



Factors affecting the level of halal knowledge of MSEs in food on the island of Bali

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ABSTRACT

Bali Island is one of the most popular tourist destinations in the world and with the growing preference for the location, especially among Muslim tourists, the demand for halal food has increased. However, due to the predominantly Hindu population in Bali, the availability of halal-certified food remains limited. This study aims to identify the characteristics and examine the level of halal knowledge among food Micro and Small Enterprise (MSE) actors in Bali. It also aims to analyze the factors influencing the halal knowledge of the actors. In order to achieve the stated objectives, the study adopted descriptive analysis and multiple linear regression as its analytical methods. The obtained results showed that the entire level of halal knowledge among food MSE actors in Bali was satisfactory. Additionally, the results also signified that factors such as education level, access to information, and religious awareness were found to significantly and positively influence the level of halal knowledge possessed by the actors.

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1 Introduction

The Ministry of Tourism and Creative Economy (Kemenparekraf 2015) reported that 13 provinces in Indonesia were recognized as Muslim-friendly tourist destinations, and Bali was categorized as one of these destinations. Accordingly, in 2023, Bali ranked second in the world as the most popular destination in the Travelers' Choice Award for Destinations by Tripadvisor (2023). Based on observation, the island is a favorite destination not only for international tourists but also for domestic visitors and despite its predominantly Hindu population, the destination is highly preferred because of its natural and cultural beauty.

The tourism sector is strongly associated with halal foods, as tourists typically allocate around 30.2% of respective total expenses to meet daily dietary needs during travels (Kemenparekraf 2017). This observation was further supported by the data obtained from the Bali Provincial Department of Tourism (Dispar 2022), where it was documented that individual tourist typically spends approximately IDR 550,000 per day. For Muslim tourists, who are a minority in Bali, fulfilling the consumption needs of the demographic according to halal standards is a particular concern, as emphasized in QS. Al-Baqarah:168.

"O mankind, eat from whatever is on earth [that is] lawful and good, and do not follow the footsteps of Satan. Indeed, he is to you a clear enemy."

In order to cater to the needs of Muslim tourists, the government established the Halal Product Assurance Organizing Body (BPJPH) to ensure the halal status of products, including foods, as stipulated in Law Number 33 of 2014 (UU 2014) concerning Halal Product Assurance. This law mandates that all products entering, circulating, and trading within Indonesia must be halal-certified. According to Government Regulation Number 39 of 2021 (PP 2021) regarding the implementation of halal product assurance, the obligation of halal certification for food products is being phased in, with a deadline of October 17, 2024. After this date, businesses that fail to comply with the certification requirements will face penalties, such as written warnings, administrative fines, or the removal of uncertified products from circulation.

As documented in the data from Bali MSME (Diskop UKM 2022), 249,585 micro and small-scale businesses are in existence within the trade sector of the location. However, only 312 of these businesses have obtained

halal certification (Kemenag 2022). This shortfall has been observed to be primarily due to limited access to information and education on the importance of halal certification, as well as cost concerns (Istianah & Dewi 2022).

In Bali, several eateries include the word 'Muslim,' to refer to cities or districts with predominantly Muslim populations, or display halal labels in respective business names (Perguna *et al.* 2021). However, it is important to comprehend that many of these halal labels were not officially issued by LPPOM-MUI or BPJPH, and this leads to difficulty in verifying the halal status of foods being consumed, especially by Muslim tourists. As stated by Baharuddin *et al.* (2015), a lack of knowledge and awareness about halal concepts among business owners can diminish the concern for ensuring halal compliance within the business.

To further support the observation (Equation 1), Adiba & Wulandari (2018) stated that individuals with knowledge about halal products were more probable to show halal-compliant behavior since knowledge can influence the behavior and attitudes of individuals (Saleh 2018).

$$\text{Intention} + \text{Knowledge} + \text{Attitude} = \text{Behavior} \quad \dots\dots\dots (1)$$

Bloom *et al.* (1956) introduced the theory of "Bloom's Taxonomy," also known as the Educational Taxonomy Triangle. This framework aims to guide the transformation of behavior, from ignorance to knowledge, unwillingness to willingness, and inaction to action (Budiman & Riyanto 2013). Typically, behavior is categorized into three domains namely cognitive (knowledge), affective (attitude), and psychomotor (behavioral). As stated in a previous study, knowledge plays an important role in shaping behavior, as it enables individuals to think critically, assess current situations, and determine future actions. Each level of this framework is interconnected, with mastery of lower levels being necessary to achieve the higher levels (Lafendry 2023).

This shows that business actors with sufficient knowledge are more probable to pursue halal certification with the aim of meeting the needs of Muslim tourists visiting Bali and complying with the halal certification regulations effective October 17, 2024. Based on this explanation, it is essential for all business actors to possess the knowledge and awareness needed to ensure the halal integrity of respective products, in accordance with the Halal Product Assurance System (SJPH).

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Therefore, this study aims to identify the characteristics and level of halal knowledge among MSE actors in Bali, as well as the factors influencing this knowledge. The study respondents include MSE actors who sell halal food, either already certified or in the process of obtaining halal certification.

2 Methodology

The present study was conducted in Bali from June to July 2023, using both primary and secondary data. Primary data was gathered directly from food 100 MSE actors in the study area through questionnaires, while secondary data was obtained from literature reviews, including books, journals, and other relevant sources that support the subject matter. Accordingly, the investigation adopted a non-probability sampling method, specifically incidental sampling, where respondents were selected based on certain predetermined criteria.

The analysis methods applied include descriptive analysis and multiple linear regression. Descriptive analysis was used to examine the level of halal knowledge and the characteristics of respondents, with a specific focus on factors such as domicile, age, religion, gender, marital status, and education level. It was also used to explore business characteristics, such as length of operation, business location status, working capital, annual sales, number of employees, and possession of halal certification. The assessment of halal knowledge was based on 15 multiple-choice questions referencing the criteria of the Halal Product Assurance System (SJPH). The obtained scores were evaluated as a percentage, which was calculated by comparing the scores of the respondents to the maximum possible score. Meanwhile, multiple linear regression analysis was used to estimate the impact of the independent variables on the dependent variable. Data from the questionnaires were analyzed and processed using Microsoft Excel and the Statistical Package for Social Science (SPSS) version 26.

The present study was carried out using multiple linear regression, which comprised one dependent variable and two or more independent variables (Arifin 2017). This analytical method was adopted to estimate the magnitude of the influence that the independent variables exert on the dependent variable. The regression equation utilized in this regard is shown in Equation 2.

$$Y = a + b_1D_1 + b_2D_2 + b_3X_1 + b_4X_2 + b_5X_3 + b_6X_4 + e_i \quad (2)$$

where:

- Y : Halal knowledge level,
- D_1 : Age,
- D_2 : Education level,
- X_1 : Information availability,
- X_2 : Residential environment,
- X_3 : Religious consciousness,
- X_4 : Government support,
- Y : Constanta,
- Y : Regression coefficient,
- Y : Standard error,

3 Result

3.1 Characteristics Respondent

The individual characteristics of the study respondents were divided into several categories, including domicile, age, gender, marital status, religion, and latest education, as shown in Table 1.

In terms of domicile, the majority of the respondents (30 individuals) signified being from Buleleng Regency. Regarding age, 44 participants fell within the 28-42 age range while gender distribution showed that there were 21 male and 79 female respondents. As for marital status, 87% of the respondents were married, while the remaining 13% were single.

3.2 Religion-Wise

The respondents were divided into two groups namely Muslims and non-Muslims. The majority, comprising 87 respondents, were Muslims, while 13 were non-Muslims. Regarding educational background, 47 of the respondents were high school graduates or held equivalent qualifications, while only 2 had no formal schooling.

3.3 Business Characteristics of Respondents

The business characteristics of the observed respondents include business scale, length of operation, business location status, business capital, annual sales revenue, number of employees, and possession of halal certification.

Table 1: Respondent characteristics

Characteristics	Category	Percentage (%)
Domicile	Jembrana	7
	Tabanan	16
	Badung	8
	Gianyar	6
	Klungkung	5
	Bangli	5
	Karangasem	3
	Buleleng	30
	Denpasar city	20
	Age (years)	17 – 27
	28 – 42	44
	43 – 60	30
	> 60	2
Gender	Man	21
	Woman	79
Marital status	Married	87
	Single	13
Religion	Islam	87
	Nonmuslim	13
Education level	Elementary school	17
	Junior high school	18
	Senior high school	47
	Diploma	5
	Bachelor	11
	No School	2

Source: Primary data (2023)

Table 2: Business characteristics of respondents

Characteristics	Category	Percentage (%)
Business scale	Micro	100
	Small	0
Length of business (years)	< 5	46
	5 - 10	26
	11 - 15	13
	16 - 20	4
	21 - 25	9
	> 25	2
Business place status	Own	33
	Rent	67
Business capital (million rupiah)	< 10	69
	10 – 20	16
	> 20 – 30	7
	> 30 – 40	5
	> 40	3
Annual sales results (million rupiah)	< 100	88
	100 – 200	11
	> 200 – 300	1
	> 300 – 400	1
	> 400	1
Number of employees (people)	0	61
	1	14
	2	13
	3	10
	≥ 4	2
Halal certification	Not yet	77
	In progress	15
	Already	8

Source: Primary data (2023)

Concerning business scale, all respondents (100%) signified to be micro-scale business operators. The length of business operation was predominantly less than 5 years, accounting for 46% of respondents, while the smallest group, 2%, had been in business for more than 25 years. In terms of business location status, 33 respondents owned respective business premises, while 67 operated in leased spaces.

Regarding working capital, 69% reported working capital of less than 10 million rupiahs, and the annual sales results ranged from less than 100 million rupiahs to 400 million rupiahs, with 88% of respondents reporting annual sales of under 100 million rupiahs. Following this, 61% of respondents stated not having any employees, and 77% of the businesses had not yet obtained halal certification.

3.4 The Level of Halal Knowledge of Food MSE Actors on the Island of Bali

The Level of Halal Knowledge of Food MSE Actors on the Island of Bali Figure 1 shows that 99% of business actors correctly answered question Y1.1. This signified that nearly all respondents understood the definition of "Halal products" as products declared halal in accordance with Islamic law. Additionally, 77% of respondents answered question Y1.2 correctly, implying these business actors recognized that "Products processed in the right way can change from haram to halal." For instance, gelatin, typically considered haram if sourced from pigs, can become halal if derived from halal-certified cattle and processed according to Islamic guidelines. Similarly, while alcohol is haram, it can be transformed into vinegar through fermentation, which removes its intoxicating properties, making the product halal.

For question Y1.3, which stated that "The resulting product must not contain names, shapes, or characteristics that lead to haram products,"

70% of respondents answered correctly. Concerning questions Y1.4 and Y1.5, which pertained to the names of food products that meet the Halal Product Assurance System (SJPH) criteria, 95% and 97% of respondents, respectively, provided correct answers.

All respondents (100%) correctly answered question Y1.6, which addressed the consequences of mixing halal ingredients with haram substances. Based on the obtained answers, the actors widely understood that if halal ingredients are contaminated with haram substances, the entire product becomes haram. Regarding questions Y1.7 and Y1.8, which focused on identifying doubtful materials and certain halal ingredients, 89% and 63% of respondents, respectively, provided correct answers. However, question Y1.9, which dealt with the definition of the Halal Product Process (PPH), was the most challenging, with only 39% of respondents answering it correctly. Concerning Y1.10, a question crafted to address the fact that animals slaughtered by non-Muslims are considered haram, 90% of respondents provided correct answers.

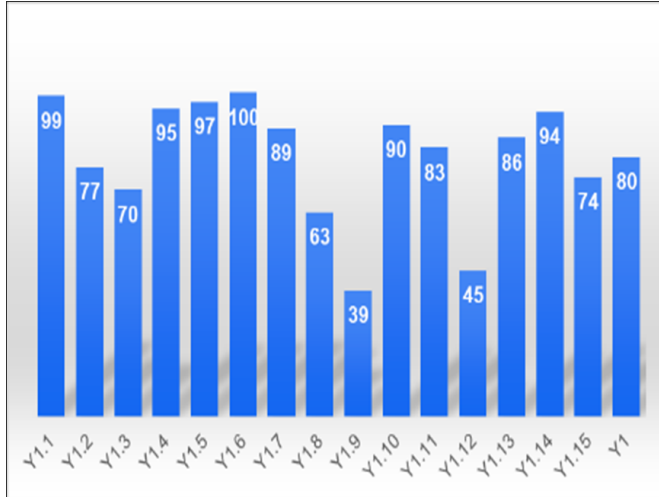


Figure 1: Level of halal knowledge; source: primary data (2023)

In response to question Y1.11, 83% of respondents were aware that halal and non-halal processing facilities cannot be used simultaneously. However, for question Y1.12, only 45 respondents answered correctly, with the remaining 55 holding on to the belief that facilities contaminated by major impurities, such as those derived from dogs and pigs, could be used to process halal products. Based on the answers obtained for question Y1.13, 86% of respondents understood that production facilities and equipment must be thoroughly cleaned and free from impurities before and after use, while for question Y1.14, 94% answered correctly, signifying dominant awareness about the unclean nature of food products mixed with haram or unclean ingredients for Muslims. Finally, question Y1.15 signified 74 respondents who understood that the Halal Product Process (PPH), in line with the Halal Product Assurance System (SJPH), must adhere to Islamic law.

The level of halal knowledge was assessed by calculating the percentage of the average score obtained by respondents compared to the maximum possible score (Equation 3).

$$Y_1 = \frac{\text{Average score obtained by respondents}}{\text{Maximum total score}} \times 100\% = \frac{12}{15} \times 100\% = 80\% \quad (3)$$

Based on the calculation results, an average score of 80% was obtained, as shown in Figure 1. This shows that the food MSE actors on the island of Bali possessed a generally good level of halal knowledge. The finding in this regard is in with Arikunto (2013), who classified knowledge levels as "good" when the levels fall within the 76%-100% range.

4 Discussion

Multiple linear regression analysis was conducted to examine the factors that are believed to influence the level of halal knowledge among food MSE actors on the island of Bali. The analysis considered several independent variables, including age, recent education, availability of information, living environment, religious awareness, and government support.

4.1 Coefficient of Determination

The data processing results showed that the R-squared value was 0.464 (Table 3), implying the independent variables accounted for 46.4% of the variation in the dependent variable. The remaining portion is attributed to other unmeasured factors or errors not captured in this study.

4.2 F-test

Table 4 presents the results of the F-test, which yielded a significance (Sig.) value of less than 0.05, specifically 0.000. This shows

that the variables of age, recent education, availability of information, living environment, religious awareness, and government support had a significant simultaneous effect on the level of halal knowledge among food MSE actors on the island of Bali.

Table 3: Coefficient determination results of data

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.681	0.464	0.429	1.459

Source: Primary data (2023)

Table 4: F-test of data

Model	Sum of squares	df	Mean square	F	Sig.
Regression	171.039	6	28.507	13.393	0.000
Residual	197.951	93	2.129		
Total	368.990	99			

Source: Primary data (2023)

4.3 T-test

As presented in Table 5, the variables of education, availability of information, and religious awareness all exhibited significance values of less than 0.05, implying that these variables positively and significantly affected the level of halal knowledge. However, the variables of age, living environment, and government support were observed to not significantly influence the level of halal knowledge.

Table 5: T-test of data

Variable	Unstandardized coefficients (B)	Std. error	t	Sig.
D1	-0.096	0.191	-1.244	0.217
D2	0.213	0.116	2.746	0.007**
X1	0.273	0.131	2.685	0.009**
X2	0.090	0.070	0.897	0.372
X3	0.307	0.122	2.986	0.004**
X4	0.079	0.069	0.804	0.423

Source: Primary data (2023), ** significant at the level of 5%

Specifically, the level of education had a significant positive impact on halal knowledge, as evidenced by a significance value of 0.007, which is less than 0.05. The regression coefficient for the education level variable was 0.213, suggesting that for every one-unit increase in the level of education, the halal knowledge of food MSE actors on the island of Bali is expected to increase by 0.213 times, provided other factors are constant (*ceteris paribus*). These findings are in correspondence with those of Meilany & Susilo (2020), who stated that the level of education obtained by an individual significantly affects the knowledge of the individual. Higher levels of formal education often help individuals to be more proactive in seeking information about halal practices, leading to increased knowledge.

The variable of information availability was observed to significantly and positively influence the level of halal knowledge. This is reflected by a significance value of 0.009, which is less than 0.05, along with a regression coefficient of 0.273. These findings show that for every one-unit increase in the availability of information, the halal knowledge of food MSE actors on the island of Bali is expected to increase by 0.273 times, holding other factors constant (*ceteris paribus*). Accordingly, the finding supports the assertion by Yusmaili et al. (2022) that a significant relationship exists between the availability of information and the knowledge of an individual.

Following information availability, the variable of religious awareness also had a significant positive influence on halal knowledge, as evidenced by a significance value of 0.004, which is below the 0.05 threshold. The regression coefficient for religious awareness was 0.307, suggesting that an increase of one unit in religious awareness leads to a 0.307 times increase in the halal knowledge of food MSE actors, provided other factors are constant (*ceteris paribus*). These results are in line with the study by Ambali & Bakar (2014), who elucidated that religious awareness played a significant role in enhancing the understanding of an individual concerning halal.

5 Conclusion

In conclusion, the results obtained from this study showed that the characteristics of respondents predominantly included individuals residing in Buleleng Regency, aged between 28 and 42 years, primarily female, married, Muslim, and with the highest educational attainment of high school. In terms of business characteristics, the majority of the respondents represented micro-scale enterprises that have been established for less than five years, operate from rental locations, have working capital of less than Rp10,000,000, generate annual sales below Rp100,000,000, have no employees, and lack halal certification.

Based on the observations made, the level of halal knowledge among food MSE actors on the island of Bali was considered good. The analysis shows that the major factors responsible for influencing the level of halal knowledge among respondents included education level, availability of information, and religious awareness.

To enhance halal knowledge among MSE actors, the government is encouraged to expand the availability of information regarding halal food through training and socialization efforts. This information can also be presented by religious counselors during community activities. Furthermore, it was recommended that educational and socialization initiatives about halal should not only target Muslim business actors but also reach out to non-Muslim counterparts through different mediums, including the incorporation of the concept of halal into educational curricula, as this could further promote awareness and understanding.

Regarding MSE actors, it is important to apply respective knowledge of halal by ensuring that the food being produced and sold adheres to halal standards. Moreover, it is essential that the actors pursue halal certification promptly, as the obligations for halal certification will be enforced starting October 17, 2024. MSE actors who meet the criteria for the Free Halal Certification (SEHATI) program are expected to take full advantage of the opportunity.

For future studies, it is recommended to focus on studying food MSEs located in districts or tourist attractions frequently visited by Muslim tourists or to examine businesses that have already obtained halal certification. Additionally, further investigations should consider exploring other relevant variables that were not included in this study. It is also important to establish that adopting different sampling methods, and analytical techniques, or conducting studies in other geographical areas could yield more comprehensive insights into the halal certification process and its impact on SMEs.

Conflict of Interest

The authors declare no conflict of interest.

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