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The Effect of Implementing Good Manufacturing Practices and Having a Halal Certificate on Competitiveness and Marketing Performance

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Abstract

The implementation of Good Manufacturing Practices (GMP) or good processing of processed food adopts the food safety system from ISO 22000 which has fourteen aspects and Halal Certificate which has eleven aspects for Small and Medium Industries (SMEs) in South Kalimantan. The implementation is considered to be still mentoring because there are still inconsistencies in several aspects and is a complex process, in addition, this implementation requires other resources such as costs, time and energy. This implementation is also linked to its impact on competitiveness in this case the competitiveness of the Porter model and marketing performance. The purpose of this study is to identify the variables of GMP implementation and Halal Certification on competitiveness and marketing performance and to analyze the effect of the implementation. This research method uses Partial Least Square-Structural Equation Modeling (SEM-PLS) analysis of the results of 256 respondents from thirteen regencies/cities in South Kalimantan through purposive sampling. The research instrument is a questionnaire with a Likert scale that has been tested for validity and reliability. The results of this study found that GMP implementation has an effect on halal certification, and halal certification also has an effect on competitiveness and marketing performance. This research focuses on GMP because there are still aspects that are invalid or not implemented in food SMEs, which are actually mandatory. The implications are improving human resource skills among SMEs and encouraging the government to support food SME policies to advance.

Keywords: *Good Manufaring Practices (GMP); Halal Certification; Competitiveness; Market Performance*

INTRODUCTION

Food and beverage products face pressure to obtain halal certification, as this is a way to attract Muslim consumers, as well as non-Muslim consumers who are increasingly aware of the cleanliness and halal nature of a product. However, obtaining halal certification is also a challenge, as it requires a rigorous process and significant costs. Furthermore, standardized production processes are becoming increasingly important in the increasingly competitive business world. One requirement for obtaining halal certification is that small and medium-sized food industries (SMEs) must implement Good Manufacturing Practices (GMP), or Good Manufacturing Practices (CPPOB) in Indonesia. This GMP requirement is necessary to ensure that processed food products are safe and suitable for consumption.

The Industrial Revolution 4.0 has had a positive impact on SMEs' competitiveness. The impact of increased competition requires them to implement marketing strategies to ensure their products remain viable in the market. The concept of competitiveness is closely related to increased competitiveness, the result of enhanced capabilities aimed at achieving maximum results. Furthermore, high competitiveness can be identified by increased added value and productivity, strengthened organizational structures, and increasingly productive resources. Fierce competition also exists among small and medium-sized food and beverage industries (SMEs) in South Kalimantan.

Minister of Industry Regulation No. 75 of 2010 concerning Guidelines for Good Processed Food Production Practices (CPPOB), also known as GMP, encompasses nineteen defined aspects. These aspects must be tailored to the needs of SMEs, as GMP is operational in nature, and its implementation should be tailored to the specific circumstances of each SME. GMP plays a role in maintaining food

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safety. GMP is mandatory for food SMEs to maintain safe, hygienic, and high-quality products for consumer satisfaction. GMP implementation focuses on the implementation of the production process, actively contributing to the creation of halal, healthy, and safe food products. However, this aspect of GMP is still considered challenging, so education for SMEs, especially small industries, is needed to enhance their competitiveness. Batubara (2024) emphasized that the implementation of GMP in our country is considered less than optimal because MSMEs do not fully fulfill the GMP aspects, even though its implementation is mandatory, this shows that there is limited understanding in implementing product quality standards in small businesses, thus creating risks for consumers (BATUBARA et al., 2024).

South Kalimantan Province is home to 72,156 industrial players. This number comprises 70,362 small and medium enterprises (SMEs), with the largest number being in the food and beverage sector (33,904) (Badan Pusat Statistik Kalimantan Selatan, 2024). Previous research related to halal implementation has been conducted by several researchers. Sonaru (2014) in his research found that there was a discrepancy in the implementation of GMP in food SMEs to support competitiveness. (Sonaru et al., 2014). This is in accordance with (Dewi et al., 2019) research which concluded that the quality assurance of food SMEs in the form of GMP implementation has an impact on competitiveness, but its implementation still requires assistance because there are still discrepancies in several aspects.

The implementation of halal certification in SMEs will gain added value in the eyes of consumers, thereby increasing product competitiveness (Ratnasari, R.T., Kurniawan, A.A., & Pratiwi, 2019). This research aligns with previous research, but notes that implementing halal certification for SMEs is a complex process, necessitating increased focus on ensuring continued halal assurance. Halal certification impacts competitiveness, but requires active resources, including factors such as cost, time, and effort (Praja & Kurniaty, 2017).

Research on products with halal certificates has been conducted by previous researchers, including Karim (2018) who studied the relationship between food products with halal certificates and the performance of halal food producers in Malaysia (Karim et al., 2018). Another study was also conducted by Al-ansi (2019) which tested and developed a structural model of general risks on satisfaction, trust and recommendation intentions of halal consumers towards halal products (Al-Ansi & Han, 2019). The influence of halal certification on the income level of food SMEs in Cirebon Regency has been studied by (Bakhri (2020). This study aims to understand and analyze the income level before and after having a halal certificate, in addition to testing the influence of halal certification in relation to the income of SMEs (Bakhri, 2020).

Ratnasari et al. (2019) studied halal certification for food products to improve business competitiveness in central and eastern Indonesia. This study showed that aspects influencing efforts to improve the competitiveness of SMEs in eastern and central Indonesia include: *Business Performance, Availability & Conditions of Business Environment, Research and Technology, Policy and Infrastructure, dan External Support* (Ratnasari, R.T., Kurniawan, A.A., & Pratiwi, 2019).

Different research results regarding halal-certified food in Malaysia were conducted by (Masrom et al., 2017), This study examined the influence of business excellence on the operational performance of halal-certified food producers. The results showed that all elements of business excellence had no effect on operational performance except customer focus. Research in the Philippines conducted by Salindal (2019) stated the opposite, namely that halal certification significantly influenced business elements such as company performance and marketing performance (Salindal, 2019). Previous research on measuring the competitiveness of SMEs, including that conducted by Wiyadi (2009), found that competitiveness measurement is necessary to assess an industry's ability to face increasingly competitive markets. SME competitiveness can be measured using Porter's Diamond model, which identifies four primary elements and two additional elements that can shape industrial competitiveness. These elements are condition factors, demand conditions, supporting industries, company strategy, plus the role of government and opportunities (Wiyadi, 2009).

Based on research on GMP by (Sonaru et al., 2014) stated that there was a non-compliance with the implementation of GMP in food SMEs, research by (BATUBARA et al., 2024) emphasized that the implementation of GMP was not considered optimal because MSME actors did not fully comply with GMP aspects and research (Dewi et al., 2019) concluded that the quality assurance of food SMEs in the form of GMP implementation has an impact on competitiveness. Its implementation still requires assistance because there are still discrepancies in several aspects.

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Based on research on halal certification on competitiveness and marketing performance, namely research (Ratnasari, R.T., Kurniawan, A.A., & Pratiwi, 2019) stated that there are records of the implementation of halal certification for SMEs, research (Praja & Kurniaty, 2017) delivering halal certification has an impact on competitiveness but requires other active resources such as costs, time and energy, research (Karim et al., 2018) states that there is a relationship between food products that have halal certification and the performance of halal food producers. (Ratnasari, R.T., Kurniawan, A.A., & Pratiwi, 2019) stated that halal certification can increase business competitiveness in the eastern part of Indonesi, (Masrom et al., 2017) argue that the advantages of businesses that have halal certification do not affect operational and research performance (Salindal, 2019) stated that halal certification significantly affects business elements such as company performance and marketing performance. Based on these studies, the research gap in this study is that there has been no research that examines the relationship between GMP implementation and halal certification, the effect of halal certification on competitiveness, and its influence on marketing performance in an integrative model that can explain the relationship between variables in depth. Based on these facts, the researcher considers this study important to provide information on the realization of GMP implementation towards halal certification ownership and halal certification's contribution to increasing competitiveness and marketing performance for food SMEs, especially in South Kalimantan..

METHOD

The type of research used is quantitative research that tests the influence and has four variables, namely GMP and halal certification as independent variables and market performance and competitiveness as dependent variables. The location of this research is in South Kalimantan Province which is spread across thirteen regencies/cities that have minimum criteria, namely implementing GMP principles and having halal certification from the Indonesian Ulema Council's Food, Drug and Cosmetics Assessment Institute (LPPOM MUI) or the Halal Product Guarantee Organizing Agency (BPJPH). The population in this study is food SMEs in South Kalimantan who implement GMP and have halal certificates, the sample taken in this study is a minimum of 140 Food SMEs in South Kalimantan who implement GMP and have halal certificates to be research samples. The sampling technique used in this study is purposive sampling. Each research variable will be measured by a questionnaire using a Likert scale with five interval scales, the questionnaire has been tested for validity and reliability. The results of data processing will be carried out using the Partial Least Square-Structural Equation Modeling (PLS-SEM) method. A multivariate data analysis technique whose aim is to describe the linear relationship between observed variables (indicators) and variables that are not directly measured (constructs) simultaneously.

RESULT AND DISCUSSION

Result

Respondent Characteristics

The research subjects were small and medium-sized industries in 13 regencies/cities in South Kalimantan Province. The respondents were food SMEs, both from the food and beverage sectors, that have implemented Good Manufacturing Practices (GMP) and have obtained halal certification. The data for this study were obtained from an online questionnaire via Google Forms, which was distributed by halal facilitators from 13 regencies/cities in South Kalimantan Province, who were experienced in assisting food SMEs with halal certification. Data collection was conducted from May 5, 2025, to May 26, 2025, or over a period of 22 days. The following is a profile of the respondents in this study.

Table 1. Industrial Scale of Research Objects

Industrial Scale	Total	Percentage (%)
Medium Industry	17	6.64%
Small Industry	239	93.36%

Table 2. Number of Respondents by Regency/City

Regency/City	Total	%
Balangan	28	10.94%
Banjar	12	4.69%

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Regency/City	Total	%
Banjarbaru	16	6.25%
Banjarmasin	22	8.59%
Barito Kuala	18	7.03%
Hulu Sungai Selatan	14	5.47%
Hulu Sungai Tengah	21	8.20%
Hulu Sungai Utara	12	4.69%
Kotabaru	11	4.30%
Tabalong	21	8.20%
Tanah Bumbu	15	5.86%
Tanah Laut	46	17.97%
Tapin	20	7.81%
Jumlah	256	100%

Table 3. Number of Respondents Based on Production Type

Production Type	Total	%
Food Industry	225	87.89%
Beverage Industry	31	12.11%

The scale of the industries studied can be seen in Table 1, which shows that the majority are small-scale industries, with 239 respondents, while 17 respondents are medium-sized industries. This aligns with data on SMEs in South Kalimantan, as food SMEs are dominated by small-scale industries. Respondents were drawn from all regencies/cities in South Kalimantan Province, as shown above, which shows the distribution according to the number of respondents. The three largest respondents were Tanah Laut Regency, Balangan Regency, and Banjarmasin City. Based on production type, as shown in Table 3, the food industry dominated, with 225 industry players (87.89%), while the remaining 31 were beverage industry players (12.11%).

Table 4. Respondent Characteristics

Characteristics	Total	%
Position		
Pimpinan	191	74.61%
Penanggung Jawab produksi	65	25.39%
Education		
Elementary School/Equivalent	15	5.86%
Junior High School/Equivalent	29	11.33%
High School/Equivalent	122	47.66%
Bachelor Degree	81	31.64%
Master Degree	9	3.52%
Gender		
Male	56	21.88%
Female	200	78.13%
Age (Years)		
11-26	10	3.91%
27-42	150	58.59%
43-58	87	33.98%
59-77	9	3.52%

The majority of respondents in this study were leaders, amounting to 191 people or 74.61%. The educational level of respondents was quite diverse, the majority of respondents in the study had a high school education level or equivalent, namely 47.66%. The gender of the research respondents was dominated by women, amounting to 200 people or 78.13% and the rest were men, with 56 people or 21.88%. The age of the respondents is expected to reflect sufficient maturity and experience in thinking, so the majority of respondents were in the age range of 27-42 years, amounting to 227 people or 58.66%..

Hypothesis Testing Results

Hypothesis testing, due to non-normal distribution of data, used PLS-SEM with the SmartPLS application. The 256 collected data sets were processed. These data consisted of four latent variables or constructs and 33 indicators, as shown in the model below.

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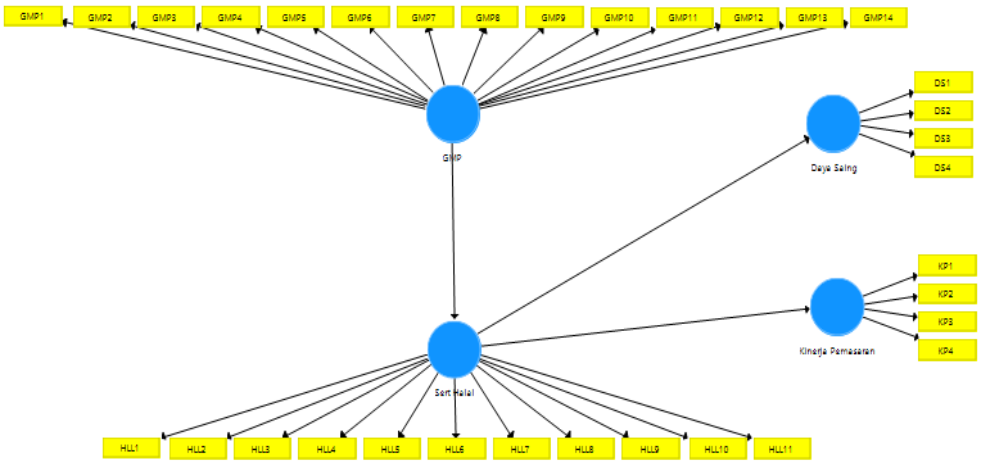

Figure 1. Conceptual Research Model

The conceptual research model developed in this study is in accordance with Figure 1, where the GMP construct or latent variable is composed of 14 indicators, the halal certificate construct or latent variable is composed of 11 indicators, the competitiveness and marketing performance construct or latent variables are each composed of 4 indicators, resulting in a total of 4 constructs or latent variables and 33 indicators.

This research conceptual model will test 3 hypotheses as mentioned in Chapter 3: (1) GMP implementation has a positive effect on Halal Certification, (2) Halal Certification has a positive effect on Competitiveness, and (3) Halal Certification has a positive effect on Marketing Performance. Several steps must be taken in PLS-SEM to test the hypotheses, namely the outer model and the inner model.

Outer Model

The Outer model test is used to measure the relationship between indicators and latent variables using indicators of reliability, internal consistency reliability, convergent validity, and discriminant validity.

Indicator Loading/Outer Loading

This test is also called the indicator validity test. The reliability of the outer model indicators can be assessed based on their outer loading. Outer loading is the value of each indicator. An indicator value is acceptable when the outer loading is 0.7 or higher, maintaining the measurement model. (Hair et al., 2013). Result of *outer loading* according to the table 5.

Tabel 5. Nilai *Outer Loading* (OL)

Construct	Indicator	OL Beginning	Information	OL Final	Information
GMP	GMP1	0.608	Not Valid	-	-
	GMP2	0.760	Valid	0.754	Valid
	GMP3	0.797	Valid	0.809	Valid
	GMP4	0.838	Valid	0.849	Valid
	GMP5	0.845	Valid	0.851	Valid
	GMP6	0.866	Valid	0.873	Valid
	GMP7	0.853	Valid	0.868	Valid
	GMP8	0.859	Valid	0.866	Valid
	GMP9	0.856	Valid	0.859	Valid
	GMP10	0.811	Valid	0.815	Valid
	GMP11	0.824	Valid	0.824	Valid
	GMP12	0.768	Valid	0.766	Valid
	GMP13	0.565	Not Valid	-	-
	GMP14	0.694	Not Valid	-	-
Halal Certificate	HLL1	0.813	Valid	0.813	Valid
	HLL2	0.765	Valid	0.764	Valid
	HLL3	0.797	Valid	0.796	Valid

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	HLL4	0.811	Valid	0.812	Valid
	HLL5	0.716	Valid	0.717	Valid
	HLL6	0.750	Valid	0.751	Valid
	HLL7	0.818	Valid	0.818	Valid
	HLL8	0.812	Valid	0.811	Valid
	HLL9	0.770	Valid	0.770	Valid
	HLL10	0.771	Valid	0.771	Valid
	HLL11	0.774	Valid	0.773	Valid
Daya Saing	DS1	0.848	Valid	0.848	Valid
	DS2	0.880	Valid	0.880	Valid
	DS3	0.900	Valid	0.900	Valid
	DS4	0.817	Valid	0.817	Valid
Kinerja Pemasaran	KP1	0.905	Valid	0.905	Valid
	KP2	0.897	Valid	0.897	Valid
	KP3	0.916	Valid	0.916	Valid
	KP4	0.889	Valid	0.889	Valid

Based on the outer loading values in Table 5, several indicators did not meet the minimum outer loading value of 0.7. These indicators are GMP1 (Work Environment Cleanliness), GMP13 (Consistency of Documentation and Recording), and GMP 14 (GMP Counseling). These indicators were then removed and retested once, resulting in an outer loading value above 0.7, which is considered valid. Hair et al. (2013) states that to declare an indicator valid, the outer loading value must be at least 0.7.

Convergent Validity

Convergent validity aims to determine the correlation between latent variables or constructs. Convergent validity can be determined based on the Average Variance Extracted (AVE) value. The AVE value is declared convergently valid if it is greater than 0.5 (Hair et al., 2013). This indicates that the measured concept has been able to explain more than half of the variation of the indicators used in the study. The AVE value in this study shows above 0.5, which means the constructs in this study show intercorrelated results according to Table 6. This can be indicated if all observed variables have adequate ability to explain the variables in the measured construct, thus meeting the validity requirements based on AVE. Data declared valid can provide confidence that the constructs used in the study can be relied upon in predicting the phenomena studied.

Table 6. AVE Value

Construct	AVE
GMP	0.691
Halal Certificate (HLL)	0.612
Competitiveness (DS)	0.743
Marketing Performance (KP)	0.813

Source: Data processing results with Smartpls

Internal Consistency Reliability

Consistency reliability is traditionally measured by Cronbach's alpha, but in PLS-SEM, a composite reliability value is preferred because it measures the reliability of all indicators, while Cronbach's alpha assumes all indicators are reliable. The recommended composite reliability is greater than 0.6, with values between 0.7 and 0.9 considered satisfactory (Hair et al., 2013). The composite reliability value in this study shows GMP 0.961, Halal Certification 0.945, Competitiveness 0.920 and a composite reliability value of 0.946, which means that the indicators have good consistency in measuring constructs or latent variables based on table 7. In this case, it indicates that the measurement instrument used in this study has met the reliability requirements based on composite reliability, and can be relied upon to provide consistent results in measuring the constructs studied.

Table 7. *Composite Reliability Value*

Construct	*Composite Reliability*
GMP	0.961
Halal Certificate (HLL)	0.945
Competitiveness (DS)	0.920

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Marketing Performance (KP)	0.946

Source: Data processing results with Smartpls

Discriminant Validity

Discriminant validity tests are carried out to determine how far a construct has discriminant or differences from other constructs so that it can be assessed whether a construct is indeed different from other constructs in a model (Hair et al., 2013). By comparing the AVE value of each concept with the squared correlation between that concept and other concepts, we can determine whether a concept has more variation explained by its own indicators than by other concepts in the model. This step is important to ensure that each construct in the model has a unique contribution to explaining the variability in the phenomenon being studied. In SmartPLS, the discriminant validity value is seen when the cross-loading value is greater than the correlation value of each indicator with other indicators. The cross-loading values can be seen in Table 5.20.

Table 8. ***Cross Loading Value***

	Competitiveness	GMP	Marketing Performance	Halal Certificate
DS1	**0.848**	0.615	0.692	0.739
DS2	**0.880**	0.572	0.762	0.689
DS3	**0.900**	0.610	0.777	0.709
DS4	**0.817**	0.687	0.619	0.721
GMP2	0.549	**0.754**	0.504	0.645
GMP3	0.545	**0.809**	0.465	0.641
GMP4	0.563	**0.849**	0.505	0.689
GMP5	0.579	**0.851**	0.521	0.682
GMP6	0.577	**0.873**	0.552	0.711
GMP7	0.608	**0.868**	0.540	0.716
GMP8	0.613	**0.866**	0.567	0.706
GMP9	0.627	**0.859**	0.521	0.705
GMP10	0.615	**0.815**	0.542	0.726
GMP11	0.672	**0.824**	0.592	0.751
GMP12	0.635	**0.766**	0.590	0.676
KP1	0.760	0.600	**0.905**	0.653
KP2	0.748	0.557	**0.897**	0.615
KP3	0.761	0.612	**0.916**	0.685
KP4	0.712	0.559	**0.889**	0.622
HLL1	0.690	0.719	0.559	**0.813**
HLL2	0.656	0.604	0.630	**0.764**
HLL3	0.664	0.579	0.583	**0.796**
HLL4	0.707	0.765	0.562	**0.812**
HLL5	0.533	0.657	0.447	**0.717**
HLL6	0.595	0.743	0.511	**0.751**
HLL7	0.666	0.635	0.587	**0.818**
HLL8	0.678	0.632	0.574	**0.811**
HLL9	0.617	0.691	0.503	**0.770**
HLL10	0.667	0.575	0.591	**0.771**
HLL11	0.651	0.602	0.596	**0.773**

Based on Table 8, the cross-loading values of all indicators in one latent variable are greater than those in the other variables. Therefore, it can be concluded that these indicators can reflect the latent variable.

Inner Model

After the model meets the outer model criteria, a structural model (inner model) evaluation is conducted to ensure model quality. The structural model represents the relationship between exogenous latent variables and endogenous latent variables within the model (Chin, 1998). The criteria for evaluating the structural model include testing for potential collinearity between variables using the Variance Inflation Factor (VIF), followed by an analysis of the model's predictive capability using the coefficient of determination (R) and cross-validated redundancy (Q.

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***Variance Inflation Factor* (VIF)**

The VIF value is used to test the potential for collinearity between variables, with the stipulation that if the VIF value is above 5, collinearity occurs between the variables. Meanwhile, Hair et al. (2013) stated that collinearity can occur due to the existence of interrelated predictor constructs, so they suggest that the VIF value should be below 5 to prevent multicollinearity. The results of the VIF value in this study indicate that the effect of GMP implementation on halal certification is 1, then the effect of halal certification on competitiveness shows a value of 1, and the effect of halal certification on marketing performance shows a value of 1, meaning all are below 5, so it can be concluded that there is no multicollinearity.

Table 9. VIF *Inner Model Value*

	Competitiveness	GMP	Marketing Performance	Halal Certificate
Competitiveness				
GMP				1.000
Marketing Performance				
Halal Certificate	1.000		1.000	

Coeficience of Determination* atau *R-Square

The coefficient of determination is useful for assessing how much an endogenous variable can be explained by an exogenous variable or how much influence an exogenous latent variable has on an endogenous latent variable. The coefficient of determination ranges from 0 to 1, with higher values indicating higher predictive accuracy. An R-Square value of 0.75 is categorized as substantial or high accuracy, 0.5 as moderate accuracy, and 0.25 as weak accuracy (Hair et al., 2013). The R Square results of this study show moderate accuracy values for marketing performance and competitiveness, as well as halal certification according to Table 8..

Table 10. *R-Square Value*

Construck	R-Square
Competitiveness	0,689
Marketing Performance	0,511
Halal Certificate	0,701

Source: Results of data processing with smartpls

Based on Table 10 it can be explained as follows:

1) Competitiveness (R^2 = 0,689)
   This value indicates that approximately 68.9% of the variation in competitiveness can be explained by other variables in the model, such as GMP and halal certification. The remaining 31.1% is influenced by factors outside the model. With a value approaching 0.70, the explanatory power falls into the moderate to high category, indicating that this model is quite good at predicting the competitiveness of MSMEs.
2) Marketing Performance (R^2 = 0,511)
   This value indicates that 51.1% of the variation in marketing performance can be explained by the exogenous variables in the study. This figure is considered moderate, making the model adequate to describe the influence of GMP and halal certification on marketing performance. However, nearly half of the other factors were not included in the model, thus providing opportunities for further research.
3) Halal Certificate (R^2 = 0,701)
   This figure indicates that 70.1% of the variation in halal certification attainment can be explained by the variables in the model. This falls into the moderate to high category, indicating that the factors used in the study, such as GMP implementation and business awareness, have a strong influence on MSMEs obtaining halal certification.

Cross Validated Redundancy* or *Q-Square

Cross-validation redundancy is used to determine the accuracy of a variable's predictive model by looking at the Q-square value. A Q-square value > 0 indicates that the endogenous variable has

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acceptable predictive accuracy (Hair et al., 2013). Table 11 shows that the Q-square value in the competitiveness research is 0.472 or can be said to be > 0, the marketing performance value is 0.382 or can be said to be > 0 and the halal certification value is 0.384 or can be said to be > 0, so the accuracy of the three constructs can be accepted.

Table 11. *Q-Square Value*

Construck	Q-Square
Competitiveness	0,472
Marketing Performance	0,382
Halal Certificate	0,384

Source: Results of data processing with smartpls

Hypothesis Testing

Based on the test results on VIF, R-Square and Q-Square, it appears that the model formed is robust so that hypothesis testing can be carried out by referring to the path coefficient or original sample from the bootstrapping process. The value of the model's path coefficient is also interpreted as a hypothesis test to determine the direct influence in measuring the significance or how strong the relationship between latent constructs in the model. The path coefficient value is significant if the calculated t is greater than the t table and the P value <0.05. In this study, the t table used is 1.96 because it uses a significance value of 0.05. (Hair et al., 2013).

Table 12. *Path Coeficient Model Value*

	Original Sample (O)	Sample Mean (M)	Standart Deviation (STDEV)	T Statitics (|O/STDEV|)	P Values	Interpretation
GMP-> SH	0.838	0.838	0.033	25.613	0.000	Signifikan
SH-> DS	0.830	0.830	0.032	26.006	0.000	Signifikan
SH -> KP	0.715	0.715	0.049	14.535	0.000	Signifikan

Source: Results of data processing with smartpls

Based on table 10, it is known that all t counts > 1.96 and p-values < 0.05, so it can be concluded as follows:

1. Good Manufacturing Practices (GMP) has a positive effect on Halal Certification. Test results indicate that GMP has a significant effect on Halal Certification. The original sample value (O) of 0.838 and the same sample mean (M) of 0.838 indicate consistency in the estimates. With a standard deviation (STDEV) of 0.033, the t-statistic reached 25.613, and a p-value of 0.000. This indicates that the effect of Good Manufacturing Practices (GMP) on Halal Certification is statistically significant (Hypothesis 1 is Accepted).
2. Halal Certification has a positive effect on competitiveness. Test results indicate that halal certification has a significant effect on competitiveness. The original sample value (O) of 0.830 and the same sample mean (M) of 0.830 indicate consistency in the estimates. With a standard deviation (STDEV) of 0.032, the t-statistic reached 26.006, and a p-value of 0.000. This indicates that the effect of halal certification on competitiveness is statistically significant (Hypothesis 2 Accepted).
3. Halal certification has a positive effect on marketing performance. The test results indicate that halal certification has a significant effect on marketing performance. The original sample (O) value of 0.715 and the same sample mean (M) of 0.715 indicate consistency in the estimates. With a standard deviation (STDEV) of 0.049, the t-statistic reached 14.535, and a p-value of 0.000. This indicates that the effect of halal certification on marketing performance is statistically significant (Hypothesis 3 Accepted)..

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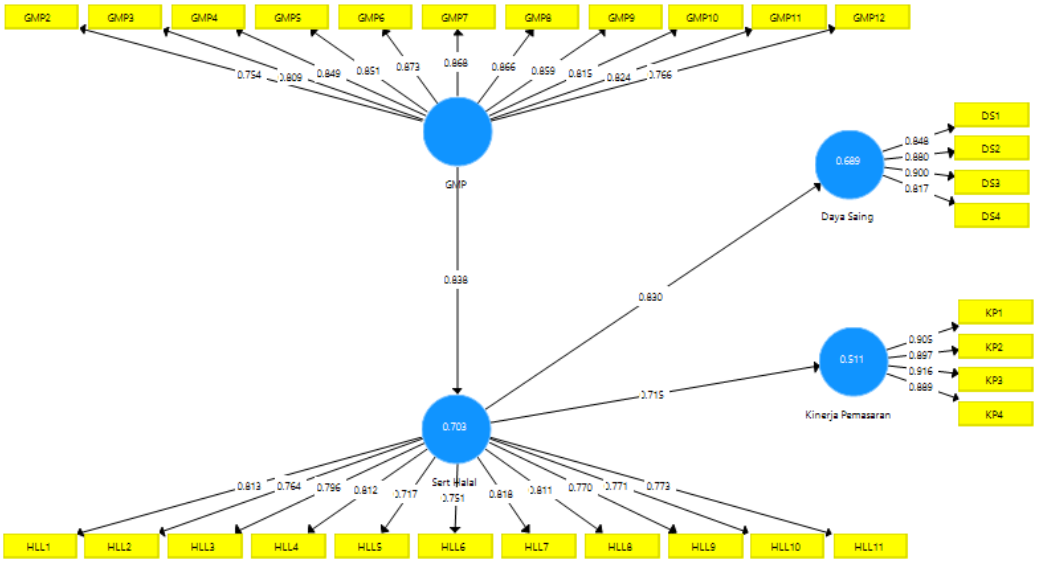

Figure 2. Final Research Model

The final model of this study, based on Figure 2, shows that the latent variable or GMP construct influences halal certification with 11 valid indicators. The halal certification construct influences competitiveness with 11 valid indicators. Halal certification also influences marketing performance with the same 11 indicators. Competitiveness and marketing performance each have four valid indicators.

Discussion

Theoretical Implications

Based on the final research model, the GMP should serve as the basis for implementing the Halal Product Assurance System (SJPH) due to its adherence to food safety principles, but three indicators remain invalid. According to government regulations, these 14 indicators or aspects constitute a unified whole for food safety. Therefore, this study provides new insights into the potential for GMP implementation in small and medium-sized industries (SMEs). These aspects include: GMP 1, which covers production environmental hygiene; GMP 13, which covers consistent documentation and record-keeping; and GMP 14, which addresses GMP outreach.

Production environmental hygiene is a problem for almost all small-scale industries due to numerous limitations, including human resources, costs, location, and production area. Possible solutions from the government include increased public awareness campaigns on production site hygiene and, perhaps, the need for periodic rewards for small-scale industry players to motivate them to maintain a clean production environment.

Consistency of documentation and record-keeping is also a common problem in small-scale industries, as many business owners hold multiple positions and operate as family businesses. This can be addressed by providing training and assistance in preparing simple, ready-to-fill forms from IKM facilitators from the provincial and district/city governments, followed by training on how to complete them.

The GMP extension factor indicates that many IKM operators have not yet received food safety training. This solution can only be implemented by the government, collaborating with food observer organizations, to increase food safety education so that more IKM operators have GMP knowledge.

Competitiveness is an endogenous variable in this study, demonstrating the influence of halal certification on the four main elements of Porter's competitiveness model. The implementation of halal certification impacts food product quality and increases the skills or expertise of the workforce in IKM (condition factors). Another influence is consumer demand in line with expected targets after obtaining halal certification and the potential to expand into new segments (demand factors). This study also found a positive impact, namely that IKM operators directly obtain market competition information and new strategies for marketing halal products, which are predominantly Muslim consumers, but also non-Muslim consumers (strategy, structure, and competition factors). As well as the influence on the ease of

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obtaining halal raw materials and building cooperation among SMEs, especially SMEs that already have halal certificates (related industry factors and supporting industries).

Managerial Implications

Environmental hygiene in production is a problem for almost all small-scale industrial organizations. Small-scale industrial operators can adopt a solution by practicing environmental hygiene and promoting it, for example, by posting posters in production areas.

These GMP factors, in principle, prioritize food safety based on cleanliness, encompassing the environment, equipment, and workers. Therefore, there are several interconnections. The location of areas that must be kept clean (GMP1), designed to facilitate production (GMP2), is linked to other factors, such as the location of clean water use (GMP4), and the placement of washing areas (GMP5), which are essential indicators. Food SMEs are expected to comply with these environmental indicators, which significantly impact food safety. The main obstacle to environmental compliance is limited funding, so this research can serve as a foundation for stakeholders in fostering and facilitating food SMEs.

Equipment factors in GMP are represented by easy-to-clean equipment (GMP3), ensuring proper equipment function (GMP7), and maintaining a clean storage area (GMP8). Maintaining and ensuring that this IKM equipment, if properly implemented by IKM, will improve the quality of food products and increase production effectiveness because basically equipment that is always clean provides convenience, and can be used as promotion for IKM with cleanliness practices that can improve the image of the IKM.

Employee factors are represented by discipline in maintaining cleanliness (GMP6), implementing established procedures (GMP9), complying with government regulations (GMP10), employee supervision (GMP11), disciplined record-keeping and documentation (GMP13), and consistently up-to-date on food safety developments through training and seminars (GMP14). These employee factors, if implemented correctly, are highly influential because superior human resources will produce superior products. Therefore, development of these human resources is absolutely necessary, whether through internal training, such as in-house training, or facilitating external training.

Consistency in documentation and record-keeping is a common problem in SMEs, so organizations within SMEs need to implement changes by enforcing record-keeping and documentation by recruiting and training employees with the potential to record activities from raw materials to finished products.

GMP training can be provided by watching recordings of food safety socialization sessions on YouTube, recording the results, and disseminating them to colleagues. This can be helpful before waiting for the official socialization conducted by the government in person. Halal and GMP indicators are interrelated, but the halal certification approach focuses on the halalness of ingredients and processes that must be implemented by all employees.

The process aspect begins with a halal policy (HLL1), a halal management team (HLL2), employee training on halal understanding (HLL3), equipment that is free from haram materials (HLL5), ensuring products do not resemble haram products (HLL6), having halal process procedures (HLL7), a product recall process that does not meet halal criteria (HLL9), internal audits (HLL10), and management review meetings (HLL11). The process aspect dominates halal certification because during the process, ingredients can change their halal status if the process does not meet halal criteria. This process plays a crucial role and requires close attention from SMEs undertaking the halal certification process.

The material aspect is reflected in the assurance that ingredients must be sourced from halal sources (HLL4), and the procedure for tracing ingredients to halal criteria (HLL8). Although these are only two indicators, violations of these material aspects immediately invalidate the halal guarantee.

In this study, all respondents met the material and process requirements for halal certification, indicating proper implementation and the need for ensuring consistency in implementation and coaching of employees, especially new employees. For SMEs, this is a particular concern, which can be achieved through increased supervision and organizational development.

Porter's competitiveness model is integral because competitiveness can be established through the implementation of standardization, in this case GMP and halal certification. Competitiveness can also be measured by increasing product output, and ownership of these standards encourages new

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strategies to maintain and even enhance competitiveness. Increased competitiveness can also be measured by ease of access to materials, as this aligns with product improvement. This study indicates that Porter's competitiveness model is generally suitable as a measurement parameter for SMEs implementing food safety standards and halal certification.

Marketing performance is measured by market expansion, increased revenue, customer satisfaction, and improved reputation. The driving force behind this study is the implementation of food safety standards and halal certification, which are currently national and even global issues, directly and indirectly supporting the marketing performance of food SMEs. Therefore, overall, this research will be the basis for development for SMEs in South Kalimantan Province, especially the Department that handles Industrial affairs at both the Provincial and Regency/City levels, to become a development program through the State Revenue and Expenditure Budget (APBN) and the Regional Revenue and Expenditure Budget (APBD).

CONCLUSION

The conclusions in this study consist of:

1. The implementation of GMP on halal certification in South Kalimantan has a positive effect of 70.3%, answering the first hypothesis.
2. Halal certification has a positive effect of 68.9% on competitiveness, answering the second hypothesis.
3. Halal certification has a positive effect of 51.1% on marketing performance, answering the third hypothesis.

Award

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