, A. K. (1975). A note on content analysis. *Sociological Bulletin*, 24(1), 87-94. CA: *SAGE Publications*..
- DeCuir-Gunby, J. T., Marshall, P. L., & McCulloch, A. W. (2011). Developing and using a codebook for the analysis of interview data: An example from a professional development research project. *Field methods*, 23(2), 136-155.
- Department of Skills Development, Ministry of Human Resources & Halal Development Corporation Berhad (HDC). (2021). Occupational Framework Halal Industry.
- Department of Skills Development, Ministry of Human Resources. (2012). National Occupational Skills Standard.
- Department of Standards Malaysia. (2021). Malaysian Standard MS 2691: 2021 Halal Profession – General Requirements.
- Department of Statistics Malaysia. (2025). Economic Census 2023: Halal Statistics.
- Dinar Standard. (2025). The State of the Global Islamic Economy Report 2024/2025.
- Facebook. (n.d.). Retrieved March – June 2024, from <https://www.facebook.com/jobs>
- Elo, S., & Kyngas, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, 62(1), 107-115.
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American journal of theoretical and applied statistics*, 5(1), 1-4.
- Forero, R., Nahidi, S., De Costa, J., Mohsin, M., Fitzgerald, G., Gibson, N., McCarthy, S., & Aboagye-Sarfo, P. (2018). Application of four-dimension criteria to assess rigour of qualitative research in emergency medicine. *BMC health services research*, 18, 1-11.
- Erin, R., William, E. W., & Brian, J. G. (2016). The Practice of Survey Research: Theory and Applications. Chapter 6: Pretesting and Pilot Testing. *SAGE Publications*. 101-119.
- Glassdoor. (n.d.). Retrieved March – June 2024, from <https://www.glassdoor.com>
- Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The qualitative report*, 8(4), 597-607.
- Hakim, M. F., & Amaliyah, R. (2024). Competing Global and Local Halal Standards: Indonesia's Strategy in Increasing Halal Food Exports After Ratifying SMIIC. *Journal of Digital Marketing and Halal Industry*, 6(2), 193-210.

- Halal Development Corporation Berhad. (2021). Malaysia halal industry to continue forward momentum amidst challenges. Retrieved from <https://hdcglobal.com/news/2021/03/23/malaysia-halal-industry-to-continue-forward-momentum-amidsts-challenges/>
- Halim, F. (2018). Malaysia's Youth Unemployment Stays High Amid Skills Mismatch – MIDF. The Edge Markets.
- Hamdan, F., & Hashim, N. (2024). Competency and Recognition of the Halal Supervisor in Brunei Darussalam. *Halalsphere*, 4(2), 17-21.
- Hamdan, F., & Hashim, N. (2025). Evaluating Syariah and Technical Knowledge Among Halal Supervisors in Brunei Darussalam. *Journal of Halal Science and Management Research*, 1(1), 1-11.
- Hamzah, S. A. S., Johari, S., Yusof, Y. A., Ramlan, M. A., & Azmi, P. U. B. M. A. Research Trend: Talent Management Practice in Halal Management. *International Journal of Entrepreneurship and Management Practices*, 7 (28), 559-584.
- Harun, N.H., Ibrahim, N.C., & Daud, M. Z. (2023). Halal Auditing Challenges: A Case Study on Auditors in *Jabatan Hal Ehwal Agama Islam Kelantan (JAHEAIK)*. *Global Journal Al-Thaqafah*, 1-12.
- Harun, N. H., Haji Abdullah, M. A. N. H., Wong, M. S. M. A., Mamat, N. & Moidin, S. (2021). Halal training: Issues and challenges from trainers' perspectives in Halal Products Research Institute (HPRI). *Jurnal Pengajian Islam*, 14(2): 207-216.
- Hashim, N. H., Kamarulzaman, N. H., & Rahman, S. A. (2020). Relationship between awareness, knowledge, and attitude of behavioural intention towards halal jobs among Malaysian Muslim university students. *Journal of Halal Industry & Services* 2020; 3 (1): a0000152.
- Hashim, S., Mohamad, S. F., HalimLim, S. A., & Ahmat, N. H. C. (2022). Pretesting survey questionnaire: A guide on dissemination. *International Journal of Academic Reserach in Economics and Management Sciences*, 11(3).
- Hassan, M. H., Arif, S., & Sidek, S. (2015). Knowledge and Practice for Implementing Internal Halal Assurance System among Halal Executives. *Journal of Asian Social Science*, 11(17): 57–66.
- Hiredly. (n.d.). Retrieved March – June 2024, from <https://hiredly.com>

- Howard, M. C. (2019). Scale pretesting. Practical assessment, research, and evaluation, 23(5), 1-15.
- Huda, F. H., Nik Mohd Rosli, N. R., Jamaludin, M. A., YZH-Y Hashim, & Ahmad, A. N. (2023). Development of Core Competencies Index for Halal Executives in Food Company. *Journal of Islamic, Social, Economics and Development (JISED)*, 1(46), 161-165.
- Ibrahim, M. I., Jamaludin, M. A., Kartika, B., YZH-Y Hashim, Y. Z., & Zubairi, A. M. (2022). Enhancing Collaboration for future halal studies graduate employability. *Halalsphere 2(1)*, 98-105.
- Ibrahim, M. I., Jamaludin, M. A., Muflih, B. K., & Hashim, Y. Z. H. Y. (2024). Challenges in the Employability of Halal Studies Graduates in Malaysia. *Journal of Halal Science and Technology*, 3(1), 10-27.
- Ikart, E. M. (2019). Survey questionnaire survey pretesting method: An evaluation of survey questionnaire via expert reviews technique. *Asian Journal of Social Science Studies*, 4(2), 1.
- Indeed. (n.d.). Retrieved March – June 2024, from <https://www.indeed.com>
- Jaapar, N., & Mohd Najib, N. A. N. (2025). Halal graduates in Malaysia: Balancing education, employment, and industry needs. *Journal of Islamic, Social, Economics and Development (JISED)*, 10 (76), 420 – 432.
- Joblum. (n.d.). Retrieved March – June 2024, from <https://www.joblum.com>
- Jobstreet. (n.d.). Retrieved March – June 2024, from <https://www.jobstreet.com.my>
- Jooble. (n.d.). Retrieved March – June 2024, from <https://my.jooble.org>
- Kadir, J. M. A., Naghavi, N., Subramaniam, G., & Halim, N. A. A. (2020). Unemployment among graduates – is there a mismatch?. *International Journal of Asian Social Science*, 10(10), 583-592.
- Leonard, L., Jones, K., & Lang, G. (2019). Information system curriculum versus employer needs: a gap analysis. *Information Systems Education Journal*, 17(5), 32.
- Li, G., Yuan, C., Kamarthi, S., Moghaddam, M., & Jin, X. (2021). Data science skills and domain knowledge requirements in the manufacturing industry: A gap analysis. *Journal of Manufacturing Systems*, 60, 692 – 706.
- LinkedIn. (n.d.). Retrieved March – June 2024, from <https://www.linkedin.com>
- Jabatan Kemajuan Islam Malaysia (JAKIM). (2020). Malaysia Halal Management System (MHMS) 2020.

- Malaysia Qualification Agency. (n.d.). Provisional Accreditation. Retrieved September 25, 2025, from <http://www2.mqa.gov.my/pasp/>
- Malaysian Qualifications Agency & Halal Development Corporation Berhad. (2020). Programme Standards: Halal Studies.
- Malaysian Qualifications Agency. (n.d.). Malaysia Qualifications Register. Retrieved September 25, 2025, from <http://www2.mqa.gov.my/mqr/>
- Manalo, M. R., & Falco, M. E. M. F. (2025). Bridging science and halal: creating a communication plan and materials for halal-compliant food products of the Department of Science and Technology-Industrial Technology Development Institute. *Food Research*, 8(8), 34-38.
- Maukerja. (n.d.). Retrieved March – June 2024, from <https://www.maukerja.my>
- Md Nawi, N. H., Megat Ahmad, P. H., Ibrahim, H., & Mohd Suki, N. (2022). Firms' commitment to Halal standard practices in the food sector: impact of knowledge and attitude. *Journal of Islamic Marketing*, 14(5), 1260-1275.
- Md Salleh, A. S., Romli, F., Mat Salleh, K., & Adnan, A. (2020). Role of Internal Halal Committee in Ensuring Business Sustainability: The Case of a Multinational Slaughter House. *Journal of Business Management and Accounting (JBMA)*, 10(2), 57-65.
- Memon, M. A., Ting, H., Cheah, J. H., Thurasamy, R., Chuah, F., & Cham, T. H. (2020). Sample size for survey research: Review and recommendations. *Journal of Applied Structural Equation Modeling*, 4(2), 1-20.
- Meyer, M. A. (2018). Qualifications and skills required for performance improvement: a content analysis of job Postings. *Journal of Healthcare Management*, 63(6), 427-444.
- Ministry of Economic Affairs. (2023). Executive Summary of Halal Industry Master Plan 2030.
- Ministry of Higher Education. (2023). Graduate Employability from Graduate Tracer Study. Retrieved October 13, 2025 from <https://ge.mohe.gov.my/SearchGraduateEmployability.aspx>
- Ministry of Higher Education. (2021). Statistics of Higher Education. Chapter 1: Macro Higher Education Institutions 2021.
- Ministry of Higher Education. (2020). Statistics of Higher Education. Chapter 1: Macro Higher Education Institutions 2020.

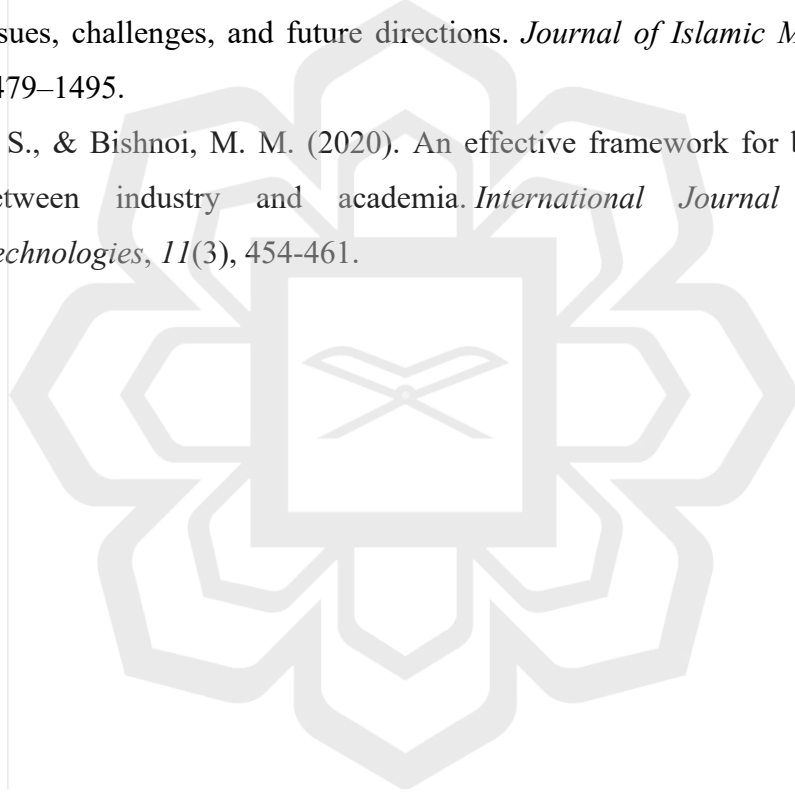
- Ministry of Investment, Trade and Industry. (2023). New Industrial Master Plan 2030 Halal Industry.
- Moberly, T. (2014). Supply and demand. *BMJ: British Medical Journal*, 1(6), 386-389.
- Mohamad Zain, M. S., Zakaria, Z., & Samudin, S. A. (2022). Halal Talent in Malaysia: A Bibliometric Study Analysis. *Malaysian Journal Management System*, 4(4): 41-55.
- Mohd Kamaruzaman, F., Hamid, R., Mutalib, A. A., & Rasul, M. S. (2019). Skills gap analysis: Satisfaction and expectation of engineering educators in Malaysia. *International Journal of Recent Technology and Engineering*, 8(2), 447-454.
- Mohd Mokhtar, M. N. M. (2021). Current Issues on Job Description and Specialization of Halal Executive in Malaysian SMEs. *3rd International Halal Management Conference (IHMC 2021)*, 28-39.
- Mohd Nor, A., Borhan, F. P., Saidon, R., Izham, S. S., Sahri, M., & Ab Hamid, N. A. (2024). Readiness of Halal Management Students for Employability. *International Journal of Advanced Research (IJAR)*, 12(04), 805-820.
- Mohd Shuhaimi, A. A., Ab Karim, S., Lee, E. K., Mohamad, S. F., Ungku Zainal Abidin, U. F., & Arshad, M. M. (2025). Sustainable career growth for the Halal professionals in Malaysia and Australian food industry. *Journal of Islamic Marketing*, 16(5), 1328-1348.
- Muhammad, M. A., Elistina, A. B., & Ahmad, S. O. (2020). The challenges faced by halal certification authorities in managing the halal certification process in Malaysia. *Food Research*, 4(1), 170-178.
- Musa, M. K., & Hashim, M. Z. (2022). Halal awareness among Muslim undergraduates at a Malaysian university. *International Journal of Academic Research in Business and Social Sciences*, 12(12), 2664-2675.
- MYFuture Jobs. (n.d.). Retrieved March – June 2024, from <https://www.myfuturejobs.gov.my>
- MyJora. (n.d.). Retrieved March – June 2024, from <https://my.jora.com>
- Nadarajah, J. (2021). Measuring the gap in employability skills among Malaysian graduates. *International Journal of Modern Trends in Social Sciences*, 4(15), 81-87.
- Nandala, I.M. & Azrak, T. (2024). Halal Certification: Legal and Ethical Consideration in Islamic Jurisprudence. *International Journal of Islamic Business*, 9(2), 43-60.

- Narula, A.V., & Aithal, P.S. (2018). Employability Skill traits Management Quotient [ESMQ] - A Conceptual Model Proposal. *International Journal of Applied Engineering and Management Letters (IJAEML)*, 2(1), 1-30.
- Nasri, N. S. J., Ahmad, A. N., Hashim, Y. Z. H. Y., & Cader, I. A. (2025). The Role and Responsibilities of Halal Executives in Food Manufacturing in Malaysia: A Qualitative Study. *Journal of Fatwa Management and Research*, 30(2), 55-79.
- Nawai, N. (2021). Employers' perception of the employability skills of Islamic business administration graduates in Universiti Sains Islam Malaysia. *International Journal of Islamic Economics and Finance Research*, 4(1), 41-52.
- Nazri, M. Z., Abd Rashid, S. N. A., Mustafa, R. R., & Zaidel, D. N. A. (2025). Halal assurance beyond science: A perspective on socioeconomic factors and consumer trust in food authentication. *Halalsphere*, 5(2), 92-100.
- Nesaratnam, S., Prabha Karan, S., & Foo, Y. (2018). Conceptualisation of a Graduate Employability Framework from a Malaysian Perspective. *International Journal of Human Resource Studies*, 112-135.
- Nik Mohd Rosli, N. R., Huda. F. H., Ahmad Fadzillah, N., Hashim, Y. Z. H. Y., Ahmad, A. N. (2022). A Conceptual Core Competency Model for Halal Executives in Food Manufacturing Companies. *Journal of Halal Science and Technology*, 1(1), 1-14.
- Noordin, N., Noor, N. L. M., Hashim, M., & Samicho, Z. (2009). Value chain of Halal certification system: A case of the Malaysia Halal industry. In *European and Mediterranean conference on information systems*, 2008, 1-14.
- Norhayati Rafida, A. R., Noor Azrina, Y., Siti Zubaidah, M., Muhammad Nizam, A., Safiyyah, A. S., Jusang, B. & Nitty Hirawaty, K. (2020). Negotiation Parameters of Needs Versus Interest Towards Sustainability of Halal Talents in Malaysia. *Journal of Islamic, Social, Economics and Development (JISED)*, 5(31), 22-34.
- Nunnally, J. C., & Bernstein, I. H. (1994). Psychometric theory (3rd ed.). McGraw-Hill.
- SPSS Statistics (Version 28). IBM Corporation.
- Nuratifah, A. S., Sharifudin, M. S., & Mariam, A. L. (2019). Evaluation of knowledge and practices of Halal Certification among food processing companies in Sabah, Malaysia. *International Food Research Journal*, 26 (1), 295-304.
- Nurdalila, A. W. A., Ibrahim, W. K. W., Jamil, M. Z. M., Asmuje, N. F., Spawi, M., Hsiu, A. R. N., & Hsiu, A. R. A. (2024). Halal Vocation Game: The New

- Edutainment For A Career Pathway In Halal Field. *Journal of Fatwa Management and Research*, 29(2), 1-22.
- O'Connor, C., & Joffe, H. (2020). Intercoder reliability in qualitative research: Debates and practical guidelines. *International journal of qualitative methods*, 19, 1-13.
- Osman, R. A. (2022). Risk management in the halal industry: A comprehensive analysis. *Al-Maqasid: The International Journal of Maqasid Studies and Advanced Islamic Research*, 3(1), 80-82.
- Othman, B., Md. Shaarani, S., & Bahron, A. (2017). The Influence of Knowledge, Attitude and Sensitivity to Government Policies in Halal Certification Process on Organizational Performance. *Journal of Islamic Marketing*, 8 (3): 393- 408.
- Ozkan, U. B. (2023). Validity and reliability in document analysis method: A theoretical review in the context of educational science research. *The Journal of Buca Faculty of Education*, 56, 823-848.
- Pattanapairoj, S., Nitisiri, K., & Sethanan, K. (2021). A gap study between employers' expectations in Thailand and current competence of master's degree students in Industrial Engineering under Industry 4.0. *Production Engineering Archives*, 27(1), 50-57.
- Polit, D.F. & Hungler B.P. (1999). *Nursing Research: Principles and Methods*. 6th Edition. Philadelphia: Lippincott.
- Riani, R., Ikhwan, I., & Rusydiana, A. S. (2025). Integrating technological innovation in the halal industry: An analysis using PRISMA. *Jurnal Ekonomi & Keuangan Islam*, 61-79.
- Roebianto, A. D. I. Y. O., Savitri, S. I., Aulia, I. R. F. A. N., Suciyan, A. R. I. E., & Mubarakah, L. (2023). Content validity: Definition and procedure of content validation in psychological research. *Testing, Psychometrics, Methodology in Applied Psychology (TPM)*, 30(1), 5-18.
- Rodzalan, S. A., Noor, N. N. M., Abdullah, N. H., & Saat, M. M. (2022). TVET skills gap analysis in electrical and electronic industry: perspectives from academicians and industry players. *Journal of Technical Education and Training*, 14(1), 158-177.
- Safitri, A., & Afandi, M. Y. (2023). Trends of Halal Industry Research: A Bibliometric Analysis. *Jurnal Ekonomi Syariah Teori Dan Terapan*, 10(6).

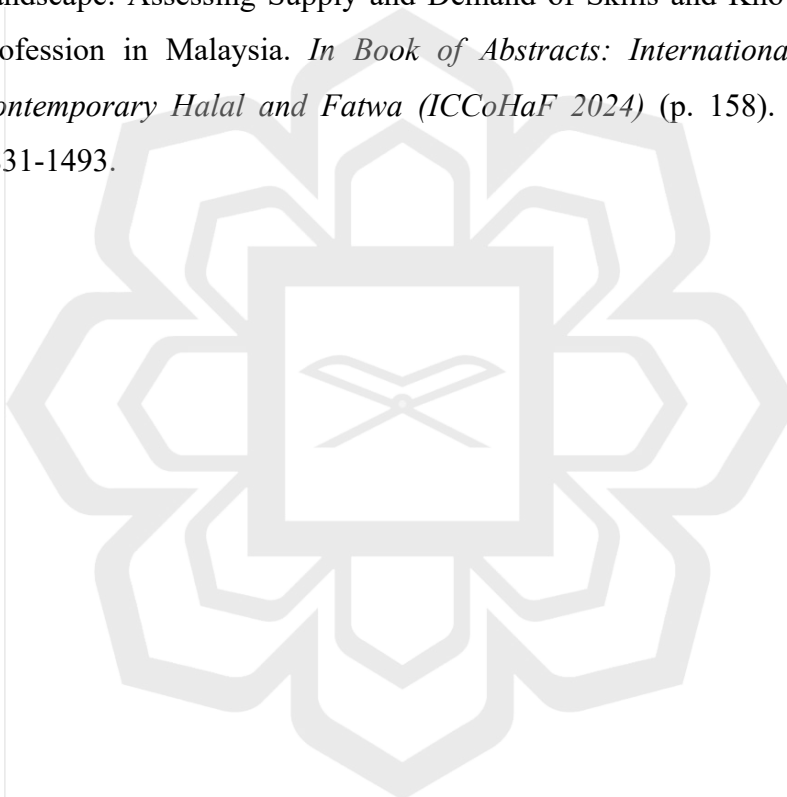
- Schwarz, H., Revilla, M., & Weber, W. (2020, July). Memory effects in repeated survey questions: Reviving the empirical investigation of the independent measurements assumption. *In Survey Research Methods*, 14 (3), 325-344.
- Shaharuddin, F.Z., Norman, A.A., Hamid, S. & Zakaria, Z. (2025). Halal Food Industry in Malaysia: Issues and Challenges. *Food Research* 9 (2), 33 – 42.
- Sharvari, K., & Kulkari, D. G. (2019). Gap analysis of soft skills in the curriculum of Higher Education (A case study of Management Institutes in Karnataka). *Advances In Management: World Business and Economy Congress*, 12(1), 64-67.
- Shomah, M. I., El-Gilany, A. E. H., Mashaly, M., Elshaer, M., Sadeq, M., & El-Mashad, N. (2024). Adaptation and validation of a scale for quality standard measures in hospital blood bank: A pilot study. *Asian Journal of Transfusion Science*, 10-4103.
- Siti Aminah, B., Risyawati Mohamed, I., Saroja, D., Neyson, D., & Abd, R. (2020). The moderating effect of religiosity on halal certification among food manufacturers. *International Journal of Supply Chain Management*, 9(4), 596-601.
- Spencer, J. R. LM. & Spencer, SM.(1993). Competence at work.
- Subedi, D. (2016). Explanatory Sequential Mixed Method Design as the Third Research Community of Knowledge Claim. *American Journal of Educational Research*, 4(7), 570-577.
- Tafti, M. M., Mahmoudsalehi, M., & Amiri, M. (2017). Critical success factors, challenges and obstacles in talent management. *Industrial and Commercial Training*, 49(1), 15-21.
- Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, 2, 53-55.
- Technical Education and Skills Development Authority (TESDA). (2023). Halal Lifestyle Insights on Enhancing Skills in the Philippine Halal Food Industry. TESDA.
- Tongco, M. D. C. (2007). Purposive sampling as a tool for informant selection.
- Tukiran, N. A., Fekri Abidin, N. F. A., & Ahmad, A. N. (2025). Identifying Gaps in Halal Talent Development and Management in Malaysia: A Systematic Literature Review. *al-Qanatir: International Journal of Islamic Studies*, 34(1), 78-81.

- Wei, L. C., & Yew, M. P. (2024). The Overeducation Dilemma: Graduate Skill Mismatch in Malaysia's Labour Market. *International Journal of Business, Economics and Law*, 33(1), 60-66.
- Yaacob, T. Z., Abd Razak, S. S., & Hashim, H. I. (2023). Sertu and Halal critical point for managing risks in halal transportation. *In Innovation of Food Products in Halal Supply Chain Worldwide*. Academic Press, 221-228.
- Yong, B. P. P., & Ling, Y. L. (2023). Skills gap: The importance of soft skills in graduate employability as perceived by employers and graduates. *Online Journal for TVET Practitioners*, 8(1), 25-42.
- Zainuddin, N., Hashim, P., & Che Omar, A. R. (2021). Halal education in Malaysia: Issues, challenges, and future directions. *Journal of Islamic Marketing*, 12(8), 1479–1495.
- Zeidan, S., & Bishnoi, M. M. (2020). An effective framework for bridging the gap between industry and academia. *International Journal on Emerging Technologies*, 11(3), 454-461.



LIST OF PUBLICATIONS

- Tukiran, N. A., Fekri Abidin, N. F. A., & Ahmad, A. N. (2025). Identifying Gaps in Halal Talent Development and Management in Malaysia: A Systematic Literature Review. *al-Qanatir: International Journal of Islamic Studies*, 34(1), 78-81.
- Fekri Abidin, N. F. A., Tukiran, N. A., & Ahmad, A. N. (Accepted for publication, May 2026). Assessing the Skills and Knowledge for the Halal Profession. *Journal of Fatwa Management and Research*.
- Fekri Abidin, N. F. A., Tukiran, N. A., & Ahmad, A. N. (2025). Halal Education Landscape: Assessing Supply and Demand of Skills and Knowledge for Halal Profession in Malaysia. In *Book of Abstracts: International Conference of Contemporary Halal and Fatwa (ICCoHaF 2024)* (p. 158). ICCoHaF. ISSN 2831-1493.





APPENDIX A:
APPOINTMENT LETTER AS EXPERT REVIEWER



IIUM/2311220/1

25th April 2025

TO WHOM IT MAY CONCERN,

Assalamualaikum warahmatullahi wabarakatuh

Dear Prof. / Dr. / Ms.,

APPOINTMENT AS EXPERT REVIEWER FOR RESEARCH QUESTIONNAIRE

May this letter reach you in the best of health and high spirits by the grace of Allah SWT.

Please be informed that my supervisee, Nur Fatin Aini binti Fekri Abidin (G2311220), a Master's student in Halal Industry Management (MAHIM) from International Institute for Halal Research and Training (INHART), International Islamic University Malaysia (IIUM) is currently in the process of collecting data for her research.

Therefore, I am pleased to appoint you as one of the **expert reviewers** for her research questionnaire. Your expertise in this field is highly valued, and your feedback will be instrumental in ensuring the content validity prior to the data collection phase.

The details of the student's information as below:

Name : Nur Fatin Aini binti Fekri Abidin
Matric No. : G2311220
Contact No. : 017-5876303
: nfainifekri@gmail.com
Thesis Title : Halal Studies: Education Gap Analysis for Halal Profession in Malaysia

We truly appreciate your time and contribution to this academic endeavour. Kindly find the attached questionnaire and evaluation form for your review. Should you require any further information or clarification, please do not hesitate to contact us.

Thank you. *Wassalam.*

ASST. PROF. DR. NUR AZIRA BINTI TUKIRAN

Supervisor

International Institute for Halal Research and Training (INHART)

International Islamic University Malaysia (IIUM)

Email: aziratukiran@iium.edu.my



APPENDIX B:
EXPERT EVALUATION FORM



INTERNATIONAL INSTITUTE FOR HALAL RESEARCH AND TRAINING
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

EXPERT EVALUATION FORM

Title of thesis : Halal Studies: Education Gap Analysis of Halal Profession in Malaysia

Name of evaluator : _____
Highest education : _____
University/Company : _____

Instructions to evaluator

This review form consists of two parts:

Part I: Specific item review (Sections B, C & D)

These sections contain items related to the essential knowledge, skills, and attributes expected in the halal profession. Each item will be rated by respondents using a 5-point Likert Scale: least important (1), less important (2), somewhat important (3), important (4), and most important (5).

Please evaluate each item based on the following criteria using a 3-point scale:

- Relevance (how well the item represents the intended domain)
- Clarity (how clearly the item is worded)
- Necessity (how necessary the item is to be included)

Kindly provide any suggestions for improvement in the comment box next to each item.

Part II: General feedback

Please share any overall comments or suggestions for each section at the end.

Thank you.

Best regards,

Nur Fatin Aini binti Fekri Abidin

Master's Student of Halal Industry Management

International Institute for Halal Research and Training (INHART)

International Islamic University Malaysia (IIUM)

Email: nfainifekri@gmail.com

Phone No.: 017-587 6303

**HALAL STUDIES:
EDUCATION GAP ANALYSIS OF HALAL PROFESSION IN MALAYSIA**

Dear Respondent,

Thank you for taking the time to participate in this study. My name is Nur Fatin Aini binti Fekri Abidin, Master's student of Halal Industry Management from International Islamic University Malaysia (IIUM). I am currently conducting a research study on **Halal Studies: Education Gap Analysis of Halal Profession in Malaysia**.

This research aims to assess the **knowledge, skills, and attributes** required for the Halal profession to better understand industry needs and educational alignment. Your insights and experiences are valuable in helping to understand and improve this area.

Survey Structure:

- **Section A:** Personal information.
- **Sections B, C, and D:** Rate scale from 1 to 5.
- **Section E:** Sharing feedback or recommendations.

The survey will take approximately **10–15 minutes** to complete.

All responses will be kept confidential and used solely for research purposes. Your participation is voluntary, and you may withdraw at any time. I would greatly appreciate it if you could complete this survey.

As a token of appreciation, RM5 Touch 'n Go e-Wallet credits will be given to the **earliest respondents** who successfully complete the questionnaire.

Thank you for your time and contribution.

Best regards,

Nur Fatin Aini binti Fekri Abidin

Master's Student of Halal Industry Management
International Institute for Halal Research and Training (INHART)
International Islamic University Malaysia (IIUM)
Email: nfainifekri@gmail.com
Phone No.: 017-587 6303

☐ I have read the above information and consent to participate in this study.

Section A: Personal Information

Please provide your personal information accurately. All information collected will be kept strictly confidential and used only for research purposes and the distribution of rewards. Your responses will not be shared with any third parties.

1) Email: _____

2) Phone no.: _____
(to receive RM5 credit TNG e-Wallet)

3) Gender:

- ☐ Male
- ☐ Female

4) Age:

- | | |
|-------------------------------|-------------------------------|
| ☐ 18 – 20 | ☐ 36 – 40 |
| ☐ 21 – 25 | ☐ 41 – 45 |
| ☐ 26 – 30 | ☐ 46 – 50 |
| ☐ 31 – 35 | ☐ 51 – 60 |

5) Religion:

- | | |
|------------------------------------|--|
| ☐ Islam | ☐ Hinduism |
| ☐ Buddhism | ☐ Other, please specify: _____ |
| ☐ Christianity | |

6) Income:

- | | |
|---|---|
| ☐ Below RM 2,000 | ☐ RM 8,001 – RM 10,000 |
| ☐ RM 2,001 – RM 4,000 | ☐ RM 10,001 – RM 15,000 |
| ☐ RM 4,001 – RM 6,000 | ☐ Above RM 15,000 |
| ☐ RM 6,001 – RM 8,000 | ☐ Prefer not to say |

7) Highest education level:

- | | |
|---|--|
| ☐ SPM / O-Level | ☐ Diploma |
| ☐ STPM / A-Level /
Foundation /
Matriculation | ☐ Bachelor's Degree |
| | ☐ Master's Degree |
| | ☐ Doctor of Philosophy (PhD) |

8) Category:

- | | |
|---|--|
| ☐ Academician
<i>Fill the details in (a)</i> | ☐ Food & Beverage (F&B) Industry
<i>Fill the details in (b)</i> |
|---|--|

a) Academician**1) Institution name:**

2) Academic and/or administrative position:

(e.g., Lecturer, Head of Department, Programme Coordinator)

3) Level of study you ever taught (for Halal related programme/course):

- ☐ Diploma
- ☐ Bachelor's Degree
- ☐ Master's Degree
- ☐ Doctor of Philosophy (PhD)

4) Please specify the halal-related programme you have taught:

(e.g., Bachelor's Degree in Halal Industry Management)

5) Have you been involved in the development or review of the halal programme syllabus?

- ☐ Yes
- ☐ No

6) Are you a member of an academic unit at your institution?

- ☐ Yes
- ☐ No

b) F&B Industry**1) Company name:**

2) Which food sector are you involved in?

- ☐ Manufacturing
- ☐ Processing
- ☐ Packaging
- ☐ Logistics & distribution
- ☐ Retail (supermarket etc.)
- ☐ Food services (restaurant, catering)
- ☐ Import/export
- ☐ Others: Please specify:

3) Current job title:

(e.g., Halal Executive, Halal Officer cum Quality Control)

4) Work location:

(e.g., Selangor)

5) How long have you worked in this current position?

- ☐ Less than 1 year
- ☐ 1 – 2 years
- ☐ 3 – 4 years
- ☐ 5 – 6 years
- ☐ 7 – 8 years
- ☐ 8 – 10 years
- ☐ More than 10 years

PART I: SPECIFIC ITEM REVIEW

Section B: Knowledge for Halal Profession

This section evaluates essential **knowledge** areas expected in the halal profession.

Each item will be rated by respondents using a 5-point Likert Scale: least important (1), less important (2), somewhat important (3), important (4), and most important (5).

1) Shariah Knowledge

Understanding Islamic laws and principles, especially those related to halal practices.

No.	Item	Item review	Low	Moderate	High	Comment/suggestion
1	Halal knowledge and awareness Halal concepts, global halal standards, and consumer awareness	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
2	Islamic theology (<i>aqidah islamiah</i>) Core beliefs in Islam and the development of different schools of thought (<i>mazhab</i>)	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
3	Quran, hadith and arabic language Islamic teachings from Quran and hadith, with basic Arabic comprehension	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
4	Islamic jurisprudence (<i>fiqh</i>) Fatwa and contemporary Islamic rulings on halal issues	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
5	Islamic legal maxim (<i>qawaid fiqhiyyah</i>) General legal principles used to interpret Islamic laws	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	

6	Islamic law of consumerism (<i>fiqh al-istihlak al-islami</i>) Guidelines on ethical consumption, including halal food, transaction, and purification practices	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
7	Objectives of Islamic law (<i>Maqasid al-Shariah</i>) 5 main principles; protection of life, faith, property, intellect, and lineage	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	

2) Technical Knowledge

Specialised knowledge to ensure halal regulatory compliance, quality assurance, governance, and effective business management in the halal industry.

i. Halal regulatory compliance

Ensuring halal integrity through regulatory compliance and risk management.

No.	Item	Item review	Moderate			Comment/suggestion
			Low	Moderate	High	
1	Licensing e.g., Food premises license (by PBT)	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
2	Certification e.g., <i>Makanan Selamat Tanggungjawab Industri</i> (MeSTI)	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
3	Halal certification e.g., Malaysian Halal Certification Procedure Manual (MPPHM)	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
4	Halal audit	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	

5	Halal risk management e.g., Hazard Analysis and Critical Control Points (HACCP)	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
6	Halal supply chain management	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
7	International halal supply chain standards e.g., OIC SMIIC standards	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	

ii. Halal quality and assurance

Ensuring product quality, safety, and compliance with halal standards.

No.	Item	Item review	Item review			Comment/suggestion
			Low	Moderate	High	
1	Malaysian halal standards e.g., MS 1500:2019, etc.	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
2	Halal assurance management system e.g., MHMS (Malaysian Halal Management System), Internal Halal Assurance System (IHAS), Halal Control Points (HCP)	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
3	Quality management system e.g., Food Safety Management System (FSMS), ISO MS 1900:2014, ISO 9001:2015, ISO 13485	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
4	Industry-specific practices e.g., Good Laboratory Practice (GLP), Good Hygiene Practice (GHP), Malaysian Good	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	

5	Traceability Barcode, blockchain for halal supply chain	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
6	Halal hygiene, sanitation and safety e.g., <i>sertu</i> (Islamic cleansing), halal pest control	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
7	Corrective and preventive actions Fix issues and prevent future non-compliance	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
8	Ethics and <i>toyyiban</i> concept Ensure product and services are ethical, wholesome, safe, and of good quality	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	

iii. Halal governance

Regulatory bodies, legal frameworks, and guidelines that govern the halal industry.

No.	Item	Item review	Item review			Comment/suggestion
			Low	Moderate	High	
1	Certification bodies e.g., Department of Islamic Development Malaysia (JAKIM)	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
2	Industry regulatory and enforcement bodies e.g., Ministry of Health Malaysia (MOH), Ministry of Investment, Trade, and Industry Malaysia (MITI), Malaysian Quarantine and Inspection Services (MAQIS), National Pharmaceutical Regulatory Agency (NPRA)	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
3	Halal-related acts and regulations e.g., Food Act 1983, Consumer Protection Act 1999	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	

4	Halal trade laws and requirements e.g., Trade Description Acts 2011	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
5	International import regulations and guidelines e.g., GACC (China), US FDA (United States)	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	

iv. Business and management

Managing business operations, marketing, risk, and trade within the halal industry.

No.	Item	Item review	Item review			Comment/suggestion
			Low	Moderate	High	
1	Business management Business operations, retail sales, customer service	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
2	Halal entrepreneurship Develop a business that complies with halal principles	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
3	Halal marketing Promote halal products and services with ethical	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
4	Business risk management Identify and manage risks that could affect business operations	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
5	International trade Manage the shipment and distribution of goods across borders	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	

3) Science and Technology Knowledge

Applying scientific principles and technology to ensure halal integrity and product innovation.

No.	Item	Item review	Low	Moderate	High	Comment/suggestion
1	Laboratory testing Basic quality control and interpreting laboratory results	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
2	Applied science Industrial microbiology, organic chemistry, and nutrition	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
3	Technological advances Green technology compliance, biotechnology and halal verification technology	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
4	Industrial process and operations Machine for manufacturing, production, and operational activities in halal industries	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
5	Logistic and supply chain technology Use technology to maintain halal integrity in inventory, storage, transportation, and distribution	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
6	Product and service innovation Identify product ingredients to enhance them through innovation and technology	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	

Section C: Skills for Halal Profession

This section evaluates essential **skills** areas expected in the halal profession.

Each item will be rated by respondents using a 5-point Likert Scale: least important (1), less important (2), somewhat important (3), important (4), and most important (5).

1) Soft Skills

Personal and social abilities that support effective interaction, communication, and teamwork.

No.	Item	Item review	Item review			Comment/suggestion
			Low	Moderate	High	
1	Cognitive skills Think, learn, and process information effectively	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
2	Interpersonal skills Interact and build positive relationships with others	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
3	Communication skills Expressing ideas clearly, both verbally and in writing	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
4	Leadership skills Leading, making decisions, and taking ownership of tasks	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
5	Personal skills Self-awareness, confidence, and emotional intelligence in daily tasks	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	

6	Entrepreneurial skills Identify opportunities, take initiative, and manage risks	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
7	Teamwork skills Working well with others to achieve common goals	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
8	Problem solving skills Identifying issues and finding effective solutions	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
9	Adaptability skills Adjusting to changes and handling new challenges effectively	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
10	Critical and analytical thinking skills Evaluating situations logically to make sound decisions	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
11	Creative thinking skills Generating innovative ideas and unique solutions	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
12	Negotiation skills Reaching agreements and resolving conflicts effectively	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
13	Managerial and coordination skills Planning, organising, and managing people and tasks efficiently	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
14	Language proficiency • Malay language • English language • Mandarin language • Tamil language	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	

2) Hard Skills

Measurable and teachable abilities gained through training or education to perform specific tasks.

No.	Item	Item review	Low	Moderate	High	Comment/suggestion
1	Numeracy skills Ability to work with numbers, calculations, and data analysis	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
2	Practical skills Hands-on ability to perform tasks effectively in real-world situations	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
3	Digital and IT skills Proficiency in using Microsoft Office, Google applications, software, and other digital tools	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
4	Report and writing skills Ability to write clear, structured, and detailed reports	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
5	Organisational skills Effectively plans, prioritises, and manages tasks efficiently	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
6	Multitasking skills Handles multiple tasks simultaneously while maintaining quality	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
7	Research skills Ability to gather, analyse, and interpret information systematically	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
8	Laboratory skills	Relevance	1	2	3	
		Clarity	1	2	3	

	Competence in performing lab tests, handling equipment, and analysing results	Necessity	1	2	3	
9	Data management skills Organising, storing, and interpreting data accurately and securely	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	

Section D: Attributes for Halal Profession

This section evaluates essential **attributes** areas expected in the halal profession. Each item will be rated by respondents using a 5-point Likert Scale: least important (1), less important (2), somewhat important (3), important (4), and most important (5).

Attributes

Inherent personal traits or characteristics that influence behaviour and work ethic.

No.	Item	Item review	Low	Moderate	High	Comment/suggestion
1	Ethical and has integrity Fair, honest, confidentiality, practice halal ethics	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
2	Good practicing Islamic values Understanding and commitment to Islamic values	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
3	Accountable Takes responsibility for actions and ensures reliability in duties	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	

4	Perceptive Recognises the need for change and seeks continuous improvement	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
5	Versatile Adapts to different situations and provides creative solutions	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
6	Decisive Makes firm, fair, and well-informed decisions when needed	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
7	Self-reliant Works independently while collaborating effectively with others	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
8	Meticulous Pays close attention to detail and ensures accuracy in tasks	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
9	Systematic Approaches tasks in an organised and structured manner	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
10	Professionalism Maintains high ethical standards and a responsible work attitude	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
11	Tenacious Remains dedicated, persistent, and focused on achieving goals	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	
12	Lifelong learner Continuously seeks knowledge and personal development	Relevance	1	2	3	
		Clarity	1	2	3	
		Necessity	1	2	3	

Section E: Open-Ended Questions

You may provide your comments and suggestions in the space provided below. Your feedback is valuable in improving our understanding of the halal profession.

1. Do you have any comments or feedback?

Please share any thoughts or concerns regarding the survey or the halal profession.

2. Do you have any recommendations?

Kindly suggest any improvements or additional aspects that should be considered in the halal profession (e.g., areas missing in current halal training, improvements to curriculum, gaps in industry readiness)

PART II: GENERAL FEEDBACK

Instruction:

Please share any overall comments or suggestions for each section at the end.

Section	Comment/Suggestion
Section A Personal Information	
Section B Knowledge	
Section C Skills	
Section D Attributes	
Section E Open-ended question	

APPENDIX C:
RESEARCH ETHICS APPROVAL FORM



Ref: IIUM/516/14/1/1

16th May 2025

Assalamualikom Warhmatu Allah WB

EXEMPTION APPROVAL – RESEARCH ETHICS APPLICATION

TO WHOM IT MAY CONCERN,

May this letter reach you in the best of health and Iman, by the grace of Allah *Subhanahu Wa Ta'ala*.

This is to certify that the Research Ethics Committee of the **International Institute for Halal Research and Training (INHART)** has reviewed the research proposal submitted by **Nur Fatin Aini binti Fekri Abidin (G2311220)** on **16th May 2025, 8.45 am.** entitled:

“HALAL STUDIES: EDUCATION GAP ANALYSIS OF HALAL PROFESSION IN MALAYSIA.”

Based on the nature of the study and the documents provided, the committee has determined that this project **qualifies for exemption** from ethics review, as it poses minimal risk to participants and does not involve sensitive or high-risk data collection, and it is based on an anonymous survey approach.

We pray to Allah *Subhanahu Wa Ta'ala* to guide us in serving INHART and IIUM sincerely, and may He bestow upon us His mercy and blessings in this world and the hereafter.

Thank you and *Wassalamualaikum Warahmatullahi Wabarakatuh*.

Prof. Ts. Dr. Azura Amid

Dean

International Institute for Halal Research and Training (INHART),



**APPENDIX D:
PRE-TEST FORM**





INTERNATIONAL INSTITUTE FOR HALAL RESEARCH AND TRAINING
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

PRE-TEST FORM

Title of thesis : Halal Studies: Education Gap Analysis of Halal Profession in Malaysia

Instruction:

Please answer the following questions or make any comments upon the completion of your questionnaire.

1. How long did it take for you to complete this questionnaire? _____ minutes
2. Were the questions understandable?
 - ☐ Yes
 - ☐ No (please specify below)

If NO, please indicate the question number and what need to be clarified in the table below or directly by the specific question in the questionnaire.

Question number	Clarification

3. Overall, do you have any suggestions to improve this questionnaire? (If any)

APPENDIX E:
POSTER FOR SURVEY QUESTIONNAIRE



INTERNATIONAL MULTI-AWARD WINNING INSTITUTION FOR SUSTAINABILITY

LEADING THE WAY
HAKIMAH - BERKUALITI - BERKESAMATAN
LEADING THE WORLD



INTERNATIONAL INSTITUTE FOR
HALAL RESEARCH AND TRAINING
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA
Halal at Heart

Respondents needed for

Halal Studies:

Education Gap Analysis of Halal Profession in Malaysia

A study on **knowledge, skills** and **attributes** for Halal Profession

This study includes a set of questionnaires that will take approximately 10-15 minutes to complete.

Token of Appreciation:

RM5

via Touch 'n Go e-Wallet, to the earliest respondents who successfully complete the questionnaire and fulfill the criteria.

Criteria:

- 1 Academician
 - teach Halal industry management programme (diploma/bachelor's degree level)
 - and; current or former member of academic unit
- 2 Food & Beverage (F&B) Industry
 - employee with halal-related job position (e.g., halal executive, halal officer etc.)

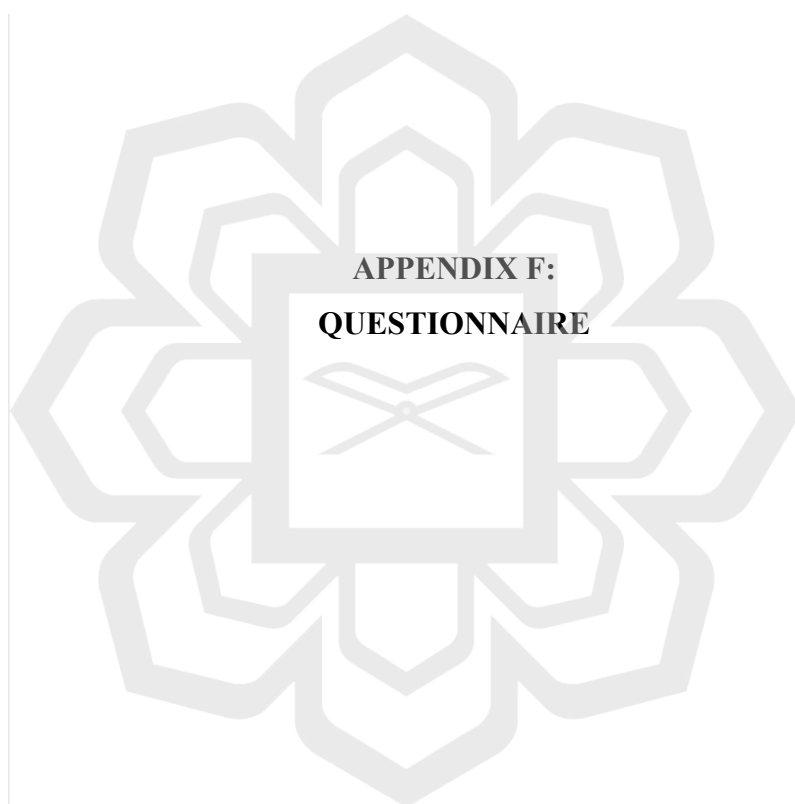
Survey QR code:



For any inquiries, do contact:

 nfainifekri@gmail.com

 +60175876303



APPENDIX F:
QUESTIONNAIRE

HALAL STUDIES: EDUCATION GAP ANALYSIS OF HALAL PROFESSION IN MALAYSIA

Dear Respondent,

Thank you for taking the time to participate in this study. My name is Nur Fatin Aini binti Fekri Abidin, Master's student of Halal Industry Management from International Islamic University Malaysia (IIUM). I am currently conducting a research study on **Halal Studies: Education Gap Analysis of Halal Profession in Malaysia**.

This research aims to identify and rank the most crucial **knowledge, skills, and attributes** required for the halal profession in the halal industry, in order to better understand industry needs and educational alignment. For your reference, halal manager, halal auditor, halal officer, halal executive, and halal supervisor are among the examples of halal professions.

Survey Structure:

- **Section A:** Personal information.
- **Sections B, C, and D:** Rate scale from 1 to 5.
- **Section E:** Sharing feedback or recommendations.

The survey will take approximately **10–15 minutes** to complete.

All responses will be kept confidential and used solely for research purposes. Your participation is voluntary, and you may withdraw at any time. I would greatly appreciate it if you could complete this survey, as your insights and experiences are valuable in helping to understand and improve this area.

As a token of appreciation, **RM5 Touch 'n Go e-Wallet credits** will be given to the **earliest respondents who successfully complete the questionnaire and fulfill the criteria**.

Thank you for your time and contribution.

Best regards,

Nur Fatin Aini binti Fekri Abidin

Master's Student of Halal Industry Management
International Institute for Halal Research and Training (INHART)
International Islamic University Malaysia (IIUM)
Email: nfainifekri@gmail.com
Phone No.: 017-587 6303

☐ I have read the above information and consent to participate in this study.

Section A: Personal Information

Please provide your personal information accurately. All information collected will be kept strictly confidential and used only for research purposes and the distribution of rewards. Your responses will not be shared with any third parties.

1) Email: _____

2) Phone no.: _____ (to receive RM5 credit TNG e-Wallet)

3) Gender:

- ☐ Male
- ☐ Female

4) Age:

- ☐ 18 – 20
- ☐ 21 – 25
- ☐ 26 – 30
- ☐ 31 – 35
- ☐ 36 – 40
- ☐ 41 – 45
- ☐ 46 – 50
- ☐ 51 – 60

5) Religion:

- ☐ Islam
- ☐ Buddhism
- ☐ Christianity
- ☐ Hinduism
- ☐ Other, please specify: _____

6) Income monthly:

- ☐ Below RM 2,000
- ☐ RM 2,001 – RM 4,000
- ☐ RM 4,001 – RM 6,000
- ☐ RM 6,001 – RM 8,000
- ☐ RM 8,001 – RM 10,000
- ☐ RM 10,001 – RM 15,000
- ☐ Above RM 15,000
- ☐ Prefer not to say

7) Highest education level:

- ☐ SPM / O-Level
- ☐ STPM / A-Level / Foundation / Matriculation
- ☐ Diploma
- ☐ Bachelor's Degree
- ☐ Master's Degree
- ☐ Doctor of Philosophy (PhD)

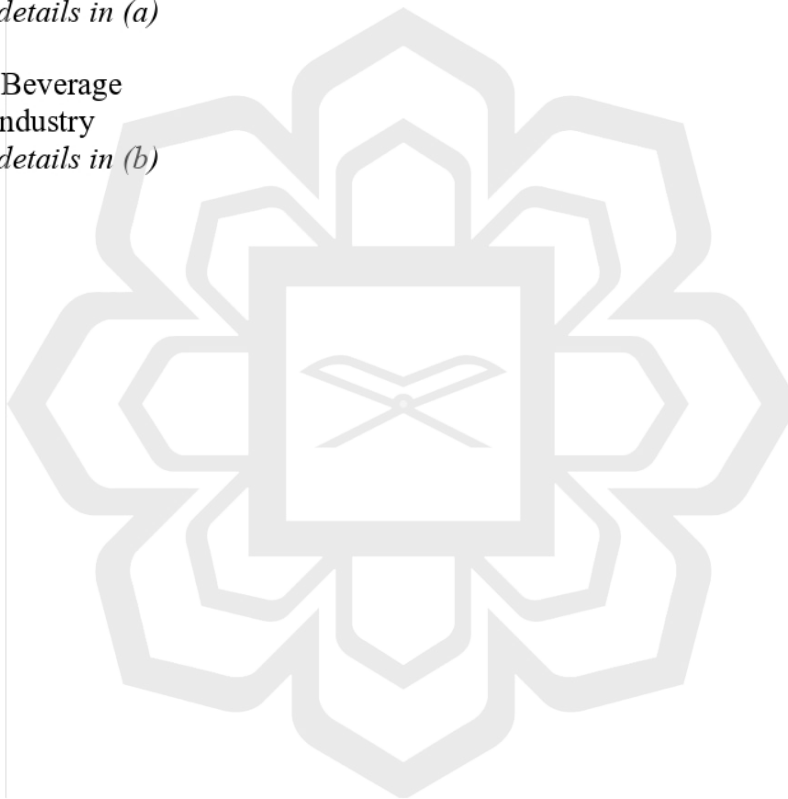
8) Do you possess any Halal Professional Certificate under Halal Professional Board by JAKIM? (You may select more than one)

- ☐ Certificate of Halal Executive
- ☐ Certificate of Halal Internal Auditor
- ☐ Other: _____
- ☐ None

9) Do you have any Sijil Kemahiran Malaysia (SKM) related to the halal industry? (If yes, please specify. If none, write "No")

10) Category:

- ☐ Academician
Fill the details in (a)
- ☐ Food & Beverage
(F&B) Industry
Fill the details in (b)



a) Academician**1) Institution name:**

2) Academic and/or administrative position:

(e.g., Lecturer, Head of Department, Programme Coordinator)

3) Level of study you ever taught (for Halal related programme/course):

- ☐ Diploma
- ☐ Bachelor's Degree
- ☐ Master's Degree
- ☐ Doctor of Philosophy (PhD)

4) Please specify the halal-related programme you have taught:

(e.g., Bachelor's Degree in Halal Industry Management)

5) Have you been involved in the development or review of the halal programme syllabus?

- ☐ Yes
- ☐ No

6) Are you a member of an academic unit at your institution?

- ☐ Yes
- ☐ No

7) Do you have prior experience working in the halal industry?

- ☐ Yes (halal food sector)
- ☐ Yes (non-food halal sector)
- ☐ No

b) F & B Industry**1) Company name:**

2) Which food sector are you involved in?

- ☐ Manufacturing
- ☐ Processing
- ☐ Packaging
- ☐ Logistics & distribution
- ☐ Retail (supermarket etc.)
- ☐ Food services (restaurant, catering)
- ☐ Import/export
- ☐ Others: Please specify:

3) Current job title:

(e.g., Halal Executive, Halal Officer cum Quality Control)

4) Work location:

(e.g., Selangor)

5) How long have you worked in this current position?

- ☐ Less than 1 year
- ☐ 1 – 2 years
- ☐ 3 – 4 years
- ☐ 5 – 6 years
- ☐ 7 – 8 years
- ☐ 9 – 10 years
- ☐ More than 10 years

Section B: Knowledge for Halal Profession

This section aims to identify and rank the most crucial **knowledge** areas required for the halal profession. Please rate each item based on its **level of importance** using the scale provided below.

Kindly tick (/) the box that corresponds to your rating:

- 1- Least important
- 2- Less important
- 3- Somewhat important
- 4- Important
- 5- Most important

1) Shariah Knowledge

Understanding Islamic laws and principles, especially those related to halal practices.

No.	Item	1	2	3	4	5
1	Halal knowledge and awareness Halal concepts, global halal standards, and consumer awareness					
2	Islamic theology (<i>aqidah Islamiah</i>) Core beliefs in Islam and the development of different schools of thought (<i>mazhab</i>)					
3	Quran, hadith and Arabic language Islamic teachings from Quran and hadith, with basic Arabic comprehension					
4	Islamic jurisprudence (<i>fiqh</i>) Fatwa and contemporary Islamic rulings on halal issues, and their application in modern halal industry contexts					
5	Islamic legal maxim (<i>qawaid fiqhiyyah</i>) General legal principles used to interpret Islamic laws					
6	Islamic law of consumerism (<i>fiqh al-istihlak al-Islami</i>) Guidelines on ethical consumption, including halal food, transaction, and purification practices					
7	Objectives of Islamic law (<i>Maqasid al-Shariah</i>) 5 main principles; protection of life, faith, property, intellect, and lineage					

2) Technical Knowledge

Specialised knowledge to ensure halal regulatory compliance, quality assurance, governance, and effective business management in the halal industry.

i. Halal regulatory compliance

Ensuring halal integrity through regulatory compliance and risk management.

No.	Item	1	2	3	4	5
1	Licensing e.g., Food premises license (by PBT)					
2	Halal certification e.g., Malaysian Halal Certification Procedure Manual (MPPHM)					
3	Certification (other than halal certification) e.g., <i>Makanan Selamat Tanggungjawab Industri</i> (MeSTI)					
4	Halal audit Coordinate pre-audit, opening and closing meeting					
5	Halal risk management e.g., Halal Control Point (HCP)					
6	Halal supply chain management e.g., halal logistic, halal transportation, halal warehouse, etc.					
7	International halal supply chain standards e.g., OIC SMIIC standards					

ii. Halal quality and assurance

Ensuring product quality, safety, and compliance with halal standards.

No.	Item	1	2	3	4	5
1	Malaysian halal standards e.g., MS 1500:2019, etc.					
2	Halal assurance management system e.g., Malaysian Halal Management System (MHMS), Halal Assurance System (HAS), Internal Halal Control System (IHCS), corrective and preventive actions, etc.					
3	Quality management system e.g., Food Safety Management System (FSMS), ISO MS 1900:2014, ISO 9001:2015, ISO 13485					
4	Industry-specific practices e.g., Good Manufacturing Practices (GMP), Good Laboratory Practice (GLP), Good Hygiene Practice (GHP), Malaysian Good Agricultural Practices (MyGAP), etc.					
5	Traceability Barcode, blockchain for halal supply chain					
6	Halal hygiene, sanitation and safety e.g., <i>sertu</i> (Islamic cleansing), halal pest control					

7	Ethics and <i>toyyiban</i> concept Ensure products and services are ethical, safe, effective, sustainable, and aligned with Environmental, Social, and Governance (ESG) principles					
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iii. Halal governance

Regulatory bodies, legal frameworks, and guidelines that govern the halal industry.

No.	Item	1	2	3	4	5
1	Certification bodies e.g., Department of Islamic Development Malaysia (JAKIM)					
2	Foreign halal certification bodies e.g., Badan Penyelenggara Jaminan Produk Halal (Indonesia)					
3	Industry regulatory and enforcement bodies e.g., Ministry of Health Malaysia (MOH), Ministry of Investment, Trade, and Industry Malaysia (MITI), Malaysian Quarantine and Inspection Services (MAQIS), National Pharmaceutical Regulatory Agency (NPRA)					
4	Halal-related acts and regulations e.g., Food Act 1983, Consumer Protection Act 1999					
5	Halal trade laws and requirements e.g., Trade Description Acts 2011					
6	International import regulations and guidelines e.g., GACC (China), US FDA (United States)					

iv. Business and management

Managing business operations, marketing, risk, and trade within the halal industry.

No.	Item	1	2	3	4	5
1	Business management Business operations, retail sales, customer service and basic accounting					
2	Halal entrepreneurship Develop a business that complies with halal principles					
3	Halal marketing Marketing halal products/services in compliance with Islamic ethics					
4	Business risk management Identify and manage risks that could affect business operations					
5	Corporate communication Effectively manage internal and external communication to maintain a positive corporate image					
6	International trade Manage the shipment and distribution of goods across borders					

7	Human resource management Manage development and retention of talent to support organisational goals and ensure regulatory compliance					
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3) Science and Technology Knowledge

Applying scientific principles and technology to ensure halal integrity and product innovation.

No.	Item	1	2	3	4	5
1	Laboratory testing Basic quality control and interpretation of laboratory results					
2	Applied science Industrial microbiology, organic chemistry, and nutrition					
3	Technological advances Green technology compliance, biotechnology and halal verification technology					
4	Industrial process and operations Machine for manufacturing, production, and operational activities in halal industries					
5	Logistic and supply chain technology e.g., blockchain, halal tracker, Global Positioning System (GPS)					
6	Product and service innovation Conduct research, development, and innovation (R&D&I) to identify and enhance product ingredients in line with halal requirements					

Section C: Skills for Halal Profession

This section aims to identify and rank the most crucial **skills** areas required for the halal profession. Please rate each item based on its **level of importance** using the scale provided below.

Kindly tick (/) the box that corresponds to your rating:

- 1- Least important
- 2- Less important
- 3- Somewhat important
- 4- Important
- 5- Most important

1) Soft Skills

Personal and social abilities that support effective interaction, communication, and teamwork.

No.	Item	1	2	3	4	5
1	Cognitive skills Think, learn, and process information effectively					
2	Interpersonal skills Interact and build positive relationships with others					
3	Communication skills Expressing ideas clearly, both verbally and in writing					
4	Leadership skills Leading, making decisions, and taking ownership of tasks					
5	Personal skills Self-awareness, confidence, and emotional intelligence in daily tasks					
6	Entrepreneurial skills Identify opportunities, take initiative, and manage risks					
7	Teamwork skills Working well with others to achieve common goals					
8	Problem solving skills Identifying issues and finding effective solutions					
9	Adaptability skills Adjusting to changes and handling new challenges effectively					
10	Critical and analytical thinking skills Evaluating situations logically to make sound decisions					
11	Creative thinking skills Generating innovative ideas and unique solutions					
12	Negotiation skills Reaching agreements and resolving conflicts effectively					
13	Managerial and coordination skills Planning, organising, and managing people and tasks efficiently					

14	Language proficiency	1	2	3	4	5
	Malay language					
	English language					
	Mandarin language					
	Tamil language					
	Arabic language					

2) Hard Skills

Measurable and teachable abilities gained through training or education to perform specific tasks.

No.	Item	1	2	3	4	5
1	Numeracy skills Ability to work with numbers, calculations, and data analysis					
2	Practical skills Hands-on ability to perform tasks effectively in real-world situations					
3	Digital and IT skills Proficiency in using Microsoft Office, Google applications, software, and other digital tools					
4	Report and writing skills Ability to write clear, structured, and detailed reports					
5	Organisational skills Effectively plans, prioritises, and manages tasks efficiently					
6	Multitasking skills Handles multiple tasks simultaneously while maintaining quality					
7	Research skills Ability to gather, analyse, and interpret information systematically					
8	Laboratory skills Competence in performing lab tests, handling equipment, and analysing results					
9	Data management skills Organising, storing, and interpreting data accurately and securely					

Section D: Attributes for Halal Profession

This section aims to identify and rank the most crucial **attributes** areas required for the halal profession. Please rate each item based on its **level of importance** using the scale provided below.

Kindly tick (/) the box that corresponds to your rating:

- 1- Least important
- 2- Less important
- 3- Somewhat important
- 4- Important
- 5- Most important

Attributes

Inherent personal traits or characteristics that influence behaviour and work ethic.

No.	Item	1	2	3	4	5
1	Ethical and has integrity Fair, honest, confidentiality, practice halal ethics					
2	Good practicing Islamic values Understanding and commitment to Islamic values					
3	Accountable Takes responsibility for actions and ensures reliability in duties					
4	Perceptive Recognises the need for change and seeks continuous improvement					
5	Versatile Adapts to different situations and provides creative solutions					
6	Decisive Makes firm, fair, and well-informed decisions when needed					
7	Self-reliant Works independently while collaborating effectively with others					
8	Meticulous Pays close attention to detail and ensures accuracy in tasks					
9	Systematic Approaches tasks in an organised and structured manner					
10	Professionalism Maintains high ethical standards and a responsible work attitude					
11	Tenacious Remains dedicated, persistent, and focused on achieving goals					
12	Lifelong learner Continuously seeks knowledge and personal development					

Section E: Open-Ended Questions

You may provide your comments and suggestions in the space provided below. Your feedback is valuable in improving our understanding of the halal profession.

1. Do you have any comments or feedback?

Please share any thoughts or concerns regarding the survey or the halal profession.

2. Do you have any recommendations?

Kindly suggest any improvements or additional aspects that should be considered in the halal profession (e.g., areas missing in current halal training, improvements to curriculum, gaps in industry readiness)
