

Determinants of Halal Food Adoption in Bangladesh: An Extended Theory of Planned Behavior Model with Religiosity as a Mediating Variable

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ABSTRACT

Halal food consumption in Bangladesh has experienced steady growth, driven by religious commitment, increasing health consciousness, ethical considerations, and growing concerns regarding food safety and adulteration. Despite being a Muslim-majority country, empirical research on halal food adoption remains limited and fragmented. This study examines the determinants of consumers' adoption of halal food in Bangladesh using the Theory of Planned Behavior (TPB), extended to include religiosity as a mediating variable. A quantitative research design was employed using a structured questionnaire, with data collected from 598 Muslim consumers of packaged food products through non-probability convenience and mall-intercept sampling in Dhaka city. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) to assess direct and mediating relationships. The results reveal that attitude, subjective norms, perceived behavioral control, and religiosity significantly influence halal food adoption, while TPB constructs also interact through mediating effects. The study extends TPB within a religious and cultural context and provides empirical evidence from Bangladesh. The findings offer valuable implications for policymakers, halal certification authorities, and food marketers seeking to strengthen halal assurance systems, enhance consumer trust, and promote food safety and integrity in Bangladesh.

Keywords: Halal Food Adoption, Theory of Planned Behavior (TPB), Religiosity, Consumer Behavior, Purchase Intention, Mediating Effect, Bangladesh.

INTRODUCTION

The global halal food industry is experiencing substantial expansion, driven by the growing Muslim population and rising awareness of halal compliance, ethical consumption, and food safety (Kamil & Hatta, 2025). Demand is rising not only in Muslim-majority countries but also in Muslim-minority regions such as Europe, North America, and Australia, reflecting demographic shifts and a growing preference for safe, ethically produced food (Wiyono et al., 2022). The global halal market serves more than 1.9 billion Muslims, representing approximately 25% of the world's population, and is projected to reach 2.76 billion by 2050. Within this market, the halal food and beverage sector dominates, with a valuation of USD 2.71 trillion in 2024 and is expected to reach USD 4.57 trillion by 2030, growing at a compound annual growth rate (CAGR) of 9.56% (Ahmed, 2025).

In Asia, where Islam is widely practiced, halal food is a mainstream necessity. Simultaneously, rising incomes, urbanization, and increased consumption of processed foods have intensified food safety and health concerns globally (Liu & Niyongria, 2017; Bektas et al., 2011). Consumers increasingly evaluate food choices based on physical attributes, personal values, religious compliance, and ethical considerations. Bangladesh, a Muslim-majority country, holds significant potential in the halal food economy. Despite limited halal certification, demand continues to rise. From 2020 to 2028, the market is projected to grow at 6.05% (Kamil & Hatta, 2025). In 2024–2025, Bangladesh became the world's second-largest consumer of halal food, with a market valued at approximately USD 138.5 billion (Thomson Reuters, 2025).

Table 1. Comparative Overview of Halal Market Size and Country Rankings, 2023–2025

Country	2023–2024 Market Size (USD)	2023–2024 Rank	2024–2025 Market Size (USD)	2024–2025 Rank
Indonesia	\$149.8 billion	1st	\$159.6 billion	1st
Bangladesh	\$137.0 billion	3rd	\$138.5 billion	2nd
Egypt	\$143.0 billion	2nd	\$116.8 billion	3rd
Nigeria	\$87.4 billion	4th	-	-
Iran	\$87.4 billion	5th	-	-
Turkey	-	-	\$102.0 billion	4th
Saudi Arabia	-	-	\$93.1 billion	5th

(Researcher Constructed)

[Sources: State of the Global Islamic Economy Report (2023/2024, p.97& 2024/2025, p.82)]

Bangladesh is one of the world’s fastest-growing economies, supported by favorable demographic dividends, rising disposable incomes, changing lifestyles, strong media influence, and increased access to domestic and international brands (Mahmud, 2019). The country’s middle and affluent class—defined as individuals earning USD 5,000 or more annually—is projected to triple by 2025, reaching approximately 34 million consumers (BCG, 2015). Growing awareness of food safety, along with emotional and spiritual motivations linked to religious compliance, has significantly increased demand for halal-certified products. Consumers are increasingly associating halal certification with food safety and quality, further accelerating halal food consumption (Bohari et al., 2013; Zafar et al., 2024). While religious branding has historically influenced consumer perceptions, such strategies require ethical integrity and transparent certification to sustain trust.

Despite the rising prominence of halal food in Bangladesh, empirical research on its adoption remains limited and fragmented. Existing studies often lack contextual relevance and integrated analytical frameworks. This study addresses this gap by identifying and validating key determinants influencing halal food adoption, contributing localized insights to theory and practice.

OBJECTIVE OF THE STUDY

The main objective of this study is to examine the adoption of halal-certified foods among Bangladeshi Muslim consumers. The specific objectives are as follows:

- To examine the impact of key factors from the Theory of Planned Behavioral Model on the adoption of halal-certified food in Bangladesh.
- To investigate the influence of TPB factors with religiosity as a mediating variable on the adoption of halal-certified food in Bangladesh.
- To offer recommendations for promoting the adoption of halal-certified food in Bangladesh.

METHODOLOGY

This study adopted a quantitative research design. Data were collected using a structured questionnaire developed from an extensive review of the literature and expert validation. A seven-point Likert scale (1 = strongly disagree, 7 = strongly agree) was used to enhance measurement reliability and validity (Weijters et al., 2010; Sullivan & Artino, 2013; Habidin et al., 2018). The unit of analysis was individual consumers purchasing halal food products from selected shopping malls in Dhaka, Bangladesh. The target population comprised both male and female halal food buyers. Given the large and undefined population, a non-probability convenience mall-intercept sampling technique was employed (Rice & Hancock, 2005).

The questionnaire measured five constructs: attitude (five items), subjective norms (five items), perceived

behavioral control (five items), religiosity (seven items), and halal food adoption (five items). The measurement items were adapted from prior validated studies, including Loussaief et al. (2024), Jannat and Islam (2019), Briliana and Mursito (2017), Al-Hajla (2017), Ayuniyyah et al. (2017), Abd Rahman et al. (2015), Shah Alam et al. (2011), and Garg & Joshi (2018). A total of 598 usable responses were retained for final analysis.

Data analysis involved both descriptive and inferential techniques. Descriptive statistics were conducted using SPSS 23.0, while Partial Least Squares Structural Equation Modeling (PLS-SEM 4.0) was applied to assess measurement reliability, convergent and discriminant validity, collinearity, explanatory power, predictive relevance, and hypothesis testing of the structural model.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Halal Food Consumption Patterns and Consumer Behavior in the Context of Bangladesh

The demand for halal food in Bangladesh is steadily increasing, driven by a combination of religious commitment, health consciousness, and ethical awareness (Zafar et al., 2024). Halal products are widely perceived not only as religiously permissible but also as symbols of purity, safety, and quality assurance. As noted by Nekmahmud (2016), halal represents both a religious obligation and a benchmark of integrity, while Jannat & Islam (2019) identify religiosity, trust, and perceived authenticity as key determinants of consumers' purchase intentions. Despite this growing demand, the halal food industry in Bangladesh remains underdeveloped, facing challenges such as inadequate certification mechanisms, unclear product labeling, and limited consumer trust. The scarcity of comprehensive empirical research on halal food consumption further constrains strategic market development. According to the Population and Housing Census (2022), Muslims constitute 91.04% of Bangladesh's population, highlighting the country's substantial potential for halal food adoption. Rising Shariah consciousness and the expansion of the Muslim middle class have increased demand beyond meat and poultry to include processed foods, beverages, and export-oriented halal products. However, consumer behavior reflects a complex interplay among religiosity, family traditions, social influence, education, and rural–urban differences, complicating the understanding of halal food adoption. In response, the Bangladeshi government has strengthened the halal certification framework. Since 2007, the Islamic Foundation of Bangladesh has accredited approximately 140 companies, covering around 700 halal-branded products (Ali, 2021). More recently, the Bangladesh Standards and Testing Institution (BSTI) began issuing halal certificates in 2022, adopting international standards (BDS OIC/SMIIC 1, 2, and 24:2021) to align with global best practices (The Business Standard, 2022). Following Islamic banking, the halal food sector is widely regarded as Bangladesh's next major growth industry (Rahman, 2010). Importantly, halal food offers a viable solution to Bangladesh's persistent food adulteration crisis. Compliance with strict cleanliness, safety, and ethical standards positions halal food as a trustworthy alternative amid widespread use of harmful substances and weak regulatory enforcement.

Despite a growing body of research on halal food consumption, several critical gaps remain in the literature. Much of the existing research is contextually limited, having been conducted mainly in Malaysia, Indonesia, and Middle Eastern countries, which differ significantly from Bangladesh in socio-religious norms, market maturity, and consumer awareness. Consequently, existing models may not fully capture the behavioral and cultural dynamics of Bangladeshi Muslim consumers, indicating the need for more localized studies. In addition, the role of religious scholars remains underexplored despite their potential influence on perceptions of halal authenticity and ethical consumption. Most studies also emphasize behavioral intention rather than actual purchase behavior, limiting practical relevance. Finally, there is a lack of empirical rigor, including limited use of advanced techniques such as PLS-SEM, and insufficient translation of findings into actionable marketing and policy implications in the Bangladeshi context.

Theoretical Framework

The Theory of Planned Behavior (TPB) is an extension of the Theory of Reasoned Action (TRA), originally developed to explain variations in human behavior (Ajzen, 2011). While TRA emphasized attitudes and subjective norms, Ajzen (1985) enhanced its predictive power by incorporating perceived behavioral control,

formally establishing TPB (Ajzen, 1991). TPB posits that behavior results from deliberate, rational planning, in which individuals systematically evaluate available information rather than acting impulsively. According to the model, behavioral intention—shaped by attitude, subjective norms, and perceived behavioral control—serves as the immediate antecedent of actual behavior (Ajzen, 2002). Due to its robust explanatory capacity, TPB has been widely applied across disciplines, particularly in consumer behavior and food choice research, including studies on halal food consumption (Armitage & Conner, 2001; Rhodes & Courneya, 2003). However, scholars argue that TPB's explanatory strength may diminish in culturally or religiously specific contexts unless the model is appropriately extended or contextualized (Sheeran, 2002; Conner & Norman, 2005).

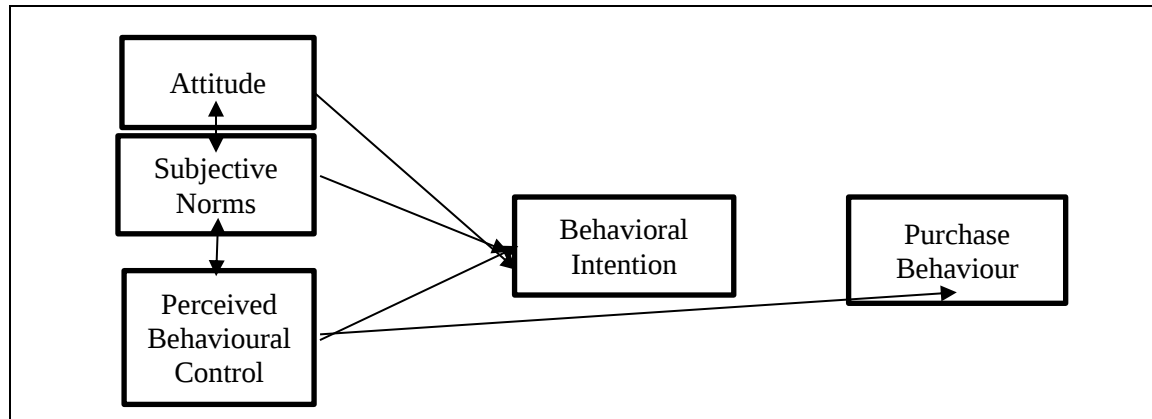


Figure 1: Theory of Planned Behavior (Ajzen, 19991)

TPB's core concept is that individuals use all available information before responding, and that their behavioral decisions are not decided on the spur of the moment (Fulham & Mullan, 2011; Conner & Sparks, 2005). The relative usefulness of attitude, subjective norm, and perceived behavioral control in predicting intention is expected to vary across behaviors and contexts, and only one or two of these factors may be significant in certain situations (Armitage & Conner, 2001; Ajzen, 1991). As a general principle, the more favorable an individual's attitude and subjective norm are, and the greater the perceived behavioral control, the more likely they are to engage in the particular behavior (Ajzen, 2008; Ajzen & Driver, 1992). In a significant number of studies, the Theory of Planned Behavior model is useful for examining behavioral aspects and exhibits high predictive power. Many studies have also utilized this theory to explain consumer buying intentions in the halal domain, recommending the TPB model's effectiveness in measuring halal adoption and as a handy tool for forecasting consumer purchasing behavior (Zulariff & Mohamad, 2014; Afendi et al., 2014). As a cutting-edge area of study, various domains of the Halal industry have also been investigated and analyzed using the TPB model, either alone or with modifications or extensions (Khalek & Ismail, 2015; Ansari & Mohammed, 2015; Rehman et al., 2010). TPB eventually yields more accurate, comprehensive, and precise results in analyzing halal cosmetics purchasing behavior (Jihan et al., 2016).

The Role of Attitude for the Adoption of Halal Food

Attitude plays a crucial role in influencing the adoption of halal food products in Bangladesh. As noted by Lada et al. (2009), Bonne et al. (2007), and Mukhtar & Butt (2012), Muslim consumers with strong and positive beliefs about halal products are more likely to purchase halal-labeled food. A favorable attitude, shaped by religious conviction and perceived quality, significantly drives consumer behavior. Furthermore, several scholars emphasize the importance of studying attitudes and behaviors toward halal products across various cultural and national contexts (Bonne et al., 2007). Existing literature consistently highlights a direct and significant relationship between consumer attitude and halal food adoption (Koraag et al., 2024; Shahniah et al., 2024; Ardiyanto et al., 2024; Loussaief et al., 2024; Wibowo et al., 2024; Puspita, 2023; Nurkhin et al., 2023; Rizkitysha & Hananto, 2022; Öztürk, 2022; Hasyim & Purnasari, 2021; Vanany et al., 2020; Billah et al., 2020; Rptiono & Bangsa, 2020; Bashir et al., 2019; Jannat, & Islam, 2019; Ashraf, 2019; Wilujeng et al., 2019; Elseidi, 2018; Rachbini, 2018; Asnawi et al., 2018; Mohd Suki, & Abang Salleh, 2018; Pratiwi, 2018). These studies consistently highlight attitude as a key predictor of halal food consumption behavior,

underscoring its central role in shaping consumer intentions and actions within both Islamic and non-Islamic contexts. Several studies have established and investigated the indirect influence of religiosity on halal purchase intention via attitude (Koraag et al., 2024; Ardiyanto et al., 2024; Loussaief et al., 2024; Garg & Joshi, 2018; Amalia et al., 2020; Rizkitysha & Hananto, 2020; Vanany et al., 2020; Ahmadova & Aliyev, 2020; Marchia & Asih, 2025). In line with previous findings, this research suggests that Muslim consumers in Bangladesh who hold favorable attitudes toward halal food are more likely to adopt such products. Understanding the strength and direction of these attitudes is crucial for uncovering the behavioral dynamics surrounding the consumption of halal food. Therefore, it remains vital to examine consumer attitudes to accurately reflect the nature of halal food acceptance in the Bangladeshi context. Based on this rationale, the following attitude-related hypotheses are proposed to guide the study.

H1: Attitude has a significant positive influence on the adoption of halal food in Bangladesh.

H5: Attitude mediates the relationship between religiosity and the adoption of halal food in Bangladesh.

The Role of Subjective Norms for the Adoption of Halal Food

Subjective norms represent the social influences that affect an individual's behavioral decisions (Ajzen, 1991). They encompass perceived pressures from family, peers, and the wider community to conform to certain behaviors (Charsetad, 2016; Sukato, 2008; Hee, 2000). These norms are shaped by both informational and normative influences, guiding individuals to adopt or avoid specific actions (Awan et al., 2015; Kuan et al., 2014). As noted by Ahmed et al. (2017), individuals with a strong Muslim identity are more likely to be influenced by subjective norms, while perceived social pressure to conform to halal dietary requirements leads to a greater adoption of halal-labeled products. Muslim consumers often rely on subjective criteria to ensure alignment with Shariah principles (Mohd Suki & Abang Salleh, 2018). Social influence from family and community makes subjective norms a critical determinant in halal food adoption. Through their study, a sizable number of scholars have established and examined the direct connection between subjective norms and adoption (Ardiyanto et al., 2024; Loussaief et al., 2024; Wibowo et al., 2024; Puspita, 2023; Nurkhin et al., 2023; Hasyim & Purnasari, 2021; Vanany et al., 2020; Billah et al., 2020; Bashir et al., 2019; Jannat, & Islam, 2019; Ashraf, 2019; Wilujeng et al., 2019; Elseidi, 2018; Garg & Joshi, 2018; Rachbini, 2018; Asnawi et al., 2018; Mohd Suki, & Abang Salleh, 2018; Pratiwi, 2018). Several studies have established and investigated the indirect influence of religiosity on halal purchase intention through subjective norms (Ardiyanto et al., 2024; Loussaief et al., 2024; Vanany et al., 2020; Garg & Joshi, 2018). In Bangladesh, subjective norms are a significant predictor of the adoption of halal products, driven by social pressure from family, friends, religious leaders, and community figures (Tuhin et al., 2020; Jannat & Islam, 2019; Ashraf, 2019). Thus, in the Bangladeshi context, subjective norms are a vital predictor of halal food adoption. Consumers are more likely to adopt halal food when they perceive that others in their social network expect or encourage them to do so.

H2: Subjective norms have a significant positive influence on the adoption of halal food in Bangladesh.

H6: Subjective norms mediate the relationship between religiosity and the adoption of halal food in Bangladesh.

The Role of Perceived Behavioral Control for Adoption of Halal Food

The perceived ease or difficulty of carrying out a particular activity is the third element of TPB. According to Ajzen (1991), "it is the degree to which individuals believe they have the resources, abilities, and opportunities to execute the behavior in question." PBC encompasses factors such as availability, affordability, accessibility, and self-efficacy, and is shaped by both past experiences and anticipated obstacles (Zhou et al., 2013; Sparks et al., 1997). The many studies that have established and investigated the direct relationship between PBC and adoption (Ardiyanto et al., 2024; Loussaief et al., 2024; Wibowo et al., 2024; Puspita, 2023; Nurkhin et al., 2023; Rizkitysha & Hananto, 2022; Öztürk, 2022; Hasyim & Purnasari, 2021; Vanany et al., 2020; Billah et al., 2020; Riptiono & Bangsa, 2020; Bashir et al., 2019; Jannat, & Islam, 2019; Ashraf, 2019; Elseidi, 2018; Rachbini, 2018; Pratiwi, 2018; Asnawi et al., 2018). Several studies have established and investigated the

indirect influence of religiosity on halal purchase intention through perceived behavioral control (Ardiyanto et al., 2024; Loussaief et al., 2024; Vanany et al., 2020). In Bangladesh, factors such as increased media exposure, religious awareness, and growing consumer demand have contributed to greater access to halal food options. Nevertheless, challenges related to affordability, limited supply chains, or lack of reliable halal certification may still affect perceived control. Although some studies report an insignificant relationship, the construct remains relevant in consumer decision-making (Haque et al., 2018). The extent of PBC may include survey items evaluating perceived availability, ease of purchase, affordability, and confidence in selecting halal food.

H3: Perceived behavioral control has a significant positive influence on the adoption of halal food in Bangladesh.

H7: Perceived behavioral control mediates the relationship between religiosity and the adoption of halal food in Bangladesh.

The Role of Religiosity and Adoption of Halal Food

The degree to which individuals internalize, practice, and are devoted to their religious ideas is referred to as religiosity (Delener, 1990; Garg & Joshi, 2018). It is distinct from religion itself, as it emphasizes the influence of religious beliefs on a person's daily life and decisions (Weaver & Agle, 2002). In Bangladesh, where Islam is an integral component of social and cultural life, religiosity is an essential consideration in whether or not people eat Halal food. According to studies, Muslims who are more devoted to their faith are more likely to eat Halal food because they adhere more closely to Islamic dietary regulations (Sulaiman et al., 2020; Haque et al., 2018; Shahid et al., 2018). Islamic education and guidance from religious leaders also enhance positive attitudes and intentions to adopt. Therefore, religiosity, shaped by cultural, societal, and institutional factors, significantly influences the adoption of Halal food in Bangladesh. A significant number of researchers have established and investigated the direct relationship between religiosity and adoption in their research (Koraag et al., 2024; Loussaief et al., 2024; Rafiki et al., 2024; Ali & Ahmad, 2023; Santovito et al., 2023; Nurkhin et al., 2023; Zahra et al., 2023; Rizkitysha & Hananto, 2022; Hasyim & Purnasari, 2021; Djunaidi et al., 2021; Vanany et al., 2020; Nurrachmi et al., 2020; Billah et al., 2020; Bashir et al., 2019; Syukur & Nimsai, 2018; Elseidi, 2018; Garg & Joshi, 2018; Asnawi et al., 2018). Understanding this relationship is crucial for stakeholders seeking to promote halal food within a faith-based consumer market effectively. Eventually, religiosity and its extent of influence are important areas of investigation to reveal the real scenario of adoption.

H4: Religiosity has a significant positive influence on the adoption of halal food in Bangladesh.

ANALYSIS AND FINDINGS

Descriptive Statistical Analysis

A summary of gathered data is given by descriptive statistical analysis, which also sheds light on the sample's characteristics. Table I presents the variables used in this study. PLS-SEM, being a nonparametric statistical approach, does not depend on distributional assumptions (Hair et al., 2011). The statistical characteristics facilitate robust model estimates, regardless of whether the data follow a normal or significantly non-normal distribution (Hair et al., 2017; Reinartz et al., 2009).

Table 2: Summary of Descriptive Analysis

	N	Mini.	Maxi.	Mean	Std. Dev	Skewness	Kurtosis
ATT	598	4	7	5.64	.701	.519	-.019
SBN	598	2	7	4.81	.947	-.103	.265
PBC	598	2	7	5.26	.769	-.311	1.727
RLG	598	3	7	5.71	.845	-.852	1.032
AHF	598	2	7	5.42	.900	-.951	1.598

PLS-SEM Analysis Results

The applications of PLS-SEM have increased considerably (Hair et al., 2022). PLS EM analysis is divided into two distinct stages. In the first step, the researcher receives the measurement model output, which aids in appraising the data for internal consistency, reliability, and discriminant validity (Dijkstra & Henseler, 2015; Henseler et al., 2015). Initially, the researcher gets the measurement model output, which facilitates the evaluation of internal consistency, reliability, and discriminant validity (Dijkstra & Henseler, 2015; Henseler et al., 2015) to ascertain data validity. Later, the relevance and significance of path coefficients, the explanatory and predictive power of the structural model, are assessed (Shmueli et al., 2016; Hair et al., 2020).

Reliability and Convergent Validity Test

Hair et al. (2022) assert that all constructs must have Cronbach's alpha values over 0.70 for reliability, and composite reliability values should surpass the 0.70 threshold (Bagozzi & Yi, 1988). The permissible range for reliability metrics is 0.70 to 0.90, with a ceiling of 0.95 to prevent redundancy of indications (Hair et al., 2019). As shown in Table II, the values of Cronbach's alpha and composite reliability are greater than 0.70, indicating good internal consistency and validating all constructs (Hair et al., 2012; Bagozzi & Yi, 1988).

Table 3: Measurement Properties

Constructs	Item	Loading	Cronbach's Alpha	Composite Reliability	AVE
1. Attitude (ATT)	ATT_1	0.706	0.822	0.875	0.585
	ATT_2	0.832			
	ATT_3	0.796			
	ATT_4	0.78			
	ATT_5	0.702			
2. Subjective Norms (SBN)	SBN_1	0.827	0.864	0.902	0.650
	SBN_2	0.859			
	SBN_3	0.820			
	SBN_4	0.787			
	SBN_5	0.732			
3. Perceived Behavioural Concept (PBC)	PBC_1	0.765	0.785	0.853	0.537
	PBC_2	0.722			
	PBC_3	0.729			
	PBC_4	0.733			
	PBC_5	0.713			
4. Religiosity (RLG)	RLG_1	0.821	0.895	0.918	0.616
	RLG_2	0.829			
	RLG_3	0.712			
	RLG_4	0.827			
	RLG_5	0.823			
	RLG_6	0.768			
	RLG_7	0.702			
5. Halal Food Adoption (HFA)	HFA_1	0.769	0.818	0.873	0.578
	HFA_2	0.778			
	HFA_3	0.739			
	HFA_4	0.732			
	HFA_5	0.783			

According to the findings of this investigation, the convergent validity of the data is evaluated using the AVEs of the variables and their factor loadings. Table II demonstrates that the AVE value is higher than 0.50, which

affirms convergent validity (Chin, 1998), and they satisfy the AVE criterion of > 0.50 as well (Sarstedt et al., 2021). Furthermore, item loadings of 0.60 or higher affirm the convergent validity of the study's constructs.

Discriminant Validity: Fornell-Larcker Criterion and HTMT Ratio

Based on the Fornell-Larcker criterion, discriminant validity is established for all constructs, as each construct shows greater shared variance with its own indicators than with those of other constructs, indicating conceptual and empirical distinctiveness.

Table 4: Construct Correlations and Discriminant Validity Assessment (Fornell–Larcker Criterion)

	ATT	SBN	PBC	RLG	HFA
ATT	0.765				
SBN	0.649	0.806			
PBC	0.671	0.659	0.733		
RLG	0.640	0.615	0.653	0.785	
HFA	0.672	0.712	0.662	0.748	0.760

However, recent research has highlighted limitations of this traditional approach. Franke & Sarstedt (2019) and Henseler et al. (2015) show that the Fornell-Larcker criterion often fails to detect discriminant validity issues, particularly when indicator loadings are similar, which is common in empirical PLS-SEM applications. Even when the criterion is satisfied, constructs may still exhibit substantial overlap, potentially compromising construct distinctiveness. To address these limitations, the Heterotrait-Monotrait (HTMT) ratio is recommended, as it provides a more sensitive and reliable assessment of discriminant validity by comparing between-construct and within-construct correlations. Therefore, while Fornell-Larcker results are reported, HTMT serves as the primary criterion for assessing robust, empirically supported discriminant validity in this study.

According to recent debates, the HTMT (Heterotrait-Monotrait Ratio) should be used to evaluate discriminant validity rather than the Fornell-Larcker criterion or cross-loadings (Franke & Sarstedt, 2019; Hair et al., 2022; Henseler et al., 2015). For a more accurate assessment of discriminant validity, Henseler et al. (2015) suggest using the HTMT. A value below 0.85 is recommended (Henseler et al., 2015; Franke & Sarstedt, 2019). This study substantiates the criteria.

Table 5: Discriminant Validity Assessment (HTMT ratio)

	ATT	SBN	PBC	RLG	HFA
ATT					
SBN	0.761				
PBC	0.828	0.798			
RLG	0.740	0.697	0.767		
HFA	0.814	0.846	0.816	0.868	

Coefficient of Determination (R²) and Predictive Relevance (Q²)

The most crucial step in structural model evaluation is assessing the model's explanatory power. In this study, the value of R^2 is 0.682, which shows that 68.2% of the variation in AHF is explained by the two independent variables. Based on established guidelines (Hair et al., 2011; Moosbrugger et al., 2009), R^2 values of 0.75, 0.50, and 0.25 indicate strong, moderate, and weak effects, respectively. Consequently, the moderate impact is supported by this study's R^2 value of 0.682, which suggests that the influence is substantial. The model's predictive relevance is evaluated in PLS-SEM using the predictive sample relevance (Q²) approach (Stone, 1974; Geisser, 1974; Fornell & Cha, 1994; Chin, 2010). Using the blindfolding procedure, the Q² value of this study is 0.389 for the adoption of halal food products (AHP). Since the Q² value is greater than zero, it indicates that the model has predictive relevance (Moosbrugger et al., 2009).

Interpretation of Structural Model Results

In this stage, proposed hypothesized relationships have been tested take into consideration of path coefficients, t-values, standard errors, p-values. A hypothesis is accepted if it is significant at the 5% level (t-value > 1.96 or $p < 0.05$) (Henseler & Fassott, 2010).

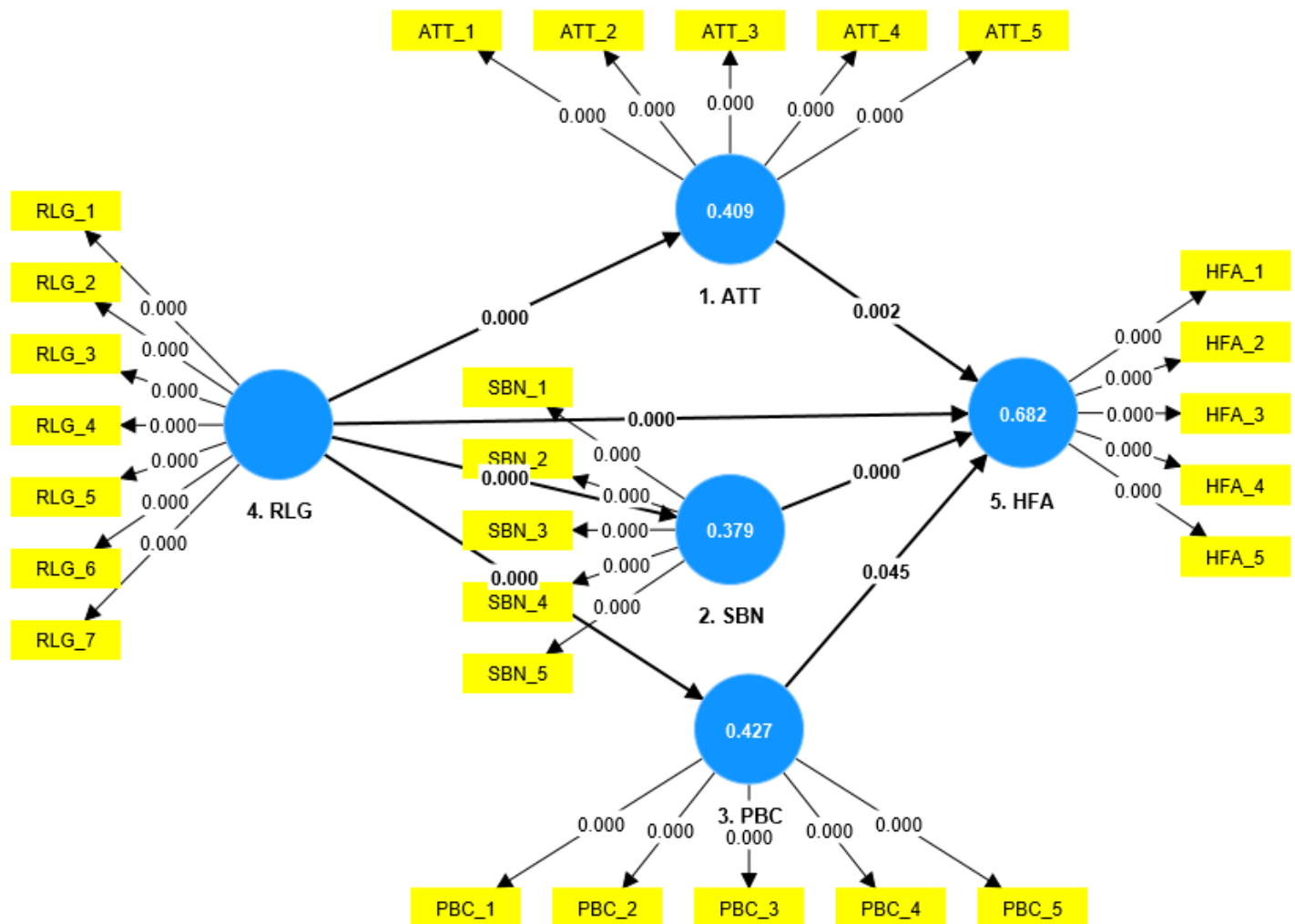


Figure 2: The Structural Model

Table 6: The findings of Hypotheses Testing

Hypothesized Relationship	Path Coefficients (β)	Standard Errors	T Statistics	P Values	Results
H1: ATT -> HFA	0.155	0.05	3.079	0.002	Supported
H2: SBN -> HFA	0.300	0.045	6.727	0.000	Supported
H3: PBC -> HFA	0.100	0.05	2.001	0.045	Supported
H4: RLG -> HFA	0.399	0.036	11.091	0.000	Supported

Note: At the 5% level, *** $p < 0.050$ is significant.

The structural model findings reveal that all proposed hypotheses are statistically significant and positively influence halal food adoption (HFA). Attitude (ATT) towards halal food shows a significant positive impact on halal food adoption ($\beta = 0.155$, $p = 0.002$), indicating that consumers with favorable perceptions and beliefs toward halal food are more inclined to adopt it. Empirical evidence from prior studies reinforces this conclusion. Consistent with earlier findings (Shahnia et al., 2024; Koraag et al., 2024; Ardiyanto et al., 2024; Loussaief et al., 2024; Wibowo et al., 2024; Puspita, 2023; Nurkhin et al., 2023; Rizkitysha & Hananto, 2022; Öztürk, 2022; Hasyim & Purnasari, 2021; Vanany et al., 2020; Riptiono & Bangsa, 2020; Bashir et al., 2019;

Ashraf, 2019; Wilujeng et al., 2019; Elseidi, 2018; Rachbini, 2018; Mohd Suki, & Abang Salleh, 2018; Pratiwi, 2018), confirm that attitude is one of the strongest predictors of halal food adoption. However, it contradicts a few earlier studies (Jannat & Islam, 2019; Asnawi et al., 2018) that reported an insignificant relationship between attitude and purchase intention, suggesting that contextual and cultural differences influence the strength of this relationship. This result confirms that an individual's attitude toward a behavior is a primary determinant of their behavioral intention. In Bangladesh, consumers' attitudes toward halal food are shaped not only by cognitive evaluations—such as perceptions of safety, quality, and hygiene—but also by moral and spiritual considerations rooted in Islamic teachings. Hence, the attitude construct in this study reflects a fusion of rational assurance and spiritual obedience, representing a culturally grounded extension of the traditional TPB framework. The finding reveals that Bangladeshi consumers perceive halal food as not merely a dietary choice but as an act of religious devotion and moral responsibility. When consumers view halal food as pure, safe, and aligned with divine commandments, their intention to purchase it increases significantly. Social influence, or subjective norms (SBN), also has a strong and significant effect on halal food adoption ($\beta = 0.300$, $p = 0.000$), suggesting that encouragement from family, peers, and society plays an important role in shaping consumers' halal consumption behavior. This finding validates earlier studies (Ardiyanto et al., 2024; Wibowo et al., 2024; Nurkhin et al., 2023; Hasyim & Purnasari, 2021; Ashraf, 2019; Wilujeng et al., 2019; Elseidi, 2018; Rachbini, 2018; Mohd Suki, & Abang Salleh, 2018) but contrasts with other reserches (Puspita, 2023; Vanany et al., 2020; Bashir et al., 2019; Jannat, & Islam, 2019; Garg& Joshi, 2018; Asnawi et al., 2018; Pratiwi, 2018). Subjective Norms → Halal Food Adoption, confirming that social influence plays a crucial role in shaping consumer intentions and behavior in Bangladesh. In a collectivist society, where religion and community identity are deeply interconnected, individuals tend to conform to the expectations of family, peers, and religious groups. Thus, halal food consumption becomes both a spiritual and socially reinforced practice, reflecting shared faith and communal harmony. Perceived behavioral control (PBC) positively influences halal food adoption ($\beta = 0.100$, $p = 0.045$), indicating that when consumers feel confident in their ability to access and purchase halal food, they are more likely to adopt it in their daily consumption. It is showing PBC as a major determinant (Ardiyanto et al., 2024; Wibowo et al., 2024; Puspita, 2023; Hasyim & Purnasari, 2021; Jannat & Islam, 2019; Ashraf, 2019; Elseidi, 2018; Rachbini, 2018; Asnawi et al., 2018; Mohd Suki & Abang Salleh, 2018; Pratiwi, 2018). Among all predictors, religiosity (RLG) has the strongest effect on halal food adoption ($\beta = 0.399$, $p = 0.000$). Empirical evidence from previous studies (Ardiyanto et al., 2024; Koraag et al., 2024; Rizkitysha & Hananto, 2022; Djunaidi et al., 2021; Vanany et al., 2020; Billah et al., 2020; Nurrachmi et al., 2020; Syukur & Nimsai, 2018; Asnawi et al., 2018) aligns with this conclusion, confirming religiosity as a key driver of halal consumption behavior across Muslim-majority contexts. Although a few studies (Zahra et al., 2023; Nurkhin et al., 2023; Garg & Joshi, 2018) reported contrasting findings, the dominance of supportive evidence suggests that religiosity is culturally embedded and context-dependent—particularly strong in societies where religious norms influence social and market behavior. This demonstrates that religious principles, beliefs, and levels of religious commitment significantly drive consumers to choose halal food products over alternatives. The findings indicate that individuals with higher levels of religious commitment are more inclined to adopt halal food products. This relationship highlights that religiosity serves not merely as a belief system but as a guiding principle shaping moral reasoning, ethical preferences, and behavioral motivation. Religiosity functions as a meta-construct that strengthens moral obligation, transforms intention into action, and links consumption choices to spiritual accountability. In this sense, the adoption of halal food is not just a matter of consumer preference—it is deeply tied to one's faith, moral values, and Islamic identity.

Overall, the results confirm that attitude, subjective norms, perceived behavioral control, and religiosity significantly contribute to the adoption of halal food, with religiosity being the most influential determinant. This indicates that consumers' decisions to adopt halal food are shaped not only by personal attitudes and social expectations but also, and strongly, by religious conviction.

Interpretation of Mediation Analysis

This study investigated the mediating role of religiosity in the relationships among attitude, subjective norm, perceived behavioral control, and the adoption of halal food. The results of the mediation analysis are detailed below.

Table 7: Mediation Effect

Hypothesized Path	Total Effect	Total Indirect Effect	Specific Indirect Effect	T Statistics	P Values	Mediation
H5: RLG -> ATT -> HFA	0.748	0.349	0.099	3.182	0.001	Partial mediation
H6: RLG-> SBN -> HFA	0.748	0.349	0.185	6.27	0.000	Partial mediation
H7: RLG ->PBC-> HFA	0.748	0.349	0.065	1.986	0.047	Partial mediation

Note: ** $p < 0.050$ (significant at 5% level); *** $p < 0.010$ (significant at 1% level).

The mediation results show that religiosity (RLG) has a significant total effect of 0.748 on halal food adoption (HFA), indicating that religiosity strongly influences consumers' halal consumption behavior. The total indirect effect through mediators is 0.349, indicating that the effect of religiosity is not only direct but also mediated by attitude, subjective norms, and perceived behavioral control. For H5, the indirect effect of religiosity on halal food adoption through attitude (ATT $\rightarrow$ HFA) is 0.099, which is statistically significant ($t = 3.182$, $p = 0.001$). This suggests that consumers with higher religiosity develop positive attitudes towards halal food, which subsequently increases their likelihood of adopting halal food. However, since religiosity still maintains a direct influence on halal food adoption, the attitude only partially mediates this relationship, supporting partial mediation. In H6, subjective norms (SBN) also significantly mediate the relationship between religiosity and halal food adoption, with a specific indirect effect of 0.185 ($t = 6.27$, $p = 0.000$). This indicates that religious individuals are influenced by social expectations, religious culture, and community behavior, which, in turn, motivate them to adopt halal practices. The presence of both direct and indirect effects confirms partial mediation, showing that religiosity affects halal adoption both directly and via social influence. For H7, perceived behavioral control (PBC) shows a weaker but significant mediation effect, with an indirect effect of 0.065 ($t = 1.986$, $p = 0.047$). This means that religiosity enhances consumers' perceived ability and confidence to access halal food, thereby increasing their adoption. Yet, since the direct effect remains significant, this relationship is also partially mediated. In summary, attitude, subjective norms, and perceived behavioral control all partially mediate the relationship between religiosity and halal food adoption. Among them, subjective norms provide the strongest mediating effect, indicating that religious consumers are particularly influenced by social and communal religious practices. This implies that enhancing religious awareness and promoting halal norms at the community level can strengthen adoption of halal food behaviors.

IMPLICATIONS OF THE STUDY

This study offers both theoretical and managerial implications. Theoretically, it extends the Theory of Planned Behavior (TPB) by integrating religiosity as an influential construct, demonstrating that halal food adoption is driven not only by attitude, subjective norms, and perceived behavioral control but also by faith-based motivation. The strong impact of religiosity and its partial mediation through TPB variables enhances understanding of how spiritual beliefs translate into halal consumption behavior, contributing new evidence from the Bangladeshi context to Islamic marketing literature. Managerially, the findings guide marketers and policymakers to develop strategies aligned with religious values. Promotions should highlight Islamic principles, involve religious leaders, and strengthen social influence through community-based campaigns. Ensuring availability, clear halal labeling, and certification can enhance consumer confidence, while educating consumers on safety and purity may foster positive attitudes. The study also encourages innovation in halal products, supporting the growth of the halal market in Bangladesh.

CONCLUSION AND FUTURE RESEARCH DIRECTION

This study explored the determinants of halal food adoption in Bangladesh using an extended Theory of Planned Behavior (TPB) model by incorporating religiosity as an additional construct. The findings confirmed that attitude, subjective norms, and perceived behavioral control significantly influence the adoption of halal food, thereby validating the relevance of TPB in the halal consumption context. Religiosity appeared as the strongest predictor, indicating that halal consumption is primarily driven by faith-based values alongside

behavioral and social factors. Mediation analysis showed that attitude, subjective norms, and perceived behavioral control partially mediate the relationship between religiosity and halal food adoption. These insights highlight that religious belief directly shapes consumer decisions and influences psychological and social determinants of behavior. Overall, the study contributes to the Islamic marketing literature and provides practical guidance for marketers, policymakers, and stakeholders in the halal industry.

Despite its valuable contributions, this study offers opportunities for further investigation. Future research should incorporate a larger and geographically diverse sample across different regions of Bangladesh to improve the external validity and generalizability of the results. Additional variables, such as halal awareness, trust, perceived risk, certification credibility, and advertising influence, could be incorporated to strengthen the model. Comparative studies between Muslim-majority and minority populations, or between food and non-food halal sectors such as cosmetics and pharmaceuticals, may broaden understanding of halal consumption behavior. Longitudinal research can also track changes in consumer attitudes over time. Future scholars may employ qualitative methods to gain deeper insights into the religious motivations and cultural dynamics that influence halal choices.

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