

Determinant of Employment and Employability Attributes in the Halal Sector for Halal Science Graduates in Brunei Darussalam

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Abstract: Brunei Darussalam is keen on positioning its halal industry in the Southeast Asian region. Currently, most local halal industry players come mainly from the food sector. Statistically, Brunei sits at the top ten and ranks eighth in both Halal Food and Halal Pharmaceutical and Cosmetics sectors, according to Thomson Reuters' Global Islamic Economy Report 2019-2020. Employment is an important aspect in the growth of any sector and stimulates overall halal industry growth. The concern of employment of university graduates (first degree and above) remains high, with about 3,000 registered active jobseekers in Brunei Darussalam. In this regard, it is vital to ensure the employability of UNISSA's Halal Science graduates by identifying potential employment opportunities in health sectors from stakeholder perspectives through qualitative research where semi-structured interviews were conducted. The finding of this paper determined the factors attributed to employability chance in the health sector in Brunei Darussalam.

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1. Introduction

Southeast Asian countries have many potentials to develop the halal sector to enhance their revenues in the global market, this can be notably seen in the growing halal sector. Malaysia and Indonesia have been the leading Islamic economies in this ASEAN region. Brunei Darussalam is a small equatorial country with a 82.70 per cent of Muslim population. Based on the dated reported by Thomson Reuter, Brunei is currently ranked 15th among 73 countries and sixth in the Halal Pharmaceutical and Cosmetics in the Global Islamic Economy Report 2018/19 (The Scoop, 2019).

Halalan Tayyiban Research Centre was established because of the growing halal awareness and in demand of formal education. Halal Science programs produced human capital and

skilled workers to help grow economies (Valero & Van Reenen, 2019). Halal pharmaceutical is projected to value USD174.59 billion by 2025 (Bio Spectrum, 2020). In August 2019, His Majesty the Sultan and Yang Di-Pertuan of Brunei Darussalam launched the Brunei Halal Brand. This brand is part of the government initiatives to explore the halal sector, aims in creating potential areas for collaboration and investment involving health sectors. From the brand launch, many facilities have been developed such as a laboratory for Halal Science including Brunei's investment in manufacturing halal food, cosmetics, and health products at the designated Brunei Innovation Corridor (Ministry of Industry and Primary Resources, 2004). Hence, it is also important to understand further the role of Halal Science in the health sector from stakeholders' perspectives, as it will benefit graduates in securing their job and career in the future.

Unemployment of university graduates (first degree and above) remains high, with about 3,000 registered jobseekers, and UNISSA (Universiti Islam Sultan Sharif Ali) ranked third with 237 graduates (JobCentre Brunei, 2021). This would be a challenge for Brunei Darussalam to achieve the three goals of Wawasan Brunei 2035: mainly to produce well-educated and highly-skilled people as measured by the highest international standard, to provide a quality of life that is among the top 10 nations in the world, and dynamic and sustainable economy with income per capita within the top countries in the world (Wawasan Brunei 2035, n.d.). Based on the closed session interview conducted between the researchers and the JobCentre Brunei, there were 79 registered jobseekers with First Degree holders and above in the health sector. This number did not include positions in the government sector. Although there are many vacancies — 2,031 positions at 600 companies — and ongoing recruitment, individuals with secondary education and below has a higher chance — 29% chance — to fill up those positions (Manpower Planning and Employment Council, 2021).

Unemployment is a major concern, especially for a newly established university course, as job prospects are still unpaved. Currently, there should be more research on halal in the health sector. This results in graduates not being able to secure a job due to their degree. According to Han (2021), the unemployment rate dropped from 9.3% in 2017 to 6.8% in 2019. However, after the pandemic, the number is rising due to limited recruitment of graduates.

2. Materials and Methods

The primary data was collected using semi-structured interviews in a one-on-one environment. This approach was chosen because it helped the researchers to recognise, and investigate an area of concern, a condition to be improved roved (Alvesson, & Sköldbberg, 2017). Twelve interview questions were designed regarding potential employment attributes

of halal science graduates were asked to stakeholders from different health sectors such as: Halal Food Control Division (HFCD) from the Ministry of Religious Affairs, Department of Scientific Services (DSS) from the Ministry of Health Brunei, Magenta Fitness and Nutrition, Company X, and BruHouse Sdn Bhd. The interviews allowed the researchers and the participants to express their opinions and thoughts about the topic. Moreover, the researchers also asked participants situation relating questions conveniently concerning the topic of discussion, usually yield hypotheses testing or experimental study designs in which the researcher manipulates the variables to see what will happen (Mojtahed *et al.*, 2014).

3. Results

Table 1 shows seven interviewed employers from Magenta Fitness and Nutrition ($n=1$), BruHouse Sdn Bhd ($n=2$), Ministry of Health ($n=1$), Ministry of Religious Affairs ($n=3$), and Company X ($n=1$), and most of them (60%) were from the private sector. As illustrated in Table 2, the respondents' information showed that most of them worked in the halal industry.

Table 1. Stakeholders Demographic Background.

Name of company	Types of industry in the health sector	Employer No. (n)	Gender of Employer	Position within the Company
Magenta Fitness and Nutrition	Fitness and Nutrition	1	Female	N/A
BruHouse Sdn Bhd	Organic, natural-based food and health supplements	2	Male	General Manager
		3	Male	Administration / Halal Supervisor
Ministry of Health, Department of Scientific Services	Laboratory services	4	Female	Scientific Officer
		5	Female	Education Officer (Administration / Human Resource)
Ministry of Religious Affairs	Certification	6	Male	Food Officer (Head of Enforcement)
		7	Female	Scientific Officer (Head of Halal Meat Management Unit)
Company X	Pharmaceutical	8	Female	Regulatory Affair

Table 2 identifies the potential employment opportunities available for Halal Science graduates in the health sector from the stakeholders' perspectives. The questions were intended to prepare future graduates on what positions to expect so they could prepare themselves before they choose a career in the health sector. What is more, the questions were

asked to ensure they can fulfil the requirements for such positions before graduate. Most of the potential positions available are related to product safety and control.

Table 2. Potential employment opportunities available in the health sector from stakeholders' perspective.

Name of company	Potential position
Magenta Fitness and Nutrition	<p>Healthy meal planning / Certified nutritionist — “meal planning and a cook (will be assist [sic] by the nutritionist) as a helper to prepare the meal. For food safety section: Becoming ‘serve safe’ certified...involved with state-specific compliance measures with the department of health, food safety training programs, food allergen labelling, and food allergy protocol training which entails the prevention of allergen cross-contamination.”</p>
BruHouse Sdn Bhd	<p>Quality Control — “raw materials from outside and bringing into the [sic] Brunei (farm to fork), maintaining quality [sic] of it. Consistency of the quality.”</p> <p>Halal supervision and monitoring — “monitoring production, labelling and distribution.”</p>
Ministry of Health	<p>Scientific Officer — “authentication or halal lab analysis support HFC, individual sectors like company [sic] or local vendors wanting halal certification. Sending of raw ingredients like preservatives, pork or beef DNA detection, detection of ethanol in food products including drinks, carminic acid, pork gelatin using ELISA, pig skin authentication”</p>
Ministry of Religious Affairs	<p>Food Officer — “involve in halal certificate and halal permit for premises, inspecting food factories, give [sic] briefing [sic] to future halal supervisor, invitation from company or agency on the halal process”</p> <p>Scientific Officer — “similar to food officer because both is [sic] under the same department but the difference is researching the ingredients of medicine, traditional and health medicine”</p>
Pharmaceutical Company	<p>Regulatory — “Deals with all regulation, MOH such as pharmacovigilance if there is product quality complain, we deal with it for instance if not declared and they get side effect in gaining weight; and also, submission”</p> <p>Quality control — “Control the quality like [sic] from the beginning till the end in making sure it is what it claims it to be, specification of the product.</p>

3.1 Graduate Skills and Requirements

Table 3 highlights that certain graduate skills are required in the health sector: critical thinking, research, analytical, decision-making, curiosity, data interpretation, problem-solving, laboratory, and instrumental. Knowing GMP, ISO, and HACCP is an advantage, as stated by the employers, though training will be provided once they start working in the company:

“Every year there is a surveillance assessment and internal audit by other divisions like forensics on the ISO. Training for setting up the halal science lab, for instance, how to run halal sample analysis. Since we have accredited ISO and are familiar with it, we will train the new employees.” Employer 4 Interview—female employer in the Department of Scientific Services, Ministry of Health.

“In the food industry, HACCP is important, like what is the critical control point that affects the halal-ness. GMP is also an advantage to the student” Employer 6 Interview—male employer in Ministry of Religious Affairs.

The employers were also asked if they preferred to recruit graduates from a particular major. 80% stated that they favoured graduates of science disciplines other than Halal, comprised of Chemistry, Biology, Biochemistry, Food Science, Microbiology, Biotechnology, Nutrition and Dietetics, Biomedical Science, and Pharmaceutical, depending on the area and job scope of their positions. However, some companies also value other elements in hiring graduates aside from the importance of having a science background. The argument offered by employers is that graduates with the right attitude can develop other requirements as and when needed:

“I believe everyone can be trained if they are passionate about the position they are applying for. To me, passion is essential in every employee...I want people in my organisation to care about their jobs and feel passionate about meeting the goals and objectives of their positions.” Employer 1 Interview—female employer in Magenta Fitness and Nutrition.

“Certificate is not really what I am looking for because what important is behaviour like your dedication, focus, potential, and willingness to learn. It also depends on personality, for instance, your ability to develop yourself if given a chance.” Employer 2 Interview—male employer in BruHouse Sdn Bhd.

“Weigh out the interview rather than the qualification. More to personality and behaviour. It depends on the module as well as the internship.” Employer 4 Interview—female employer in the Department of Scientific Services, Ministry of Health.

“It can be because of your background, but most likely because of compatibility, personality, how you bring yourself.” Employer 8 Interview—female employer in the pharmaceutical sector. (Company X)

Table 3. Quoted from the Five Stakeholder Interviews on the Graduate Skills for the potential positions.

Name of company	Skills Needed
Stakeholder	Employer quote giving their view of the important skill(s) and for the potential positions
Magenta Fitness and Nutrition	“Have cooking skill”
BruHouse Sdn Bhd	“Know what your trait is (impose what you learn in school). If hiring, you are the one who will improve the halal section...research for innovation, critical thinking, and curiosity. Know what halal is (42-65% do not know what halal is) for halal supervision.”
Ministry of Health	“Qualification (mostly industry), curiosity (plus point) since they do a lot of troubleshooting of food..., research paper, opening to vast knowledge on whatever related to halal analysis, method development requires analytical skills, instrumentation skills, data interpretation skills, decision making skills.”
Ministry of Religious Affairs	“Critical thinking, competitive, not much to complain, able to take risks, curiosity”
Company X	“Communication skills but more so toward email rather than speaking skills, writing skills so people can understand what you are trying to say, how to manage and organizational skills because there are lots of paperwork. You also need to have good eye for details (tiny details is important), extra mindful and check carefully.”

3.2 Issues Faced by Stakeholders concerning Implementing Halal Science in the Health Sector

The increasing number of product fraud and contamination, the lack of religious knowledge, and the shortage of proper equipment to detect non-halal elements are some of the concerns that the employers are worried of.

“Knowledge on the religious aspect, and also the advancement in technology is very rapid such that what might we have in the lab is hindered by few factors like money.” Employer 4 Interview—female employer in the Department of Scientific Services, Ministry of Health.

Another issue that arose during the interview was the lack of workforce to fulfil the tasks, affecting some companies in terms of ensuring the halal-ness of their products.

“For enforcement, we cannot be everywhere all the time. Everything needs to be checked and under our supervision. Hence, we do not have enough people.” - Employer 6 Interview—male employer in the Ministry of Religious Affairs.

“There is no audit after one batch has been approved. We are concerned if our product is of excellent quality. Are they following the vision and mission of the company? Need to have an audit from the halal department, and not just depending on the halal supervisor since they can take halal lightly.” - Employer 2 Interview—male employer in BruHouse Sdn Bhd.

Other than that, the employers highlighted other issues, which are the lack of awareness on the halal tayyiban concept and the international halal food standards. This might hinder the growth of the halal industry in the health sector that could result in low recruitment of graduates majoring in Halal Science;

“All the stuff with no halal logo is fine. No one brings up halalan tayyiban on all the products because we lack the person who can direct on this. We do not have enough employees who are knowledgeable enough on the halal part.” Employer 8 Interview—female employer in the pharmaceutical sector (Company X).

“A lack of international halal food standards and uniform certification are threatening the sector’s growth.” Employer 1 Interview—female employer in Magenta Fitness and Nutrition.

4. Discussion

Halal Science graduates are viewed as marketable because they possess both science and shariah knowledge, which are beneficial in the health sector. It is also worth highlighting that MOH has established a halal authentication laboratory manned by DSS to handle all halal-related analyses to support enforcement agencies such as HFCD and other companies in deciding on the halal status and the quality of their products (Ministry of Health, 2014). Aside from that, the Ministry of Religious Affairs also established HFCD to ensure that any orally consumed item, including food products, medicine, and health supplements for supply and distribution, is halal by checking its ingredients and through research and halal audit. Due to the high demand for halal products and the rapid growth of the halal industry, Halalan Tayyiban Research Centre was established in UNISSA. The centre has laboratories and offers different programs, such as undergraduate and postgraduate degrees in Halal Science (Deuraseh, 2019). There is also a collaboration between UNISSA and Osaka University for

research and innovation to introduce advanced technology and explore the potential development of new products from the bio-resources and biodiversity of Brunei Darussalam in the Halal Cluster.

Furthermore, the interviews conducted with Magenta Fitness and Nutrition, BruHouse Sdn Bhd, Department of Scientific Services, Halal Food Control Division, and Company X in the pharmaceutical industry show that there are potential employment opportunities in the health sector for UNISSA Halal Science graduates. They could be employed as Food Officer task with healthy meal planning or certified nutritionists, quality controllers, halal supervisors, scientific officer, food officer, and regulators. However, a few crucial factors need to be considered by Halal Science graduates if they wish to work in the health sector.

Firstly, they must take science courses that are related to their dream job like chemistry, biology, biochemistry, food science, microbiology, biotechnology, nutrition and dietetics, biomedical science, or pharmaceutical. Secondly, it is also important for them to know the course modules, as it will determine whether they are suitable for the job or not. Thirdly, they are also required to have certain skills that can help them to excel in their careers, such as critical thinking, research, analytical, decision-making, curiosity, data interpretation, problem-solving, laboratory, and instrumental. A study conducted by University Michigan, where it has identified that stakeholders hunt for graduates who possess most of these skills (Brookings, 2019).

Apart from that, personality and behaviour also play important roles in making them ideal candidates because the right attitude can develop other requirements as and when needed. Therefore, some companies value these attributes over qualifications. However, the stakeholders in the health sector highlighted other halal issues during the interview. One of the issues is candidates not having in depth knowledge on religious permissible alcohol content, ritual cleansing method elements, and to ensure shariah law is applied throughout the laboratory testing. A few other issues mentioned by them are not having the latest equipment in detecting non-halal elements, lack of workforce in fulfilling required tasks, lack of knowledge on the international halal food standards and the lack of awareness on the halalan tayyiban concept. These problems could hinder the halal industry's growth in the health sector. However, some of the interviewed stakeholders were unaware of Halal Science, and this could restrict employment opportunities.

5. Conclusion

This study highlights a few strategies to ensure graduates are employable in the health sector in Brunei Darussalam. Firstly, the government must start enforcing halal compliance to manufacturing companies for imported and exported products to create consciousness towards halal, which could result in more employability. Universities must engage with halal industry players to focus on modules for graduates to develop the required skills. For instance, the engagement between BKMH and UNISSA to make sure the modules provided in the Halal Science programs can cater to the industry, like in depth knowledge of food science and dietary if graduates are planning to apply for meal planning jobs. Besides, there should be a contract signed between private companies and UNISSA to ensure each graduate secures a job once they graduate. Thirdly, implementing Halal Science in the Health System and Infrastructure Plan for Brunei Darussalam will fully support Wawasan 2035, which can benefit the health sector. Lastly, the government should collaborate with companies to raise Halal Science awareness and highlight the importance of halalan tayyiban by providing training, courses, workshop, talk or even roadshow to the public since most of the interviewed stakeholders were unaware of Halal Science.

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