Understanding Halal Food Brand Equity in Malaysia: The Limited Moderating Role of Supply Chain Image Integrity

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Abstract
Increasingly, customers believe that positive credibility and recognition are crucial to improving the reputation of halal cuisine. This study aims to examine the role of Supply Chain Image Integrity (SCII) in the development of Halal Brand Equity, with a particular focus on whether SCII moderates the relationship between the dimension of Customer-Based Halal Brand Equity (CBHBE)— namely Halal Brand Awareness, Halal Perceived Quality, Halal Brand Association, and Halal Brand Loyalty—and Halal Food Brand Equity. A quantitative survey was conducted among Malaysian Muslim consumers of halal food products. Data from 395 respondents collected from a cross-sectional survey conducted during the Malaysia Agriculture, Horticulture and Agrotourism Show (MAHA) 2024 held in the state of Selangor. The instrument was measured using Partial Least Squares Structural Equation Modelling (PLS-SEM). The findings indicate that Halal Brand Awareness, Halal Brand Association, Halal Perceived Quality and Halal Brand Loyalty significantly predict Halal Brand Equity. Contrary to expectations, SCII did not significantly moderate the relationship between any CBHBE dimension and halal food brand equity. This suggests that consumers perceive supply chain integrity as a baseline requirement of halal certification rather than a conditional factor that strengthens brand equity.
Keywords: Halal Brand Equity, Halal Brand Awareness, Halal Perceived Quality, Halal Brand Association, Halal Brand Loyalty

Introduction

Halal food is one of the fastest-growing market, projected to be worth US$10 trillion by 2030 (Ali and Suleiman, 2018). Since Islamic law defines halal as permissible, demand for halal products among Muslim customers is growing. Islamic law contains obligatory rulings, prohibited, recommended, reprehensible, and permissible. According to Helmi Ali et al.(2017), Muslim consumers incorporate values, customs, and practices when seeking for a halal brand. In today's competitive halal marketplace, halal brand equity has become a critical determinant of business success. It encompasses the halal toyyiban values that a brand adds to a food product and shaping consumer preference, purchase decisions, and long-term loyalty (Kusmayadi and Albari, 2024). The advent of modern technology in Industry 4.0 has enabled the new traceability and ethical preparation of halal food. Thus, food providers have started incorporate traceability requirements in addition to safety and quality standard (Ling and Wahab, 2020). They demonstrated that their brand offered genuinely halal procedures. The good image of suppliers increases the brand trust (Denktas Sakar and Surucu, 2018). While halal compliance among manufacturers and suppliers has been the subject of numerous studies, consumer perceptions of the transparency and integrity of the halal supply chain remain largely overlooked. Consumer trust in brands may be impacted by opacity in halal information conduits. Many studies have confirmed the positive effects of the direct dimension on brand equity (Brochado and Oliveira, 2018; Mokhtar, Othman, Arsat, and Ariffin, 2018; Sasmita and Mohd Suki, 2015; Tong and Hawley, 2009). Dimensions were proven to build substantial brand equity. However, several authors have studied halal brand equity, and the number of studies empirically testing its proposed constructs is limited. A previous research, Yusuff (2017), determined that conventional brand awareness, perceived quality, and brand loyalty toward halal brand equity were violated. However, the brand association was the only has been explicit addressed in the halal concept. This study aims to examine the relationship between the halal dimension and supply chain integrity image in developing halal food brand equity. The positive relationship created opportunities for the firm to increase revenue, lower costs, and profit (Tolba and Hassan, 2009). Thus, marketing researchers used CBBE to measure the brand name. Despite the growing importance of halal products globally, limited research has examined how supply chain image integrity influences halal brand equity. This gap highlights the need to better understand consumer-based perceptions of halal brands in order to strengthen competitiveness in the halal industry. We propose that Halal food based on customer-based brand equity may provide brand meaning and prosperity for Muslim customers in particular religious market niches. As a result, we presented five reconstructions: halal brand awareness, halal brand association, halal brand loyalty, halal perceived quality and supply chain image integrity. Our model's empirical validation would significantly impact the halal food sector, which must comprehend Muslim consumers' perceptions, attitudes within each market they serve, and accomplish the Malaysia Halal Industry Master Plan (HIMP) objective which ensure global trust in the Malaysia halal supply chain procedure. The work is organised: a literature review, a conceptual framework and research hypotheses, methodology, findings, conclusion, discussion, limitations and recommendations.

Literature Review

Customer Based- Halal Brand Equity

In theory, customer-based brand equity (CBBE) is built on prior research to achieve value brand name success in the eyes of consumers. It is apparent that the model of "dimension

brand equity" was established by Aaker (1991) through brand awareness, association, perceived quality, loyalty, and other proprietary assets. Other proprietary assets, however, are linked to the brand itself rather than the customer (Bravo, Fraj, and Martínez, 2007). CBBE is described as the awareness and response of customers towards a brand in their minds. Therefore, CBBE is related to cognitive psychology. There is talk about the differential reactions of consumers toward products (Netemeyer et al., 2004). Researchers have adapted the conventional CBBE model into the customer-based halal brand equity (CBHBE) framework, incorporating dimensions that capture the impact of halal values and Shariah compliance on brand perception, particularly in light of the religious and ethical consideration in Muslim customer markets. Previous researches have largely focused on the factors of customer-based halal brand equity (CBHBE) (Butt, Rose, Wilkins, Dubai, and Haq, 2017; Rusni Wan Ismail et al., 2020), yet have inadequately addressed how dimensions such as halal brand awareness, halal perceived quality, halal brand association and halal brand loyalty interact with factor to achieve halal brand equity. Therefore, CBHBE provide a comprehensive framework for evaluating how Muslim consumers' perceptions and behaviors personality the value of the halal brand, making it suitable theoretical foundation for comprehending brand dynamics in halal food markets.

Halal Brand Awareness
Halal brand awareness is a compulsory component of halal brand equity. Several researchers studied the impact of the halal awareness concept on halal products. Halal awareness reflects the extent to which consumers associate the brand with standard halal features (Hanzaee and Ramezani, 2011). Halal brand awareness is not the primary determinant of purchase, but it determines whether consumers will be strongly or weakly influenced by the perceived quality (Rachmawati, Suliyanto, and Suroso, 2022). There are two dimensions of halal awareness: recall and gratitude (Nurhayati and Hendar, 2020). Consumers receive the awareness characteristic of halal through halal recall on products that bear the halal logo(Muhamad, Leong, and Md Isa, 2017), which are healthy and safe to eat. Table 1 shows illustrate the level of halal awareness among consumers when making purchasing on halal food.

Table 1
Extend Research Regarding Halal Awareness and Brand Equity

Citations	Finding
(Muhamad et al., 2017)	On the product packaging label, a halal certification mark, logo, or graphic mark aids consumers in making decisions.
(Ambali and Bakar, 2014)	Muslims were educated about halal through advertisements, religious beliefs, health, and certification.
(Hanzaee and Ramezani, 2011)	Muslims are more likely to accept halal products if they bear the logo of a government agency rather than the lettering "good for Muslims" or the word "halal."

As a result, halal brand awareness directly impacts the brand's equity. Thus, the resulting hypothesis is postulated:
H1: Halal brand awareness positively impacts halal food brand equity

Halal Perceived Quality

The concept of halal cannot be discussed without touching on perceived quality. Perceived quality is a crucial component in influencing consumers' purchasing motivation. Research by Awan et al. (2015) shows that food quality is a reason to purchase. Md, Shereeza, and Saniff, 2019, stated that halalan toyyiban food quality is based on superior quality of products' hygiene, quality, and purity. Halal food is perceived to be of higher quality than conventional. The qualities of halal products are judged from farm to fork (Normalina Omar, Suzana Jaafar, Alam Malaysia Harlina Suzana Jaafar, and Alam Malaysia, 2011; Rahman, Mohammad, Rahim, and Noh, 2018). Ratanamaneichat and Rakkarn (2013) assert a link between hygiene, welfare, and quality assurance of halal food and customers' requirements, which manufacturers must address. In traditional business, evidence shows a positive relationship between perceived quality and brand equity. A similar association can be hypothesised within the context of halal food brands. Thus, the next hypothesis is framed:
H2: Halal perceived quality positively impacts halal food brand equity

Halal Brand Association

Traditionally, brand association has been linked to a brand's memory, product characteristics, and purchase decisions related to a product (Aaker, 1991). Halal food is related to halal sources, manufacturers, processes, and the obligation to associate with customers. Product characteristics reflect a brand association in the context halal food: hygiene processes, food safety, environment sustainability, friendliness, organic, animal welfare, and fair trade (Yunus, Rashid, Ariffin, and Rashid, 2014). To associate with customers, the product and the organisation are interdependent. The higher the level of brand association, the higher the tendency to be loyal (Atillgan. Eda, Aksoy. Safak, (2005). Past studies have examined direct halal associated with brand and reported their the effect on consumers' demands for service (Maulan, Omar, and Ahmad, 2016). According to this particular aspect, having strong, favourable connotations through the brand is indicative of having excellent brand equity. Hence, this research pointed to the next hypothesis: Brand association includes a pure and healthy image, a new market, and a large market (Borzooei and Asgari, 2013).
H3: Halal brand association positively impacts halal food brand equity

Halal Brand Loyalty

The attachment of loyal customers is the preferred customer commitment to repurchase consistently of the product. However, A. Ali, Xiaoling, Sherwani, and Ali (2018) proposed a construct of halal brand loyalty specifically to halal brands over non-halal brands. Brand loyalty is the primary driver of brand equity. Past studies have examined the direct association between brand loyalty and brand equity (Buil and Martínez, 2013; Sasmita and Mohd Suki, 2015). Brand loyalty is reflected in consumer emotion. Customers can easily switch to other brands due to environmental factors (Denoue and Saykiewicz, 2009). Thus, experience buying is necessary for loyalty. Consumers have reference resources for halal products, which influence their buying decisions (Shah Alam and Mohamed Sayuti, 2011). By generating a positive output of halal brand equity, which favourably engenders halal brand preference over non-halal brands, consumers created halal brand loyalty.
H4: Halal brand loyalty positively impacts halal food brand equity

The Moderating Role of Supply Chain Image Integrity

The term Supply Chain Image Integrity (SCII) describes how customers perceive a brand's supply chain's dependability, transparency, and ethical conduct of a brand's supply chain. The image integrity is an important part of consumer perception. According to Mohd Suki and Abang Salleh (2016), consumer's perception of halal image reflects their understanding of the religious concepts embedded in brand characteristics. Consumers make a decision to choose a halal brand based on halal brand image (Shariff, Mokhtar, Abdullah, and Salman, 2021) and trust (Khan, Hashim, Iqbal, Bhutto, and Mustafa, 2021).

According to Rachmawati, Suliyanto, and Suroso (2022), consumers make purchasing decision halal brand based on awareness of the production process that comply with halal standard. Research by Ibrahim, Md Nor, Ahmad, Mohd Razali, and Mansor (2023) show that consumers are aware of characteristics of halal products and perceive JAKIM, its accredited partners, as credible authorities that ensure the integrity of halal certification processes. Thus, effectively overseeing the image integrity of the halal supply chain, consumers perceived the halal brand awareness as more credible and reliable.

Consumers' memory of halal brands included trustworthiness, religious obedience, and symbolic value. A strong brand association enables consumers to relate the brand and religious value (Butt et al., 2017). However, the strength of the association-equity relationship may differ based on depending on customer's perceptions of the integrity of halal supply chain. According to research by Adiningtyas & Yunus (2024), consumers purchase halal products based on halal resources and consistent enforcement to safeguard halal status (Sarbani and Jaafar, 2021). Supply chain integrity demonstrates a strong association influence on consumer's intention to purchase halal products. On the other hand, positive brand associations may become less credible and fail to produce strong brand equity if supply chain integrity is compromised.

A good image of the supply chain strengthens consumers' confidence that the perceived quality is genuine and safeguarded through established safety methods. Customers' view of excellent product quality is strengthened when supply chain procedures are perceived as transparent and in line with halal standards (Mulyana, Ahmad, and Julian, 2024). Strengthens consumers' confidence in supply chain integrity, thereby enhance overall brand equity.

Supply chain image integrity may influence the strength of the relationship between brand loyalty and brand equity. When consumers perceive the entire process of halal products from farm to fork, their loyalty becomes meaningful (Ahmad, Hamid, Suhaimi, Harnisa, and Abdul, 2024). Loyal customers not only repurchase but also preserve the halal product against doubts related to halal genuineness. Strong supply chain integrity may increase consumer trust, leading to belief in the true quality of halal products, regardless of brand claims.
Therefore, this study proposes the following hypotheses:
H5a: Supply chain image integrity positively moderates the relationship between halal brand awareness and halal brand equity.
H5b: Supply chain image integrity positively moderates the relationship between halal brand association and halal brand equity.
H5c: Supply chain image integrity positively moderates the relationship between halal perceived quality and halal brand equity.

H5d: Supply chain image integrity positively moderates the relationship between halal brand loyalty and halal brand equity.
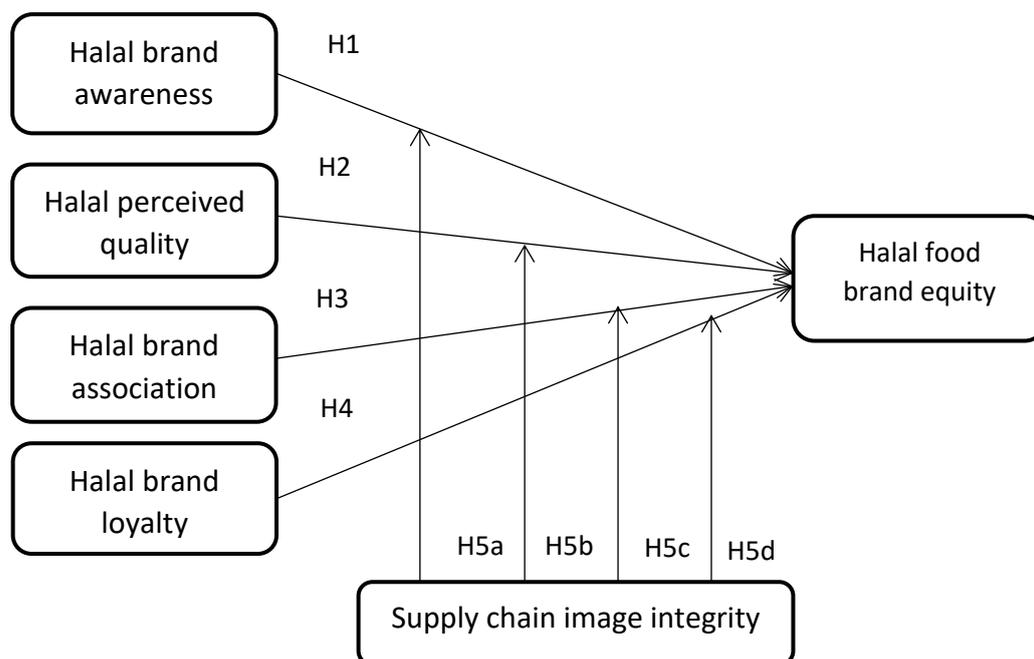

Figure 1: Research Conceptual Framework

Methodology

Sample and Data Collection

This study was conducted at the Malaysia Agriculture, Horticulture and Agrotourism (MAHA) 2024 exhibition in Selangor. MAHA is one of the largest events showcasing food products in Malaysia, providing a suitable context for collecting data that reflects actual respondent experiences. Uma Sekaran (2016), the level of analysis refers to the unit at which data are accumulated and examining during the data analysis stage, which may represents an individual, a group, a division, an industry, or a country. The unit of analysis of the study refer to individual consumers who possess knowledge and experiences of halal food. Thus, Muslim consumers were chosen as representatives of halal food consumption. The data were collected using a structured questionnaire survey where respondents were approached randomly among visitors who were interested in halal products. This questionnaire is divided into three parts. The first is concerned with the demographic. The next section examines twenty-one variables related to halal brand awareness, halal brand associations, halal perceived quality, and halal brand loyalty. The third dependent variable is halal food brand equity. The independent variable includes four items: halal brand awareness, halal perceived quality, halal brand association, and halal brand loyalty; one dependent variable is halal food brand equity. Multiple-choice questions were used in this study. The Likert-scale of questions for this study uses seven points of responses 1 to 7 with the anchors' strongly disagree' [1], 'disagree' [2], 'somewhat disagree' [3], 'neutral' [4], and 'somewhat' [5]. 'Agree' [6] and 'strongly disagree' [7]. The items were developed with reference to the empirical study by (Hamdan, Issa, Abu, and Jusoff, 2013) on consumer acceptance of halal products.

Data Analysis
This study adopts the Partial Least Squares Structural Equation Modeling (PLS-SEM), approach consistent with previous research on halal food. Prior studies have employed SmartPLS 2.0 (Marmaya, Zakaria, Nasir, and Desa, 2019) and SmartPLS 3.0 (Sufardi Mohd Yunan, Helmi Ali, and Shah Alam, 2020) to assess both measurement and structural models using a two-stage approach and testing the relationship between variables. The first stage involves testing the outer model to measure the model using confirmatory factor analysis (CFA) to evaluate the reliability and validity of the measurement model. All factor loadings exceeded 0.70, composite reliability (CR) values were above 0.80, and the average variance extracted (AVE) values exceeded the threshold of 0.50, demonstrating convergent validity (Hair, Ringle, and Sarstedt, 2011). Discriminant validity was confirmed using the Forneé- criterion and the HTMT ratio.

The second stage involves testing the inner model, which evaluates the structural model by examining the hypothesised relationships among the constructs. Collinearity check, VIF below 5 to avoid multicollinearity, testing Bootstrapping 5000 resamples, evaluate value R^2 to indicate explanatory power, Effect Size (f^2) to assess the contribution of independent variable to dependent variable, and predictive relevance (Q^2) must exceed 0 for predictive accuracy of structural model. By following these established methodologies, this study employs SmartPLS 4.0 to examine the relationships among halal brand awareness, halal perceived quality, halal brand association, halal brand loyalty, and halal brand equity, while also testing the moderating role of supply chain image integrity.

Results

Demographic Characteristics
Of the 395 respondents, 43% were male and 57% were female. In terms of age distribution, 33% were between 35 and 44 years old, 32% were between 45 and 64 years old; 17% were between 25 and 34 years old; 14% were below 24, and 3% were over 65 years old. The results showed that most respondents had a degree 44%, A-level o foundation 23%, MCE/SPM 13%, postgraduate 12%, skill certification 5% and SRP/LCE/PMR/PT3 3%. Next, 279 respondents (71%) were married; 24% were single, 3% were widowed, and 3% were divorced. Table 2 presents the profile of the respondents.

Table 2
The Profile of Respondent

	Frequency	Per cent		Frequency	Per cent
Sex			*Education*		
Male	171	43	SRP/LCE/PMR/PT3	10	3
Female	224	57	MCE/SPM	53	13
			Skill certification	21	5
Age			A level/foundation	90	23
Less than 24	57	14.4	Bachelor degree	175	44
Between 25 and 34	66	16.7	Postgraduate	46	12
Between 35 and 44	132	33.4			
Between 45 and 64	128	32.4	*Marital status*		
Over 65	12	3.00	Married	279	71
			Single	96	24
Race			Widowed	10	3
Muslim	395	100.0	Divorced	10	3

Outer Measurement Model

First, we used the showing dependability of outer loading acceptable values more than 0.70 to eliminate the likelihood of having a common method prejudice in our data. The reliability test results (Table 3) showed the following Cronbach's α scores: Halal brand awareness = 0.884; Halal perceived quality = 0.880; Halal brand association = 0.900; Halal brand loyalty = 0.921; Supply chain image integrity = 0.931; and HFBE = 0.886. Then, the composite reliability (CR) values were all above 0.70, indicating an acceptable internal consistency for the scales. The AVE values for all constructs were above 0.50, establishing convergent validity.

Table 3
Result of Measurement Items

Items	Internal consistency		Convergent Validity	
	Composite Reliability	Cronbach's alpha	Factor Loading	AVE
Halal brand awareness (HBAw)				
I could recall quickly the logo of my halal food brand.			0.844	
I could identify my halal food brand logo amongst other brand logos.	0.915	0.884	0.779	0.682
I prefer my halal food brand compared to other halal brands			0.856	
I believe my halal food brand is healthy.			0.827	
I believe my halal food brand is safe to eat.			0.821	
Halal perceived quality (HPQ)				
I prefer my halal food brand because it offers quality halal products.			0.841	
The quality of my halal food brand is always reliable.			0.847	
My halal brand food offers consistent quality in every purchase.	0.912	0.880	0.872	0.676
The quality of my halal brand food is the best with respect to halal characteristics.			0.787	
The quality of my halal brand food is durable with respect to halal performance			0.758	
Halal brand association (HBAs)				
My halal food brand has all qualities that I expect			0.848	
I trust the manufacturers of my halal food brands.			0.882	
I trust my halal food brand sources have followed all halal requirements.	0.925	0.900	0.835	0.713
The price of my halal food brand is high because of its good quality ingredient.			0.824	
My halal food brand helps me to perform my religious obligation.			0.831	
Halal brand loyalty (HBL)				
I will always prefer my halal food brand than other brands in the market.			0.854	
I will always loyal to my halal food brand.			0.912	
I will always buy my halal food brand.			0.923	

I will always buy my halal food brand even if its price has increase.	0.941	0.921	0.881	0.763
I will recommend my halal food brand to my friends and families.			0.789	
Supply chain image integrity (SCII)				
I believe the ingredient of halal food is safe to eat			0.702	
The packaging of my halal food is safe from non-halal elements			0.822	
I trust the companies that are handling storage of halal food			0.912	
I believe the information label of halal food is genuine			0.802	
I believe the halal food ingredient has gone through a halal process			0.746	
I believe my halal food brand is free from harmful chemical substances			0.722	
I believe my halal food factories have a system to detect non-halal materials	0.933	0.931	0.763	0.609
I am confident of the cleanliness of factory during food processing.			0.809	
I am confident the staffs are well trained to handle halal food process			0.721	
Halal food brand equity (HFBE)				
I should buy halal food from my halal brand because of its seriousness in complying with halal requirements.			0.826	
Even though other food brands have the same halal characteristics, I still prefer to buy this halal food brand.	0.921	0.886	0.900	0.746
I prefer to buy my halal food brands compared to other halal brands in the market.			0.884	
I feel wiser to buy the halal food brands even though the quality is the same with other halal brands.			0.842	

Discriminant validity is calculated through the Fornell and Larcker Criterion and the Heterotrait-Monotrait Ratio (HTMT). Based on the results in Table 4, the values are less than 0.90. Thus, there is no problem with discriminant validity. These results confirm that the measurement model is reliable and valid for further structural analysis.

Table 4
Heterotrait-Monotrait Ratios of Correlations (HTMT)

	HBAs	HBAw	HBL	HFBE	HPQ
Halal Brand Association (HBAs)					
Halal Brand Awareness (HBAw)	**0.551**				
Halal Brand Loyalty (HBL)	0.382	**0.341**			
Halal Food Brand Equity (HFBE)	0.489	0.417	**0.626**		
Halal Perceived Quality (HPQ)	0.522	0.344	0.395	**0.467**	
Supply Chain Image Integrity (SCII)	0.059	0.159	0.077	0.066	**0.062**

Inner Model
All four constructs—halal brand awareness, halal perceived quality, halal brand association, and halal brand loyalty and moderation by supply chain image integrity —accounted for

42.6% of the variance in sustaining halal food brand equity, according to the primary model's R^2, which stood at 0.426, indicating a moderate level of explanatory (Figure 2).

The blindfolding procedure was performed to assess the predictive relevance (Q^2) of the endogenous construct. The results in table 5 revealed that Halal Food Brand Equity obtained a Q^2 value of 0.306, which is greater than 0, indicating moderate predictive relevance (Hair et al., 2019). As expected, all exogenous variables, including Halal Brand Awareness, Halal Brand Association, Halal Perceived Quality, Halal Brand Loyalty, and the moderator Supply Chain Image Integrity, recorded a Q^2 of 0.000, since predictive relevance is not applicable for exogenous constructs.

Table 5
Effect size

	R^2	Q^2	f^2 (HBAw)	(HPQ)	(HBAs)	(HBL)
Halal Brand Awareness (HBAw)	0.426	0.306	0.014			
Halal Perceived Quality (HPQ)				0.027		
Halal Brand Association (HBAs)					0.035	
Halal Brand Loyalty (HBL)						0.233
Halal Food Brand Equity (HFBE)						
Supply Chain Image Integrity (SCII)						

The bootstrapping method, as suggested by Ramayah et al. (2018), was applied in the structural model to test hypotheses and evaluate the direct path of the path coefficients using 99 samples, 5000 subsamples, and no sign changes. The threshold for meaning was fixed at 0.05. Table 6 shows the results of hypothesis relationships. Hence, the four independent variables were found to influence the dimensions of Halal brand equity contributing to the development of halal food brand equity. The analysis suggests strong support for all of the hypotheses.
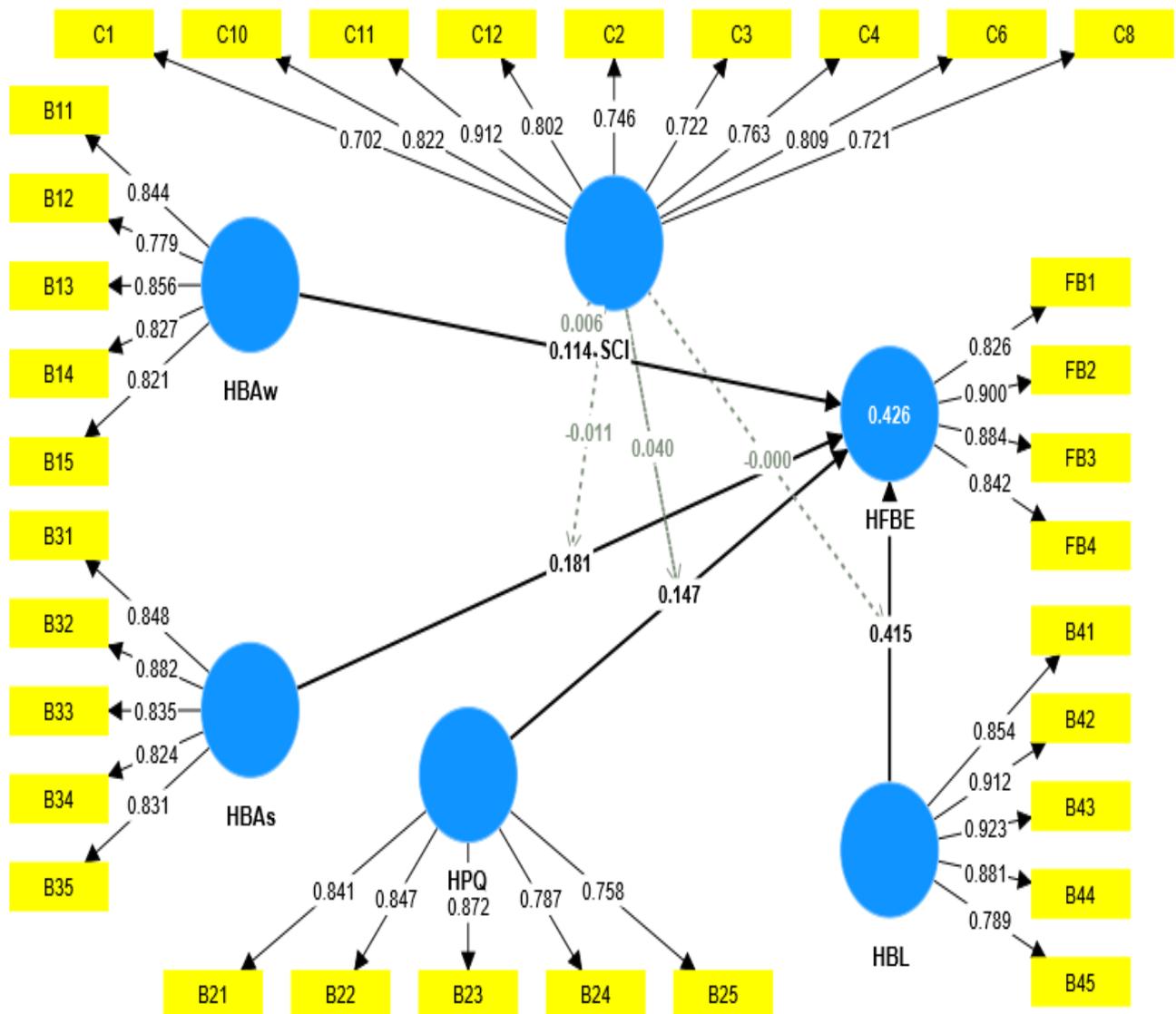
Figure 2: The path coefficient of the construct

The path coefficient showed that the t-value for halal brand awareness (2.174), halal perceived quality (2.694), halal brand association (2.939), and halal brand loyalty (7.297) are all exceeded the threshold value of 1.645, indicating significant positive influences on halal food brand equity. Specifically, halal brand association (β=0.181, p<0.05), halal brand awareness (β=0.114, p<0.05), halal brand loyalty (β=0.415, p<0.05), and halal perceived quality (β=0.147, p<0.05) are positively related to halal food brand equity, which explains 42.4% of the variance in halal food brand equity. Thus, H1, H2, H3, and H4 are supported.

However, the results for the moderating role of supply chain image indicate that the interaction terms were not statistically significant, as the t-values were below the threshold of 1.645 (p > 0.05). For instance, the moderation effect between halal brand awareness and halal brand equity was β = 0.000, t = 0.002, p = 0.999. Similarly, the moderation effects for perceived quality (β = 0.040, t = 0.760, p = 0.447, halal brand association (β = 0.011, t = 0.162, p = 0.871) and brand loyalty (β = 0.000, t = 0.002, p = 0.999) were also insignificant. These

findings suggest that supply chain image integrity does not moderate the relationships between these brand equity dimensions and overall halal brand equity in this study.

Table 6
Hypotheses testing

Hypotheses	Standard beta	t Values	P values	Significance	Hypothesis Result	VIF
H1	0.114	2.174	0.030	Yes	Supported	1.686
H2	0.147	2.694	0.007	Yes	Supported	1.400
H3	0.181	2.939	0.003	Yes	Supported	1.636
H4	0.415	7.297	0	Yes	Supported	1.290
H5a	-0.000	0.002	0.992	No	Not supported	1.732
H5b	0.040	0.760	0.447	No	Not supported	1.238
H5c	-0.011	0.162	0.871	No	Not supported	1.640
H5d	-0.000	0.002	0.999	No	Not supported	1.247

Conclusion and Discussion

This study aimed to examine the role of Customer-Based Halal Brand Equity (CBHBE) dimensions—Halal Brand Awareness, Halal Perceived Quality, Halal Brand Association, and Halal Brand Loyalty—on Halal Food Brand Equity, with Supply Chain Image Integrity (SCII) as a moderating variable. The findings revealed that Halal Brand Awareness, Halal Perceived Quality, Halal Brand Loyalty and Halal Brand Association had the strongest influence on Halal Food Brand Equity, consistent with past research that emphasises trust, repetition of purchases, and emotional attachment as central drivers of consumer-based brand equity (Stocchi and Fuller, 2017; Yousaf, Gupta, and Mishra, 2017). Halal Brand Awareness also demonstrated significant effects, highlighting the role of consumer knowledge, product familiarity, and certification credibility in strengthening halal brand equity. Furthermore, Halal Perceived Quality demonstrated a significant influence on Halal Food Brand Equity. This result aligns with previous research (Faradillah Shafiee et al., 2017; Farjam and Hongyi, 2015), which highlighted perceived quality in relation to cleanliness, safety, and the Halalan Toyyiban concept. A possible explanation is that Malaysian Muslim consumers may already assume that certified halal products meet minimum quality standards, thus reducing the direct impact of perceived quality on brand equity.

With regard to moderation, the analysis revealed that SCII did not significantly moderate the relationships between any of the halal customer-based brand equity dimensions (Halal Brand Awareness, Halal Perceived Quality, Halal Brand Association, and Halal Brand Loyalty) and Halal Food Brand Equity. This indicates that supply chain image integrity, although important in shaping consumer perceptions, does not function as a moderator in this model. One possible explanation is that consumers may already perceive supply chain integrity as an inherent requirement of halal certification, thus viewing it as a baseline expectation rather than a variable that strengthens the effects of brand awareness, perceived quality, association, or loyalty. These results suggest that the role of SCII may be more direct than conditional, highlighting the need for future research to re-examine its function within different contexts or using alternative methodological approaches.

Overall, this study contributes to the growing body of literature on Halal Brand Equity by demonstrating that awareness; association, perceived quality and loyalty remain the most influential predictors. Contrary to the initial expectation, the moderation analysis revealed that SCII does not moderate the relationships between any of the CBHBE dimensions and Halal Food Brand Equity. This finding suggests that supply chain image integrity, although important in shaping consumer perceptions, may act as a baseline requirement rather than a conditional factor that strengthens brand equity. This study contributes to the literature by developing and validating the Consumer-Based Halal Brand Equity (CBHBE) model that integrates supply chain image integrity as a determinant of brand equity. It also offers practical implications for halal food producers and policymakers in enhancing consumer trust and sustaining brand competitiveness.

From a practical perspective, these results highlight the important for halal food firms to prioritise strategies that strengthen brand loyalty and association as a key driver for building sustainable brand equity. For policymakers and halal certifying bodies, the findings suggest that supply chain transparency should continue to be communicated as a fundamental assurance of halal compliance; however, its influence on brand equity may be more direct than moderating. Finally, future research could explore alternative moderating variables such as religiosity, trust, or consumer ethnocentrism, as well as different cultural contexts, to further refine the understanding of factors influencing halal brand equity.

Limitations and Recommendations
This study has several limitations that should be acknowledged. First, although the model incorporated Supply Chain Image Integrity (SCII) as a moderator, the results revealed that SCII did not significantly moderate the relationship between any CBHBE dimensions and Halal Brand Equity. This non-significant outcome may be attributed to consumers' perception of SCII as a basic requirement of halal certification rather than a conditional factor influencing brand equity. Consequently, the study's findings may be context-specific to the halal food industry in Malaysia, where halal assurance and supply chain transparency are already institutionalised. Second, the research was limited to the halal food sector, which may restrict the generalizability of the findings to other halal industries such as pharmaceuticals, cosmetics, and logistics. Finally, the cross-sectional design constrains the ability to capture changes in consumer perceptions over time.

Future studies should extend the investigation of SCII beyond the food industry to other halal sectors, such as cosmetics, pharmaceuticals, and logistics, where supply chain transparency may play a more pronounced role in shaping brand equity. Researchers are also encouraged to consider alternative moderating variables, including religiosity, trust, consumer ethnocentrism, or perceived risk, which may better explain variations in the halal brand equity model. Moreover, longitudinal studies could provide deeper insights into how consumer perceptions of supply chain integrity evolve and influence brand equity over time. From a practical perspective, firms and policymakers should not view SCII solely as a moderating mechanism but rather as a foundational element that enhances direct consumer confidence in halal compliance. Thus, future models may explore SCII as a direct predictor or mediator rather than as a moderator to refine the theoretical understanding of its role in halal brand equity.

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