JURNAL ILMIAH TEKNIK INDUSTRI

ISSN: 1412-6869 e-ISSN: 2460-4038 Journal homepage: http://journals.ums.ac.id/index.php/jiti/index doi:10.23917/jiti.v18i2.7242

Impact of Halal Certification on The Performance of Food Small Medium Enterprises

Ida Giyanti^{1a}, Erna Indriastiningsih^{2b}

Abstract. The purpose of this paper is to analyze the impact of halal certification on the performance of food small-medium enterprises (SMEs). Specifically, this research aims to prove empirically whether there are significant differences in (1) profit margin of SMEs before and after obtaining a halal certificate; (2) profit margin between halal certified and non-certified SMEs; and (3) operational performance between halal certified and non-certified SMEs. Operational performance measures used in this study include production capacity, product quality, sales, net profit, amount of customers, customers' loyalty, and market share. A survey was conducted in 85 food SMEs in Surakarta city. Administered questionnaires were used to collect primary data from SMEs' managers. The differences regarding profit margin were analyzed using paired sample t-test and independent sample t-test. We determined the operational performance differences through non-parametric tests, namely the Mann Whitney U-test. Results based on objective data showed that there was no significant difference in the profit margin of SMEs before and after obtaining a halal certificate as well as between halal certified and non-certified SMEs. Results based on mean rank differences of subjective data of performance using the Mann Whitney U test showed that there were significant differences concerning all performance measures between halal certified and non-certified SMEs.

Keywords: food product, halal certification, performance, small-medium enterprise (SME)

I. INTRODUCTION

Halal is a fundamental thing for every Muslim in consuming a product, especially food products. The concern of Indonesian Muslim consumers for the halalness of products has emerged for a long time. The government also realized this by establishing the Assessment Institute for Foods, Drugs, and Cosmetics-Indonesian Council of Ulama (which referred to Bahasa Indonesia as LPPOM-MUI) in 1989. Even the halal aspect is not only a concern for Muslim consumers. Non-Muslim consumers in Malaysia also pay attention to the halal status of the (Aziz & Chok, 2013; Golnaz et al., 2010; Hague et al., 2015; Mathew et al., 2014; Ismail & Nasiruddin, 2014; Wibowo & Ahmad, 2016). The halal status made the world halal industry currently experience a very

¹ Industrial Engineering Department, Universitas Setia Budi, Jalan Letjend Sutoyo Mojosongo, Jebres, Surakarta, 57127

a email: idagiyanti@setiabudi.ac.idb email: ernaindriasti@yahoo.com

Submitted: 12-11-2018 Revised: 26-10-2019

Accepted: 17-11-2019

significant increase.

The Global State of Islamic Economic noted that the projected demand for halal products from 2013-2019 experienced a growth rate of 9.5% where the need for halal products in 2013 was US\$ 2 Trillion and expected to reach US\$ 3.7 Trillion in 2019. Specifically, for the food sector, Hexa Research examines that in 2024, the global halal food market is projected to reach US\$ 2.55 Trillion. The enormous potential of halal food products market provides opportunities for SMEs, where in Indonesia, food production is still dominated by However, these opportunities have not been maximized by SMEs because it was found that many SME entrepreneurs tend to be indifferent to the halal status of the food products they produced. The opportunities are evidenced by a low level of halal certification for food products produced by SMEs. In Central Java, there are approximately 5.1 million Micro, Small, and Medium Enterprises (MSMEs) registered in the Provincial Cooperatives and MSMEs Office. Still, only around 0.01% or 494 MSMEs have managed halal certification for their products (Giyanti & Indriastiningsih, 2018).

Meanwhile, in the city of Surakarta, the percentage of halal-certified SMEs (both those whose halal status is still valid and those that are

² Industrial Engineering Department, Universitas Sahid Surakarta, Jalan Adi Sucipto, Jajar, Laweyan, Surakarta, 57144

already expired) is around 3.92%. Entrepreneurs assume that the food products they produce are already using safe and halal composition or ingredients so that they no longer need to administer halal certification. On one side, halal certification of products shows the compliance level of producers with Islamic rules. On another hand of the consumers' view, halal-certified products are considered to have fulfilled the aspects of cleanliness, hygiene, and quality assurance (Yusuf et al., 2016). Furthermore, there was a positive correlation between halal certification and business growth in which halal certification could be used as a means to gain trust from consumers and expand market share, which would ultimately improve company performance (Yusuf et al., 2016).

Halal certification is also related to the improvement of company performance, as proven by previous studies, as explained below. Halalcertified pharmaceutical product manufacturers were able to expand the market to China, India, Turkey, Sri Lanka, Canada, the United Arab Emirates, Brunei, and Indonesia (Bustamam, 2010). Exports of halal food products from Singapore to the United Arab Emirates increased 67% per year (Machfud et al., 2011). Frozen food producers in Malaysia could expand the market to 100% after obtaining halal certificates (Liow, 2012). Mohamed et al. (2014) have researched the impact of halal certification on the financial performance of large companies listed on Bursa Malaysia in the period 2003 to 2012. The results of the study of Mohamed et al. (2014) were halal certification positively correlated to performance improvement of corporate finance. Also, the implementation of standards can improve company performance, both operational performance and financial performance (Ab Talib et al., 2017).

Based on literature reviews, it can be seen that research on the impact of halal certification has been primarily carried out in Malaysia. Unfortunately, similar research has never been conducted in Indonesia. In Indonesia, research on halal certification from the perspective of SME producers is still very limited. Halal industry research topics from the perspective of SME producers focus more on identifying the driving

and hindering factors of SMEs from complying with halal certification standards (Prabowo et al., 2015; Viverita et al., 2017).

To fill the gap in the research literature mentioned above, this study aims to analyze the impact of halal certification on the performance of small-medium enterprises (SMEs). Specifically, this research aims to prove empirically whether: 1) there is significant difference in profit margin of SMEs before and after obtaining halal certificate (H₁); 2) there is significant difference in profit margin between halal certified and non-certified SMEs (H₂); 3) there is significant difference in operational performance between halal certified and non-certified SMEs (H₃). The results of this study are expected to provide empirical evidence of the impact of halal certification on SME's performance so that it can provide additional confidence for producers in providing better quality assurance through halal certification. This research becomes the first attempt to examine the performance of SMEs about halal certification standards. Other previous research regarding the impact of standard implementation on company performance has been conducted by Rahman (2001), Heras et al. (2002), Bayati and Taghavi (2007), Goedhuys and Sleuwaegen (2013), and Psomas and Kafetzopoulos (2014), but they are mainly focused on the implementation of Total Quality Management (TQM) and ISO standard. Besides, the object of the previous studies did not focus on SMEs. Therefore, this study provides new information in the emerging context of halal certification in affecting performance mainly for SMEs.

II. RESEARCH METHOD

Survey Instrument

This research used secondary and primary data. Secondary data, including lists of food SMEs and their profiles, were obtained from Cooperatives and SMEs Office of Surakarta city. Secondary data regarding halal certification status were derived from the LPPOM-MUI Office of Central Java Province. Primary data were collected by field survey to food SMEs using structured questionnaires. The questionnaire consists of four

parts, namely (i) the identity of the respondent, (ii) the profile of the SME, (iii) the quantitative measure of monthly sales and gross profit, and (iv) the subjective assessment of the SME managers regarding the operational performance of SMEs over the past three years. Question items in the respondent's identity section and SME profile use multiple choices. Question items for quantitative measures of monthly sales and gross profit use open answers.

Meanwhile, the question items in the operational performance appraisal section are assessed on a Likert scale ranging from "1" to "5". Scale "1" is given if the respondent assesses the performance over the past three years has experienced a very significant decline. While the scale of "5" is given if the respondent assesses that the performance of SMEs over the past three years has experienced a significant increase. Operational performance measures were taken from the measurement items used in the study of Ab Talib et al. (2017), including production capacity, product quality, sales, net profit, number of consumers, consumer loyalty, and market share. The reason for using measurement items of Ab Talib et al. (2017) was just simply in which those items have been validated.

Data Collection

The research object is food SMEs registered in Cooperatives and SMEs Office of Surakarta city. which had received halal certification as well as those who had not received halal certification from LPPOM-MUI for their products. The sampling technique used was purposive sampling. The criteria of the respondent are the principal owner or manager of the food and beverage SME producers. The questionnaire was distributed to SMEs in all five sub-districts in the Surakarta city area to obtain a representative sample. To increase the response rate of respondents and the utility level of the questionnaire, data collection was conducted on the spot where surveyors visited respondents and confirmed the willingness of respondents to participate in the research survey.

Data Analysis

Data analysis was carried out using a

quantitative approach with descriptive statistical tools and hypothesis testing. Descriptive statistics were used to provide an overview of respondents' profiles, SMEs profiles, and to describe descriptive data of SME's performance. While hypothesis testing was used to prove statistically, the hypothesis proposed in the study. The first and second hypotheses regard to profit margin, in which profit margin uses ratio scale. For hypothesis testing, the data firstly must be checked whether they meet the normal distribution assumption. If the data is normally distributed, then hypothesis testing can be conducted using a parametric test of paired sample t-test and independent sample ttest. A paired sample t-test is suitable to test H₁. While independent sample t-test is appropriate to test H₂. Otherwise, hypothesis testing must be performed using a non-parametric test approach. Whereas for subjective assessments of operational performance, since the data are given in an ordinal scale, hypothesis tests of H₃ were performed using the Mann-Whitney U Test.

III. RESULT AND DISCUSSION

Profiles of Respondents and SMEs

Table 1 present the profiles of SMEs participating in this research.

Performance Comparison

The descriptive statistics of the profit margin for the paired sample and the two-group sample are shown in Table 2. The output from the Kolmogorov-Smirnov normality test resulted that the significance value exceeds the significance level $\alpha = 0.05$. Therefore, it can be concluded that the distribution of profit margin data was not different from the normal distribution. As a result, for further analysis of mean difference, paired sample t-test and independent-sample t-test were considered appropriate to test H₁ and H₂, respectively. The significance value of a matched sample and independent-sample t-test is 0,920 and 0,903, respectively. Since the significance value of both types of the t-test is higher than the significance level $\alpha = 0.05$, the conclusion is there was no significant difference in the profit margin of SMEs before and after obtaining a halal

Table 1. Profile of SMEs

	Indicator	Number	Percentage	
Business age	< 3 years	1	1,18%	
	3-5 years	16	18,82%	
	6-10 years	33	38,82%	
	11-15 years	17	20,00%	
	16-20 years	6	7,06%	
	> 20 years	12	14,12%	
Capital source	Private	77	90,59%	
	Cooperation	1	1,18%	
	Loan/ Credit	7	8,24%	
Halal status	Yes	11	12,94%	
	No	74	87,06%	
Certification	Independent	4	36,36%	
obtainment	Support from other	7	63,64%	
	parties			

Table 2. Descriptive statistics of profit margin

		Mean	Median	Std. Deviasi	Min	Max
Paired sample	Before	0,328	0,290	0,141	0,200	0,630
	After	0,332	0,300	0,102	0,200	0,500
Independent	Non-Certified SMEs	0,339	0,305	0,176	0,020	0,800
sample	Certified SMEs	0,332	0,300	0,102	0,200	0,500

Table 3. Descriptive statistics of operational performance

Performance Measure	Non-certified SMEs				Certified SMEs					
	Mean	Median	Std. Deviasi	Min	Max	Mean	Median	Std. Deviasi	Min	Max
Production Capacity	3,216	3,000	0,688	1,000	5,000	3,727	4,000	0,467	3,000	4,000
Product Quality	3,189	3,000	0,428	3,000	5,000	3,546	3,000	0,688	3,000	5,000
Sales	3,324	3,000	0,742	1,000	5,000	3,909	4,000	0,539	3,000	5,000
Net Profit	3,203	3,000	0,721	1,000	4,000	3,818	4,000	0,405	3,000	4,000
Number of Customer	3,311	3,000	0,720	1,000	5,000	3,909	4,000	0,539	3,000	5,000
Customer Loyalty	3,270	3,000	0,626	1,000	5,000	3,909	4,000	0,539	3,000	5,000
Market Share	3,257	3,000	0,684	1,000	5,000	3,909	4,000	0,539	3,000	5,000

certificate as well as between halal certified and non-certified SMEs.

Results from the data analysis of subjective performance assessment are depicted in Table 3, Table 4, and Table 5. Based on Table 3, it is known that the average results of the subjective evaluation of the performance of halal-certified SMEs are higher than the performance of noncertified SMEs. To analyze more deeply whether these differences differ significantly, the Mann-Whitney U test was employed. Table 4 shows the

mean rank comparisons between halal-certified SMEs and non-certified SMEs. In accordance with the results of descriptive statistics shown in Table 3, the mean rank for halal-certified SMEs is higher than the mean rank for non-certified SMEs. Mann-Whitney U statistical test results shown in Table 5 show that all performance measures have a significance value lesser than 0,05. Therefore, it can be concluded that there were significant differences concerning all performance measures between halal-certified and non-certified SMEs.

Table 4. Ranks comp	arison of	operational	performance
---------------------	-----------	-------------	-------------

	Halal Status	N	Mean Rank	Sum of Ranks
Production Capacity	Non-Certified	74	40,68	3010,00
	Certified	11	58,64	645,00
Product Quality	Non-Certified	74	41,41	3064,50
	Certified	11	53,68	590,50
Sales	Non-Certified	74	40,61	3005,00
	Certified	11	59,09	650,00
Net Profit	Non-Certified	74	40,36	2986,50
	Certified	11	60,77	668,50
Number of Customers	Non-Certified	74	40,49	2996,00
	Certified	11	59,91	659,00
Customer Loyalty	Non-Certified	74	40,07	2965,00
	Certified	11	62,73	690,00
Market Share	Non-Certified	74	40,10	2967,50
	Certified	11	62,50	687,50

Table 5. Test statistics output of Mann-Whitney U

	Production Capacity	Product Quality	Sales	Net Profit	Number of Customer	Customer Loyalty	Market Share
Mann-Whitney U	235,000	289,500	230,000	211,500	221,000	190,000	192,500
Wilcoxon W	3010,000	3064,500	3005,000	2986,500	2996,000	2965,000	2967,500
Z	-2,514	-2,168	-2,537	-2,804	-2,680	-3,284	-3,187
Asymp. Sig. (2-tailed)	0,012	0,030	0,011	0,005	0,007	0,001	0,001

Discussion

This study has three research questions whether there are significant differences in (1) profit margin of SMEs before and after obtaining a halal certificate; (2) profit margin between halalcertified and non-certified SMEs: and (3) operational performance between halal-certified and non-certified SMEs. Regarding profit margin, study results showed that the profit margin of SMEs before and after obtaining a halal certificate as well as between halal certified and non-certified SMEs are the same. These results are in contrast with the study conducted by Mohamed et al. (2014). In their research, Mohamed et al. (2014) use financial data of large companies listed in the Malaysia Stock Exchange in the period from 2003 until 2012. Whereas in this study, we only use the data of average monthly sales and gross profit of SMEs in recent years since the historical data of SME's financial record are difficult to trace. Besides, halal certificates were mostly obtained after 2016. Although some SMEs got their first halal certificate before 2016, right now their certificate is expired or no longer valid because the SMEs' managers did not extend the period of the halal certification due to its high cost and complicated procedure as perceived by most SMEs' managers. Since the data of profit margin are only available for a short period, the effect of the halal certification is not yet visible, resulting in unsupported for hypotheses of better profit margin after certification as well as of better profit margin for halal-certified SMEs compared to noncertified SMEs.

In addition to data of profit margin, we urged the SMEs' managers to give their subjective assessment regarding operational performance over the past three years. Operational performance measures were derived from the work of Ab Talib et al. (2017), including production capacity,

product quality, sales, net profit, number of consumers, consumer loyalty, and market share. The results showed that there were significant differences concerning all performance measures between halal-certified and non-certified SMEs. These results confirm the previous research performed by Ab Talib et al. (2017) regarding the positive influence of halal certification on SME's operational performance. In advance, Ab Talib et al. (2017) found that better operational performance led to better financial performance. In this study, the positive correlation between operational performance and financial performance is not yet proven. Regarding consumer loyalty, these research results support the previous research that has been carried out by Yusuf et al. (2016) in which halal certification could be used as a means to gain trust from consumers so that in a long time, they will be loyal consumers. Furthermore. these research results strengthen the research conducted by Liow (2012) and Yusuf et al. (2016). In their research, they found that halal certification could lead to market expansion.

Limitations and Future Research Areas

As with other empirical studies, this research also has weaknesses. The first weakness is related to research samples that are only limited to SMEs, the relatively small number of samples, and coverage of the sample area, which only covers the city of Surakarta. Further research can replicate this research using a larger sample and broader geographical area coverage so that the result can be generalized. Other studies in the future can use large corporates as a sample and then compare them with SMEs so that they can find out more details of the character differences between large companies and SMEs in relation to halal certification. The second weakness is related to the contrast in the number of sub-samples between halal-certified SMEs and SMEs without halal certificates. This weakness is caused by the percentage of halal-certified SMEs that are still very low compared to non-certified SMEs. The three weakness is related to the subjectivity of respondents in assessing the performance of SMEs. Performance data in this study uses

subjective data because most SMEs do not have proper administration related to their daily production processes. This subjectivity can result in a biased response that affects the conclusion of the hypothesis test. Subsequent research can use a more objective performance measure based on historical data held by each SME.

its weaknesses, Besides this research theoretically contributes and practically. Theoretically, this research becomes the first attempt in comparing the performance of SMEs with regard to halal certification standards. Practically, this study provides empirical evidence that, based on the perceptive assessment from SMEs' managers, the performance of halalcertified SMEs is better than of non-certified SMEs. This empirical evidence is expected to provide additional confidence and motivation for SMEs' managers to be able to comply with halal certification standards in order to improve the performance of SMEs.

IV. CONCLUSION

This study aims to analyze the impact of halal certification on the performance of food smallmedium enterprises (SMEs). For the profit margin performance based on quantitative data, the study found that there was no significant difference in the profit margin of SMEs before and after obtaining a halal certificate as well as between halal certified and non-certified SMEs. However, when the respondents are requested to assess their perceived operational performance over the past three years, the results show that halalcertified SMEs have better performance on all performance measures, including production capacity, product quality, sales, net profit, consumer number, consumer loyalty, and market share.

The results of this study provide practical implications for both SME managers and SME development agencies. For SME managers, empirical evidence obtained from this research can be a motivator to seek halal certification for their products in order to improve the performance of SMEs. For SME development agencies, the results of this study strengthen the importance of halal

certification for SME products so that SME products are able to compete not only in the domestic market but also able to penetrate the international market. Therefore, SME development agencies must provide various incentive programs for SMEs in pursuing halal certification on their products so that SMEs get the additional motivation to be able to pursue halal certification.

ACKNOWLEDGMENT

This research was supported by the Ministry of Research, Technology, and Higher Education in the research scheme of Penelitian Dosen Pemula (Contract No. 003/LPPM-USB/PDP/III/2018).

REFERENCES

- Ab Talib, M.S., Chin, T.A., Fischer, J. (2017). Linking Halal food certification and business performance. *British Food Journal*, *119* (7), 1606-1618, https://doi.org/10.1108/BFJ-01-2017-0019
- Aziz, Y.A., Chok, N.V. (2013). The role of halal awareness, halal certification, and marketing components in determining halal purchase intention among non-muslims in Malaysia: A Structural Equation Modeling approach. *Journal of International Food & Agribusiness Marketing, 25* (1), 1–23. https://doi.org/10.1080/08974438.2013.723997
- Bayati, A., Taghavi, A. (2007). The impacts of acquiring ISO 9000 certification on the performance of SMEs in Tehran. *The TQM Magazine, 19* (2), 140–149. https://doi.org/10.1108/09544780710729980
- Bustamam, U.S.A. (2010). Entrepreneurial growth process of Malay entrepreneurs A Malaysian. *International Journal of Business, 1* (3), 206–217.
- Giyanti, I., Indriastiningsih, E. (2018). Pemetaan UKM kuliner Kota Surakarta berdasarkan status sertifikasi halal. *Jurnal Teknologi, 11* (2), 9–13.
- Goedhuys, M., Sleuwaegen, L. (2013). The Impact of International Standards Certification on the Performance of Firms in Less Developed Countries. *World Development, 47*, 87–101. https://doi.org/10.1016/J.WORLDDEV.2013.02.014
- Golnaz, R., Zainulabidin, M., Nasir, S.M., Chiew, F.C.E. (2010). Non-Muslim perception awareness of halal principle and related food products in Malaysia. *International Food Research Journal*, *17*, 667–674.
- Haque, A., Sarwar, A., Yasmin, F., Tarofder, A.K., Hossain,M.A. (2015). Non-Muslim consumers perception toward purchasing halal food products in Malaysia.

- *Journal of Islamic Marketing, 6* (1), 133–147. https://doi.org/10.1108/JIMA--04-2014-0033
- Heras, I., Dick, G.P.M., Casadesús, M. (2002). ISO 9000 registration's impact on sales and profitability. *International Journal of Quality & Reliability Management,* 19 (6), 774–791. https://doi.org/10.1108/02656710210429618
- Ismail, F.R.H., Nasiruddin, K. (2014). Perception of Non-Muslim Consumers towards Halal Products in Malaysia. *International Journal of Accounting and Business Management*, *2*, 128–133.
- Liow, R. (2012). *Marketing Halal: Creating New Economy, New Wealth.* MPH Group Publishing.
- Machfud, A.K., Dahlan, A.R.A., Khatib, J., Abdulaziz, H.-A. (2011). Collaboration, Wealth and Value Creation, SMEs' Halal Products Communities, and Information Systems. *International Journal on New Computer Architecture and Their Applications, 1* (2), 510–518. https://doi.org/10.1.1.859.8759
- Mathew, V.N., Abdullah, A.M.R., Ismail, S.N. (2014).

 Acceptance on Halal Food among Non-Muslim Consumers. *Procedia Social and Behavioral Sciences*, 121, 262–271. https://doi.org/10.1016/j.sbspro.2014.01.1127
- Mohamed, R., Mahmood, C., Mansor, N. (2014). Compliance to halal certification – Its impact on business financial performance. In Recent Trends in Social and Behaviour Sciences (pp. 499–503). CRC Press. https://doi.org/10.1201/b16658-91
- Prabowo, S., Rahman, A.A., Rahman, S.A., Samah, A.A. (2015). Revealing factors hindering halal certification in East Kalimantan Indonesia. *Journal of Islamic Marketing*, 6 (2), 268–291. https://doi.org/10.1108/JIMA-05-2014-0040
- Psomas, E., Kafetzopoulos, D. (2014). Performance measures of ISO 9001 certified and non-certified manufacturing companies. *Benchmarking: An International Journal*, *21* (5), 756–774. https://doi.org/10.1108/BIJ-04-2012-0028
- Rahman, S. (2001). A comparative study of TQM practice and organisational performance of SMEs with and without ISO 9000 certification. *International Journal of Quality & Reliability Management, 18* (1), 35–49. https://doi.org/10.1108/02656710110364486
- Viverita, Kusumastusti, R.D., Rachmawati, R. (2017). Motives and Challenges of Small Businesses for Halal Certification: The Case of Indonesia. World Journal of Social Sciences, 7 (1), 136–146.
- Wibowo, M.W., Ahmad, F.S. (2016). Non-Muslim Consumers' Halal Food Product Acceptance Model. *Procedia Economics and Finance, 37* (16), 276–283. https://doi.org/10.1016/S2212-5671(16)30125-3

Yusuf, A.H., Shukor, S.A., Bustamam, U.S.A. (2016). Halal Certification vs Business Growth of Food Industry in Malaysia. *Journal of Economics, Business and Management, 4* (3), 247–251. https://doi.org/10.7763/JOEBM.2016.V4.399