

ENHANCING HALAL ECONOMY ECOSYSTEM FOR STRENGTHENING HALAL BUSINESS SME'S SECTOR IN INDONESIA

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Abstract

This study examines the Islamic economics ecosystem to strengthening Halal SMEs in Indonesia. The empirical analysis is based on a mixed method using SEM-PLS to predict the behavior of muslim SME business owners regarding the halal certification and Analytical Network Process (ANP) to develop a strategy in order to enhance the ecosystem. The result shows that first, halal product assurance has received an adequate position in Indonesian regulation. Second, from SMEs' perspective, subjective norms regarding Islamic teaching on halal and the ability to analyze the value chain in their business process could increase the willingness to process halal certification but the willingness to extend the certification is probable in the future. Third, from the expert's perspective, we gained some insight into mapping the halal certification problem and developing an alternative strategy for a better ecosystem. Our findings have important implications for government policy, ranging from better halal certification literation and education to SMEs, enhancing SMEs' capacity to gain a better understanding of value chain analysis to improve their business value and develop a responsive and accommodative policy regarding the SME's need, especially for halal certification extension.

Keywords: Halal, SMEs, Ecosystem, Islamic Economics, Indonesia.

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1. Introduction:

Islamic economics is growing rapidly worldwide, in both Muslim and non-Muslim countries. In theory, Islamic Economics or Sharia Economics is a science that examines all aspects covering economic activities ranging from consumption, production, distribution, monetary systems, market systems, and others with Islamic values and paradigms that aim to realize the welfare, justice, and the benefit of the people.

Islamic banking, Islamic non-bank financial institutions, and social financial institutions such as Zakat and Waqf have emerged as components of the Islamic economic system. Aside from Islamic banking institutions, the Islamic economy is already developing in the framework of the industry, specifically food, cosmetics, tourism, and other halal-certified items. Hence, the Islamic economy is also known as the halal economy.

According to the State of the Global Economic Islamic Report (2022), the world's 1.9 billion Muslim population spent the equivalent of US\$2 trillion in 2021 on food, healthcare, beauty products, fashion, travel, and media/recreation, all of that has been influenced by the need for ethical consumption inspired by the Islamic faith, or, in a nutshell, by linking a product's halalness. This investment represents an 8.9% increase over 2020, with Islamic finance assets estimated to reach US\$3.6 trillion in 2021, up 7.8% from US\$3.4 trillion in 2020.

Global tourism statistics further demonstrate a strong trend, with Indonesia ranking fourth as the world's largest Muslim tourist, having an estimated 200 million domestic tourists spending US\$ 9.7 billion, or equivalent to Rp 141 trillion. Through Muslim-friendly tourism, Indonesia has a huge opportunity to contribute to increased state revenue. According to the 2019 Global Muslim Travel Index (GMTI), Indonesia's Halal Tourism came in first place in 2019.

The immense potential in the halal industry has grown even more powerful and expanded with the enactment of supporting regulations in the form of the mandate to ensure halal products in the form of halal certification carried out by the government through Law No. 33 of 2014 concerning Halal Product Assurance (JPH Law), which took effect on October 17, 2019, then enriched by Government Regulation of the Republic of Indonesia No. 31 of 2019 concerning Regulations for the Implementation of the Halal Product Assurance (JPH Law).

The rule was then changed in numerous paragraphs and expanded with the passage of Law No. 11 of 2020 Concerning Job Creation, which went into force on November 2, 2020. The law was further amended by Regulation No. 39 of 2021 regarding the Enforcement of the Halal

Product Assurance and Rules No. 57 / PMK.05 / 2021 about Service Tariffs pertaining to the General Service Agency of the Halal Product Assurance Agency.

With the passage of this law, the halal certification framework, which was previously optional (obligatory) or voluntary, has become mandatory. It is hoped that this halal certification legislation would encourage halal SMEs to continue to develop and have export quality as a halal product, so that Indonesia's proportion in the world of halal products is taken into account more and more.

Sadly, data from the Halal Product Assurance Agency show that awareness of halal certification remains poor. where indicated by the low number of halal-certified products (including SME products) due to the technicalities of the halal certification process, which takes a long time, the significant expense, and the halal industry's limited integration with Islamic financing (Euis & Nurhidayah, 2020). This demonstrates that the role of Islamic financial institutions, particularly social financial institutions such as the Zakat and Waqf, in assisting MSMEs has tied to the halal certification process as well as business aid and financing.

According to Reuters (2020), just half of the 250 companies in the worldwide halal industry with a market capitalization of US \$ 132 billion are recognized as meeting halal criteria. Therefore, this research raises the issue above in an effort to build an Islamic economic ecosystem in supporting the halal industry, especially the SME group which is the largest potential in this country whose production needs to be optimized so that it can meet the global halal industry market.

SMEs have a very important role in economic stability in Indonesia (Tambunan, 2019). According to the 2017 report released by the Indonesian Ministry of Cooperatives and SMEs, SMEs account for around 99.99% (62.9 million units) of the total number of business players in Indonesia, whereas major corporations account for only 0.01% or approximately 5,460 business units. During the 2015-2019 period, the SME sector was able to make an average contribution to GDP of 57.32%. and in terms of employment, SMEs were able to absorb an average workforce of 96.90% each year.

The magnitude of the SME contribution shows that the Indonesian economy is strongly supported by the performance of SMEs. However, what remains to be done is the performance of SMEs in the global market. The production of SMEs is still dominantly oriented to domestic needs. Efforts need to be strengthened so that the SME sector, especially the micro small business group, is able to fulfill halal certification, have quality products, and be competitive in the national market as well as efforts to enable its products to have the export

quality to various other countries. This research focuses on efforts to build an Islamic economic ecosystem by offering alternative strategies in an effort to support the halal industry, especially SMEs which are the greatest potential in Indonesia to be able to meet the global halal industry market.

2. Literature review

The topic of halal products and services is gaining prominence and attention. The Fatwa Commission of the Indonesian Ulema Council issued a Fatwa on Halal Products in December 2000 during a meeting with the LPPOM MUI. The Fatwa Commission believes that determining the halalness and purity to be utilized as guides by Muslims is vital. The government then enhanced the halal product fatwa through Halal Product Assurance Regulation No.33/ 2014. According to the legislation, three factors must be addressed in halal products. First and foremost, halal items are goods and/or services linked to food, beverages, pharmaceuticals, cosmetics, chemical products, biological products, genetically modified products, and things used, employed, or exploited by the general public. Second, Halal items are those that have been certified as halal according to Islamic law. Third, the Halal Product process, abbreviated as PPH, is a sequence of operations that ensure the halalness of the product, including the provision of materials, processing, storage, packaging, distribution, sale, and marketing of the product.

The halal consumer market in Indonesia is increasing along with the increasing awareness of Muslim consumers in consuming various kinds of products that can be assured of their halalness. Therefore, a comprehensive plan is needed that relies on the complexity of developing the halal industry in Indonesia as an ecosystem (Fatmawati, 2022). The halal ecosystem is a dynamic system in the supply chain and value chain in which every component and stage is believed to be in accordance with halal requirements.

2.1 Theory of Value Chain Analysis

The basic constructs of this study were derived from the value chain analysis (VCA) paradigm. VCA uses to examine the type and extent of synergies among the company's internal activities (Porter, 1985). The idea of VCA is used in this study to explain the efforts to connect the halal industry with Islamic finance in order to establish the halal industry ecosystem in Indonesia..

According to VCA theory, a company should identify where its advantage and disadvantage lie along the value chain from raw materials to customer service activities. A further development of VCA is the existence of industrial value chains that involve value chain analysis not only for producers but also for suppliers, manufacturers,

distributors, and retailers; not only for the company itself but also for companies involved in a particular industry (Rufaidah, 2015). With the VCA, the integration of the halal industry with Islamic finance provides certainty to customers who care about the halalness of products and services that the production chain of their goods and services is guaranteed halal from upstream to downstream processes which are hypothesized to influence behavior towards Islamic finance.

2.1.1 SME's Value Chain Analysis Toward Behavior Intention To Halal Certification and Islamic Finance

In Indonesia, there has been little previous research on how value chain analysis might provide value to SMEs. A study investigated Malaysia's halal certification system and examined the halal certification procedure's difficulties through the lens of value chain analysis (Noordin et al., 2009). Another study examined the strategic management method from the Malaysian government's perspective connected to halal quality management, they discovered that halal certification can improve efficiency, which is influenced by the whole halal organizational structure (holistic system) (Noordin et al., 2014). According to the findings, the newly developed halal value chain and halal work environment are significant components in the construction of a halal ecosystem, which can improve the performance of halal-certified food firms as a whole. As a result, the following theory is proposed: :

H1a: There is a relationship between value chain analysis and behavior intention to process and extend halal certification

H1b: There is a relationship between value chain analysis and behavior toward islamic finance

2.2 Theory of Planned Behavior

The important concepts and theories that will be used to measure the behavior of halal sector actors in Islamic financing include the Theory of Planned Behavior (TPB). TPB has been employed in a variety of consumer behavior and social psychology investigations (Ajzen, 1991). According to TPB, behavioral beliefs of three determinants influenced intentions to conduct the behaviors: attitude, perceived behavioral control, and subjective norms. In other words, behavioral attitudes perceived behavioral control, and subjective norms all influence the creation of a behavioral intention to undertake the behavior.

The intention to adopt Islamic financing is the outcome of behavior toward Islamic financing, subjective standards, and perceived behavioral control. Because the purpose of this study is to investigate behavior toward Islamic funding as halal value behavior. It is critical to research the factors that influence the creation of Islamic financial behavior among halal business participants. There are five important trust factors: awareness and understanding, religious obligation, cost-

benefit, reputation, and business support (Jaffar & Musa, 2014). In terms of research objectives, we focused on knowledge and awareness, the goal to process halal certification, and the aim to extend halal certification, all of which are thought to influence halal value behavior.

2.2.1 SME'S Knowledge And Awareness Toward Intention To Halal Certification and Halal Value Behavior

Knowledge and awareness of SMEs on the halalness of their products in the eyes of their consumers is an important thing that can encourage the intention to obtain halal certification. There are various problems in establishing Indonesia's halal business, including a lack of halal knowledge, uncompetitive local products, and issues with applying halal product assurance regulations (Fathoni, 2020). Another study examined the Sustainable Assistance of the Halal Assurance System for SMEs in Surabaya (Gunawan et al., 2021). With the mandatory halal certification policy, the following problems were found: First, the knowledge and awareness that SMEs have about the regulations and requirements for registering for halal certification is still minimal; Second, the lack of basic knowledge from SMEs regarding the importance of fulfilling the requirements of the Halal Assurance System so that their products can be declared as halal, and; Third, the financing of halal certification is considered burdensome. Therefore, it can be hypothesized as follow:

H2a: There is a relationship between knowledge and awareness and behavior intention to process and extend halal certification

H2b: There is a relationship between knowledge and awareness and halal value behavior

2.2.2 Behavior Intention to Process and Extend Halal Certification toward Halal Value Behavior

The development of the halal economic ecosystem in Indonesia will be challenging if SMEs fail to display halal value behavior, as evidenced by their intention of obtaining halal certification and the intent to extend their certification in the future. According to a study, Aceh Province is one of the provinces that applies Sharia in all sectors in their assessment of the Halal Industry Development Plan in Aceh. Islam's principles are utilized not only in the banking industry, but also in the tourist, food, and other halal industries. However, the halal industry has not been adequately developed. The local government must assist in the development of the halal sector (Razali et al, 2021). Factors Influencing Intention to Implement Halal Practices in Indonesian SMEs were examined. According to the findings, religious factors, government backing, and the potential of increased income all influenced SMEs' willingness to adopt halal practices (Silalahi et al, 2022). As a result, it is hypothesized:

H3: There is a relationship between behavior intention to process and extend halal certification to halal value behavior as halal practices.

From various studies that have been conducted by many parties, this research has a novelty that the object of this research is the application of halal certification in the SME sector from two sides. First, is to examine the halal industry players in the SME sector in the East Java and West Nusa Tenggara (Lombok, NTB) regions, both those who have halal certification and those who do not have halal certification in terms of their motivation, knowledge, beliefs, and decisions in obtaining halal certification with the approach of value chain analysis theory and planned behavior theory. Second, this study also looks at the stakeholder side which are extracted from the views of experts in the form of policy analysis and regulations related to halal in order to find the most effective strategy for strengthening the halal economic ecosystem in the SME sector in Indonesia.

3. Data and Methodology

3.1 Design, Location and Time

The research was conducted using a mixed method. It was conducted in 2 provinces in Indonesia that have been designated as Halal Industrial Zones based on the Minister of Industry Regulation no.17 of 2020, namely: 1). Safe N Lock Sidoarjo Industrial Estate - East Java and 2). Lombok NTB which has been designated as the world's best halal tourist destination in 2019. The data collection was carried out by distributing questionnaires to SMEs and in-depth interviews with practitioners, local governments, policy makers and academics which conducted during March - April 2023.

3.2 Sample

Respondents of the questionnaire were SMEs in East Java and Lombok NTB, both of which have halal certification or not. The questionnaire was given to 150 people with a sample proportion of 75 people for each province. For In-depth interview informants and sources were SMEs, local governments, KNEKS, Ministry of Industry, Ministry of Trade, Ministry of Cooperatives, Ministry of Tourism, Ministry of Religious Affairs, especially BPJPH, MUI, and OJK.

3.3 Data Collection

Data collection using questionnaire has 13 independent variables to be measured. 1) knowledge and awareness, 2) religious obligations, 3) benefits and costs, 4) reputation, 5) support of Islamic financial institutions, 6). Behavior towards halal values, 7). Subjective norms, 8) Perceived behavioral control, 9) government support in monitoring halal certification, 10) perception of halal certification, 11) intention to process halal certification, 12) intention to extend the halal

certification process, and 13) value chain analysis. All research variables use a ratio scale with 65 questions arranged in 5 Likert scales. Namely: strongly disagree, disagree, neutral, agree, and strongly agree. The data collected were then analyzed using the SEM-PLS method.

As for data collection using the in-depth interview method, it seeks to explore the criteria and priority strategies that support the halal economic ecosystem that supports the development of SMEs in Indonesia as the goal. The results of in-depth interviews are then analyzed by using ANP method

3.4 Data Analysis

Validity and reliability tests in SEM-PLS use reflective measurement by looking at the loading factor value (score>0.7), composite reliability (score>0.7), AVE (AVE score>0.5), Discriminant Validity (HTMT>0.9) and multicollinearity test (VIF <0.5) (Hair et al., 2021a). Furthermore, the measurement of goodness model and structural model evaluation are carried out.

4. Result and Analysis

The subjects were 150 respondents from two Province in Indonesia, namely East Java and Lombok NTB. All of the respondent are muslims. Most of the respondents age were in between 21-30 years (Lombok 33,3% and East Java 60%), which majority were high school graduate (Lombok 52% and East Java 49%). While majority respondent from Lombok NTB were SMEs in home industry (16,22%), the majority of SMEs in East Java were in culinary sector (33%). Also most of the respondent from both province were not having halal certification (66,7%) (See Table 1).

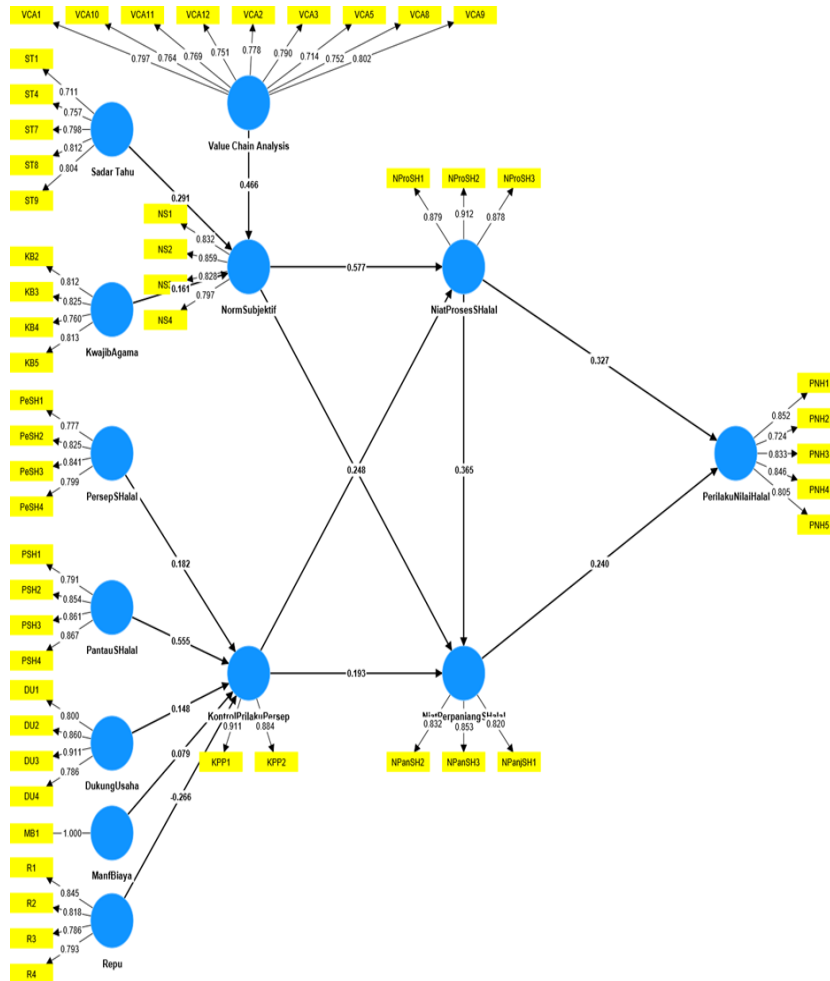
Table 1: Characteristic of Subject

Characteristic	Lombok NTB (n = 75)	East Java (n = 75)
Age		
<20 yrs	6,67%	8%
21-30 yrs	33,3%	60%
31-40 yrs	28%	13%
> 40 yrs	32%	19%
Education		
Elementary/ junior school	13,33%	3%
High school	52%	49%
Diploma	5,33%	
Bachelor	26,67%	43%
Master	2,67%	5%
Sector		
Agriculture	0	3%
Property	0	3%
Tourism	0	1%
Fashion	10,81%	6%
Home industry	16,22%	19%
Services	4,05%	8%
Craftmanship	4,05%	3%
Consultant	0	1%
Culinary	1,35%	33%
Trade	17,57%	19%
etc	4,05%	4%
Halal certification ownership		
Certified	13,3%	13,3%
Not certified	66,7%	66,7%
Not answer	20%	20%

4.1 The Measurement Models

The dependent variable of the study were SME's attitude toward halal that can be predicted from 13 variables with 65 items. Namely, knowledge and awareness, religious obligations, benefits and costs, reputation, support of Islamic financial institutions, Behavior towards halal values, Subjective norms, Perceived behavioral control, government support in monitoring halal certification, perception of halal certification, intention to process halal certification, intention to extend the halal certification process, and value chain analysis as the independent variables (Figure 1).

Figure 1: The Model



When the validity was examined using loading factors, 9 of the 65 items were removed from the model since they did not match the criteria. After running the test again, all of the elements were valid with scores more than 0,7 and met the requirements (Hair et al., 2021b). Cronbach's alpha was used to calculate the dependability coefficient of factor structures. The composite reliability (CR) score is greater than 0,7, with coefficient alpha values ranging from 0.78 to 0.88, suggesting good internal consistency and robust dependability of each dimension (Anderson et al., 1987) in Table 2.

Table 2: Construct Reliability and Validity

	Cronbach's alpha	Composite reliability	AVE
IFIs support	0.861	0.876	0.706
Perceived behavior controlled	0.760	0.768	0.806
Religious obligation	0.816	0.816	0.645
Cost benefit	0.824	0.831	0.674
Intent to extend halal certification	0.784	0.789	0.691
Intent to process halal certification	0.869	0.870	0.792
Subjective norm	0.848	0.851	0.688
Halal supervision	0.864	0.864	0.711
Attitude toward halal value	0.873	0.895	0.662
Perceived halal certification reputation	0.826	0.830	0.657
Knowledge & Awareness	0.831	0.877	0.657
Value Chain Analysis	0.835	0.837	0.604
	0.914	0.916	0.591

Furthermore, we analyze construct validity using convergent analysis (AVE), which reveals strong convergent validity with values greater than 0,5, which is greater than the recommended value of 0,5 (Fornell & Larcker, 1981). The reported CR was more than the suggested value of 0.7 based on Hair et al (2021). as shown in Table 3.

Table 3: Convergent Validity (AVE)

	IFI supp	Perc behav cont	Relig oblig	Cost benef	Intent extend	Intent process	Subj norm	Halal superv	Att halal value	Perceiv halal certif	repu	aware	Val chain
IFI's support	0.841												
Perceived behavior controlled	0.396	0.898											
Religious obligation	0.550	0.213	0.803										
Cost benef	0.468	0.241	0.553	1.000									
Intent to extend halal certification	0.439	0.480	0.474	0.369	0.835								
Intent to process halal certification	0.434	0.452	0.531	0.329	0.616	0.890							
Subjective norms	0.621	0.493	0.614	0.452	0.584	0.595	0.843						
Halal Supervision	0.504	0.658	0.407	0.358	0.454	0.709	0.505	0.813					
Attitude toward halal value	0.609	0.294	0.600	0.517	0.441	0.610	0.756	0.522	0.811				
Perceived halal certification reputation	0.570	0.584	0.404	0.315	0.512	0.609	0.610	0.756	0.522	0.811			
Reputation	0.648	0.249	0.719	0.613	0.429	0.382	0.578	0.517	0.608	0.475	0.571	0.811	
Awareness	0.486	0.255	0.625	0.408	0.353	0.443	0.631	0.438	0.565	0.463	0.578	0.777	
Value chain	0.568	0.478	0.582	0.413	0.569	0.561	0.709	0.573	0.547	0.567	0.580	0.502	0.769

4.1.1 Multicollinearity

Before examining the structural model, the VIF, or variance inflation factor, must be calculated in order to compute multicollinearity which advocated a threshold of 5.0 for multicollinearity to address VIF results for each construct (Hair Jr., 2014). According to the multicollinearity test outcomes, all indicators have a VIF value of less than 5, indicating that there is no multicollinearity.

4.2 Quality Model Criteria

We proceed with the goodness of fit test after the validity and reliability tests through the outer model and discriminant validity are met. We use the SRMR score of 0.73 to evaluate the quality. The SRMR value represents the magnitude of the fit model by comparing the data correlation matrix to the estimated model correlation matrix. An SRMR value of 0.08 suggests that the model is fit (Hair et al., 2021b). because the SRMR value is 0.073 less than 0.08. As indicated in Table 4, the model constructions in this investigation satisfied the goodness-fit of test.

Table 4: Goodness of Fit Test

	Saturated model	Estimated model
SRMR	0.073	0.122
d_ULS	7.436	20.349
d_G	4.156	4.537
Chi-square	2.885.840	3.012.480
NFI	0.588	0.577

Following the results of the Goodness of Fit test, we ran the PLS prediction test. The test is a validation method that determines if the PLS model built has good predictive capability. The root mean square error (RMSE), as well as MAE (Mean Absolute Error) values, are used. If both the RMSE and the MAE values of the PLS model are less than those of the regression model, the PLS model generated has strong predictive future potential. The results show that the proposed PLS model has a lower RMSE and MAE value than the LM model (linear regression model) for the majority of the endogenous variables measurements (behavioral control, subjective norms, halal certificate process intentions, halal certificate renewal intentions, and behavior towards halal values). As shown in Table 5, the PLS model presented in this work has modest predictive power.

Table 5: Predictive Model

	Q ² predict	PLS-SEM_RMSE	PLS-SEM_MAE	LM_RMSE	LM_MAE
KPP1	0.335	0.585	0.448	0.702	0.538
KPP2	0.360	0.641	0.481	0.751	0.567
NPanSH2	0.156	0.625	0.451	0.729	0.543
NPanSH3	0.200	0.609	0.452	0.765	0.561
NPanjSH1	0.310	0.655	0.496	0.783	0.570
NProSH1	0.271	0.646	0.473	0.796	0.558
NProSH2	0.319	0.634	0.467	0.768	0.558
NProSH3	0.301	0.625	0.468	0.682	0.493
NS1	0.468	0.515	0.356	0.557	0.406
NS2	0.466	0.529	0.415	0.542	0.391
NS3	0.314	0.613	0.449	0.690	0.506
NS4	0.341	0.598	0.432	0.674	0.485
PNH1	0.211	0.773	0.600	0.654	0.470
PNH2	0.138	0.798	0.586	0.863	0.639
PNH3	0.223	0.703	0.503	0.727	0.524
PNH4	0.246	0.691	0.513	0.761	0.545
PNH5	0.177	0.685	0.514	0.787	0.548

4.3 Robustness Test

Checking the linearity of the relationship between variables still needs to be done even through robustness test, although the PLS prediction test shows high predictive ability (Hair et al., 2019). Robustness test is a test of linearity and heterogeneity. Based on the linearity test results of the model's endogenous variables, we learn that only the halal certificate process intention variable has a nonlinear relationship toward the intention to renew the halal certificate (P-value 0,031 < 0,05), indicating that it does not satisfy the linearity assumption or fails to be robust. While the intent to process halal certification toward halal behavior (P-value 0,661 > 0,05), the intent to extend halal certification toward halal behavior (P-value 0,323 > 0,05), subjective norm toward intent to process halal certification (P-value 0,706 > 0,05), subjective norm toward intent to extend halal certification (P-value 0,405 > 0,05) and perceived behavior controlled toward intent to extend halal certification are not significant having non linear relationship so that it satisfied the linearity assumption (robust), as seen in Table 6.

Table 6: Linearity Test

	Original sample (O)	T Statistic (O/ST.Dev)	P-values
Intent to process halal certification ==> intent to extend halal certification	0.143	2.156	0.031
Intent to process halal certification ==> Attitude toward halal value	0.021	0.436	0.661
Intent to extend halal certification ==> Attitude toward halal value	0.082	0.989	0.323
Subjective norm ==> Intent to process halal certification	-0.024	0.377	0.706
Subjective norm ==> Intent to extend halal certification	-0.057	0.833	0.405
Perceived behavior controlled ==> Intent to extend halal certification	0.007	0.132	0.895

As for the heterogeneity test we conducted through FIMIX PLS testing to determine whether there is a latent or hidden group segment from the respondent sample. The heterogeneity test results show that there is only 1 data segment, which means that there are no latent segments/groups hidden from the respondent sample. Thus, from the results of the heterogeneity test above, it can be said that the data is homogeneous as in Table 7.

Table 7: Heterogeneity Test

	Segment 1
AIC (Akaike's informatin criterion)	1.052.384
AIC3 (modified AIC with Factor 3)	1.105.384
AIC4 (modified AIC with Factor 4)	1.158.384
BIC (Bayesian Information criterion)	1.211.948
CAIC (consistent AIC)	1.264.948
HQ (Hannan-Quinn criterion)	1.117.210
MDL5 (minimum description length with factor 5)	2.274.202
LnL (LogLikelihood)	-473.192
EN (normed entropy statistic)	1.000
NFI (non-fuzzy index)	1.000
NEC (normalized entropy criterion)	0.070

4.4 Structural Model

Table 8 displayed the outcome of the hypothesis-mediated connection, which revealed that the influence of the intervening factors indicated the SMEs' attitude toward halal value behavior. The analysis indicates that four of the five hypotheses are strongly supported. The significance test conditions include a T statistic value of more than 1.96 and a P-value of lower than 0.05. According to the findings, value chain analysis greatly moderates the influence of subjective norms on the intention of the halal certification process and the intention to extend the halal certificate (H1a). This finding is consistent with the findings of Shou's study (Shou et al., 2023), which concluded that the value chain influences subjective norms. However,

the value chain analysis had no effect on the intention to process halal certificates or the intention to extend halal certificates toward halal value behavior (H1b).

The findings also show that knowledge and awareness significantly moderate the influence of subjective norms on the intention to process halal certification and the intention to extend halal certification (H2a), but not on the intention to process halal certification and the intention to extend halal certification on halal value behavior (H2b).

The SME's intention to process halal certificate and the intention to extend halal certificate not significant influence halal value behavior (H3). The reason is that many SME's in Indonesia have not receive support from islamic bank which aligned with argument that some islamic commercial banks and islamic business units have not been optimal in providing financing opportunities to SMEs (Ahyar, 2019).

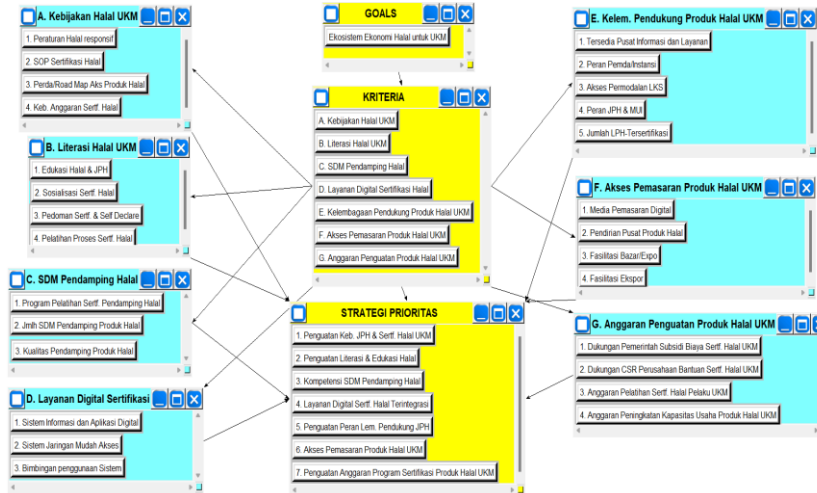
4.5 Analytical Network Procees (ANP) Criteria Model

Figure 2 show the proposed network structure model that reflects the criteria and strategy assesment to build a halal economic ecosystem for strengthening halal SMEs in Indonesia. We found 7 criteria to be components in realizing these goals. All the weighting factors were determined with Saaty model (Saaty 2005).

Table 8: Testing Hypothesis Mediation Effect

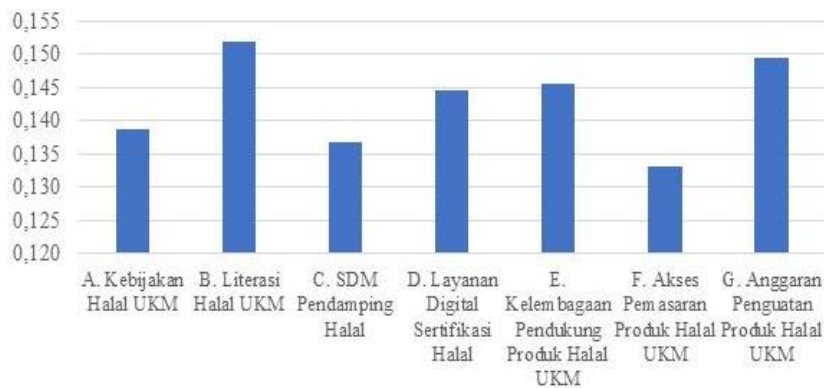
	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
Knowledge & Awareness -> Subjective Norms -> Intent to process halal certification	0.168	0.168	0.053	3.169	0.002
Knowledge & Awareness -> Subjective Norms -> Intent to extend halal certification	0.072	0.073	0.035	2.065	0.039
Knowledge & Awareness -> Subjective Norms -> Intent to process halal certification -> Intent to extend halal certification	0.061	0.062	0.024	2.512	0.012
Knowledge & Awareness -> Subjective Norms -> Intent to process halal certification -> Intent to extend halal certification -> halal value behavior	-0.006	-0.005	0.019	0.316	0.752
Value Chain Analysis -> Subjective Norms -> Intent to process halal certification	0.269	0.266	0.070	3.839	0.000
Value Chain Analysis -> Subjective Norms -> Intent to extend halal certification	0.115	0.116	0.050	2.319	0.020
Value Chain Analysis -> Subjective Norms -> Intent to process halal certification -> Intent to extend halal certification	0.098	0.099	0.038	2.585	0.010
Value Chain Analysis -> Subjective Norms -> Intent to process halal certification -> Intent to extend halal certification -> halal value behavior	-0.010	-0.010	0.031	0.313	0.755
Intent to process halal certification -> Intent to extend halal certification -> halal value behavior	-0.036	-0.035	0.113	0.315	0.753

Figure 2: Network Structure Model



Of all the criteria, the most important component based on the average value of the results is SME halal literacy with a value of 0.152, followed by a budget for strengthening SME halal products with an average value of 0.150, and the third highest is the institutional support for SME halal products (0.146). In fourth place, halal certification digital services with an average value of 0.144. The components of SME halal policy, halal companion human resources, and marketing access for SME halal products rank fifth, sixth, and seventh with an average value of 0.139, 0.137, and 0.133, respectively (Fig 3).

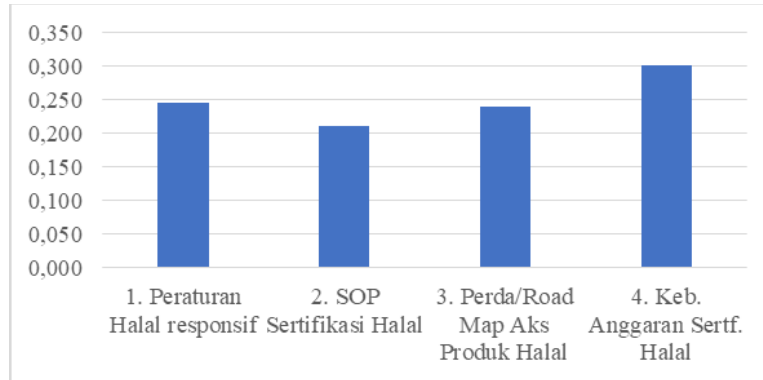
Figure 3: Halal Economy Ecosystem Criteria for SME



In the first criterion, halal SME policies in building a halal economic ecosystem for strengthening SMEs in Indonesia, there are 4 indicators based on the highest average value ranking, namely budget policies for SME halal certification with a value of 0.301, halal regulations that are responsive to SMEs with a value of 0.247, regional

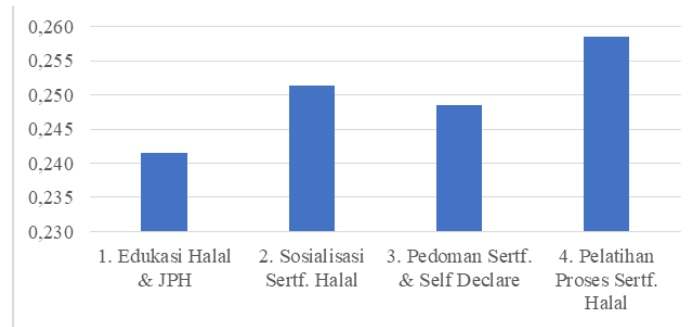
regulation/roadmap for accelerating halal SME products with a value of 0.241, and SME Halal certification SOP with a value of 0.212 (Fig 4).

Fig 4: Halal SME Policy Criteria



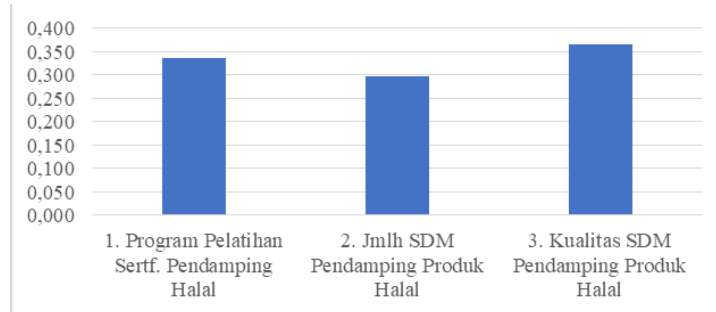
For the SME halal literacy criterion, the priority indicator with the highest value in building a halal ecosystem for strengthening SMEs in Indonesia is technical training on the halal certification process for SMEs with an average value of 0.259. Other indicators in this criterion in order are the socialization of halal certification for SMEs with a value of 0.251, the availability of manual guidelines for the halal certification process and selfdeclare for SMEs with a value of 0.249, and finally education on the concept of halal and halal product assurance for SME development stakeholders with a value of 0.241 (Fig 5).

Fig 5: Halal SME Literacy Criteria



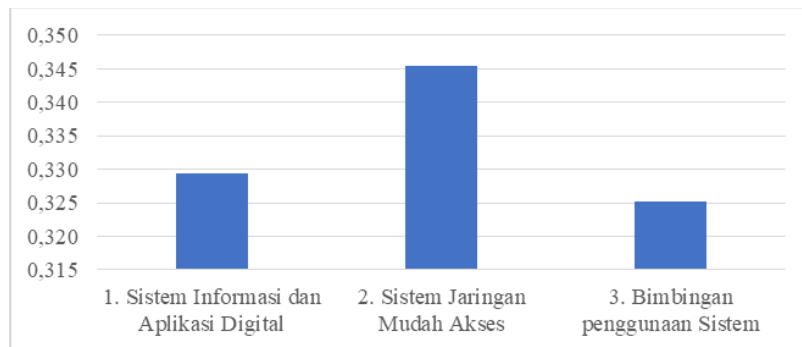
Furthermore, the human resources criteria for halal support in developing a halal economic ecosystem for strengthening SMEs in Indonesia. The measure of the quality of human resources assisting halal products is the most important, with the highest average value of 0.365. The other two indicators are the SME halal companion certification training program and the number of human resources assisting SME halal products with an average value of 0.337 and 0.298 respectively (Fig. 6).

Fig 6: Halal SME Assistance Criteria



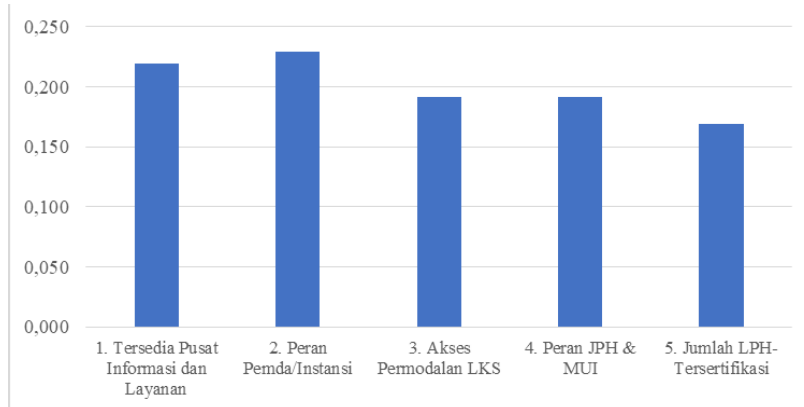
For the criteria for digital halal certification services, there is one main indicator of the three existing indicators, which is an easy-to-access network system with the highest average value of 0.345. Furthermore, the next indicator is the information system and digital applications for integrated SME halal certification services with an average value of 0.329. The last indicator is a network system that is easily accessible to SMEs with an average value of 0.325 (Fig. 7).

Fig 7: Digital Halal Certification Services Criteria



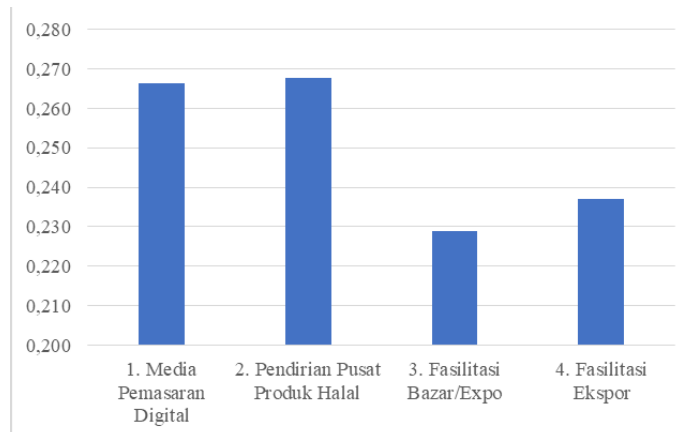
For the criteria for institutional support for SME halal products, there are 5 indicators. The order of indicators from the most important seen from the highest average value is the role of local governments / relevant agencies for halal product certification of SMEs with a value 0.230, the availability of information centers and regional halal product certification services value at 0.219, Islamic financial institutions/microfinance for access to halal SME capital and the role of JPH and MUI regions for halal product certification of SMEs value at 0.191, and finally the number of certified LPH (Halal Examining Institutions) with a value 1.169 (Fig. 8).

Fig 8: Institutional Support For Halal Sme Criteria



The criteria for halal SME market access are presented next. The most essential indication, with the highest average value of 0.268, is the construction of halal product centers/outlets in crucial areas. Indicators of digital marketing media for halal SME products are second with a difference in average value of 0.002 with a value of 0.266. The next indicator in this criterion is the facilitation of exports of superior halal products with a value of 0.237 and the indicator of facilitating the bazaar/expo of halal SME products with a value of 0.229 (Fig. 9).

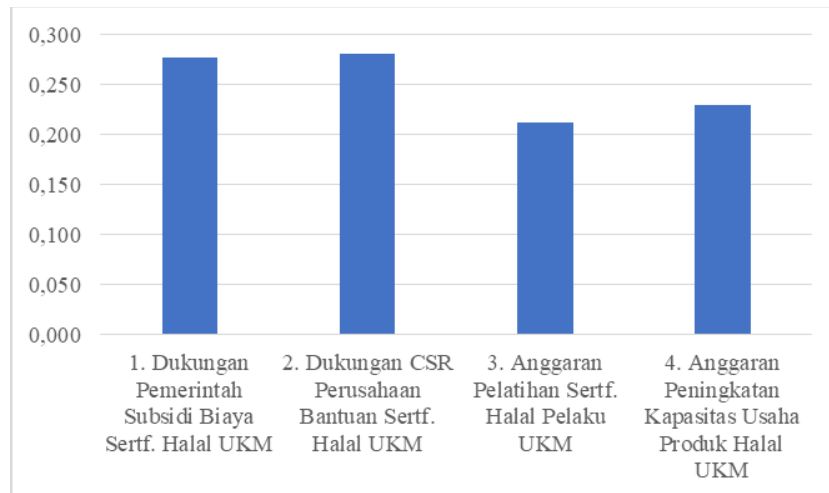
Fig 9: Access to Market for Halal SME Products Criteria



For the last criterion, the budget criteria for strengthening halal SME products, consists of 4 indicators. Based on the results, the highest average is CSR support / corporate social funds related to SME halal certification assistance with a value of 0.281. Followed by indicators of Central / Regional Government support for subsidizing SME halal certification costs with a value of 0.277, budget indicators for increasing the business capacity of SME halal products with a value of

0.230, and budget indicators for halal certification training for SMEs with a value of 0.212 (Fig. 10).

Fig 10: Budget Criteria



there are 7 priority strategies to build a halal economic ecosystem for strengthening SMEs in Indonesia. Of the seven strategies, the most important strategy seen from the highest average value is the strategy of strengthening the SME halal product certification program budget with a value of 0.149. Furthermore, the second and third most important strategies are the strategy of strengthening halal literacy and education with a value of 0.148, and the strategy of competence of halal assisting human resources with a value of 0.146. The other four strategies are the strategy of strengthening the Halal Product Guarantee policy and halal certification of SMEs (0.144), the integrated halal certification digital service strategy (0.142), the strategy of strengthening the supporting role of supporting institutions for Halal Product Guarantee (0.140), and the strategy with the last order is access to market for SME halal products (0.132).

5. Conclusion

Halal product assurance has received an adequate position in Indonesian regulations via laws, government regulations, and guidelines of related ministries, in this case, the Ministry of Religion through technical regulations in the application of halal product assurance and halal certification, the provisions related to self-declaration for SME groups, and the existence of related MUI Fatwas. Policies at the national and regional levels have been relatively helpful in the process and implementation of product certification for business actors; however, a number of policies require to be improved so that initiatives can be adapted and responsive to the needs of

community business development. Halal certification is expected not only to increase value added to certified products but also to increase the income and business value of the company itself. What needs to be a concern regarding this regulatory aspect is that the certification process needs to be understood not just labeling but substantively needs to be well understood because halal is a holistic concept so that it needs to be part of a halal lifestyle movement (halal life style) from the community. Unfortunately, Indonesia's cooperation with other countries in terms of receiving halal certification is still limited for Indonesian halal certification to obtain international halal recognition, especially for export purposes.

Based on descriptive analysis of SME behavior and statistical tests with SEM-PLS, the findings are: (1) SMEs with a high level of halal awareness and understanding will develop subjective guidelines for carrying out religious teachings and government requirements. Where subjective norms are developed, the intention of SME business players to process halal certificates and the intention to extend halal certificates is higher than in SMEs with poor halal awareness and knowledge. Thus, Muslim SMEs who have not sought halal certification should be encouraged to participate in halal business coaching programs to raise their understanding and knowledge of halal; (2) SMEs with strong Value Chain Analysis capabilities will develop subjective norms around the importance of halal certification for their commercial products. In turn, these subjective standards have a beneficial effect on business actors' intention to process halal certificates, and the intention to extend halal certificates is higher than in SMEs with limited value chain analysis capabilities. As a result, SMEs should be encouraged to participate in value chain training activities for their businesses in order to develop their business's value chain assessment capabilities; (3) Subjective norms of business actors derived by halal owned awareness and knowledge, as well as the ability to value chain analyze their firm, have a strong mediating influence on the intention to process halal certificates. These subjective norms, on the other hand, have a moderate mediating influence on the intention to extend halal certification. This means that if a SME already has a halal certificate but the validity time has expired, he may prolong it, but he may also not extend it, which has an impact on the future development of the halal industry in Indonesia.

The ANP investigation has identified the difficulties and found alternative methods for an optimal environment so that Indonesia's halal product assurance may be implemented correctly through in-depth interviews and conversations with a number of specialists from important parties. Problems that need attention are budget policies, especially in the regions so that local government support can be optimal for business actors, SMEs, in particular, are still experiencing

low commonality knowledge, awareness, and behavior for the implementation of halal certification, as well as limited human resources in the form of assistance who can provide guidance and direction for simple accessibility of the halal certification and self-declared of halal products, as well as information systems issues that can be resolved easily and fast in order to facilitate halal certification can be done quickly. Through the ANP approach, it was found that the most important strategies in order were: (1) strategy to strengthen the budget for the SME halal product certification program with a value of 0.149; (2) strengthening halal literacy and education with a value of 0.148; (3) strategy for the competence of halal assisting human resources with a value of 0.146; (4) strategy to strengthen the Halal Product Guarantee policy and SME halal certification (0.144); (5) integrated halal certification digital service strategy (0.142); (6) is a strategy to strengthen the role of supporting institutions for Halal Product Guarantee (0.140), and the strategy with the last order (7) is market access for SME halal products (0.132) increased capacity and size of the halal product company is expected to have higher competitiveness with added value in the form of halal certification.

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