

## READINESS FACTORS OF NUSANTARA FISHERY PORTS IN IMPLEMENTING HALAL SUPPLY CHAIN

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### Abstract

Logistics is a part of the supply chain which involves many business entities such as suppliers, manufacturers, distributors, and retailers. These entities will work together to obtain raw materials and turn them into final products. Halal logistics is an approach to avoid contamination of raw materials and perishable foodstuffs during transportation or distribution activities. Halal logistics is also used to avoid misinformed products and ensure Muslim consumers get and consume Halalan Toyibban's products. In the Malaysian Standard for Halal Logistics (MS 2400:2010), halal logistics requirements under Sharia law include requirements for logistics providers for transportation, warehousing, and retail. Requirements are usually from production to handling process, distribution, storing, form, presentation, packaging, and labeling. There are some concerns regarding the implementation of halal logistics among logistics agents. First, there are concerns about whether these agents follow all the guidelines and standards for halal logistics. Second, there are concerns about whether these agents separate their workers and facilities in producing and distributing halal and non-halal products. This study aims to determine factors that affect the readiness of halal logistics implementation among food-based logistics agents. Direct interviews were conducted with 131 stakeholders who directly interacted with activities at Nusantara Fishery Ports. Factor analysis was conducted to analyze the data obtained from the managers. The result shows that management support, environment, employee, halal assurance system, and vision for change affect Halal Supply Chain implementation readiness.

**Keywords:** Logistics, Halal Supply Chain, Readiness, Nusantara Fishery Ports

### INTRODUCTION

Along with the growing awareness of the need for halal products and services in Indonesia by Muslims, the number of halal industries in the country is also increasing. This encourages the importance of developing the Indonesian Halal Supply Chain ecosystem. Halal products and services are in high demand globally and in Indonesia, and the need for halal items is not

restricted to food. Food, tourism and travel, clothing and fashion, cosmetics, finance, pharmaceuticals, media and recreation, fitness, education, and cultural arts are among the ten sectors of halal industries that contribute significantly economically and commercially to the halal industry (Katadata.co.id, 2020). This is closely connected to the world's growing Muslim population, where the more extensive the world's Muslim population, the greater the demand for halal products and services. According to (Noordin, Md Noor, Hashim, & Samicho, 2009), the global Muslim population in 2012 was 1.8 billion. In 2030, the world's Muslim population is projected to reach 2.2 billion.

As the world's largest Muslim country with a Muslim population of about 80%, Indonesia should have a halal-based port. The government has ordered MUI (Indonesian Ulema Council) as the authority to certify halal to examine and develop policies in this regard. However, halal logistics has its own set of challenges in Indonesia, particularly the perception among the general public and consumers that halal logistics is not a need. This is different from other nations where halal logistics are required. This occurs because the current state of halal products in Indonesia only focuses on the substance of a specific foodstuff or ingredient rather than the method through which the product reaches customers, such as warehousing and transporting or shipping. Regarding government regulations, Indonesia has regulated halal logistics under Law Number 33/2014 concerning Halal Product Guarantee, which covers everything from the initial process until the product delivery to consumers is guaranteed halal.

The Halal Supply Chain demands the assurance of the products' halalness from the initial process to the producers' hand. The distributor companies can appropriately handle this process. Unfortunately, this process has not been supervised from suppliers to retailers and small retailers. Therefore, the provision of halal-specific transportation is a critical component in implementing a Halal Supply Chain.

Halal Supply Chain (Tieman, Jack G.A.J. van der Vorst, & Ghazali, 2017) can be defined as managing a halal network to expand halal integrity from the source to the point of purchase by the consumer. To ensure that the products are truly halal up to the consumers' purchasing point, it is necessary to define Halal Supply Chain management principles. Three components establish a Halal Supply Chain foundation: direct contact with haram (forbidden), risk of contamination, and Muslim consumers' perceptions. Risks are based on product characteristics, such as dry versus wet products and bulk products versus products incorporated into the model. Perceptions are based on the market requirements, such as school of Islamic thought, local fatwas, and local customs (Tieman & Ghazali, 2014) (Tieman et al., 2017).

Halal Supply Chain is viewed as an innovation in logistics operations for logistics agents. However, to ensure Halalan – Toyibban on food products, several improvements must be made along the supply chain for Halal products (Kurniawati & Cakravastia, 2023). The renewal from conventional logistics operations to halal logistics operations can be considered as an improvement. Apart from logistics agents providing good logistics services, they also provide better logistics services for halal products. However, to provide good logistics services for halal products, several factors need to be considered.

This study aims to find the readiness factor of Nusatanra Fishing Port in implementing halal supply chain while the hypothesis this study

- H1: Vision for change impacts the implementation of halal supply chain
- H2: Management support impacts the implementation of halal supply chain
- H3: The environment impacts the implementation of halal supply chain
- H4: Employee impacts the implementation of halal supply chain
- H5: The halal insurance system impacts the implementation of halal supply chain

## RESEARCH METHOD

This study used a survey questionnaire to gather information on the factors influencing Indonesian Fishery Ports' readiness to implement the Halal Supply Chain. The participants in this study include the government (Ministry of Maritime Affairs and Fisheries), fishermen, suppliers, customers, traders, and staff who have direct interaction with the Nusantara Fisheries Port. The total population is around 483 people. The questionnaire is divided into three sections. Section A is on the respondents' demographic profile; Section B is about their facilities, and Section C is about their academic results. The purposive sampling strategy is used to choose the target respondents. Using this method, the requirements proposed by the researcher are to have experience or work in the Nusantara Fisheries Port. Of the total population, 150 target respondents were used as research samples, and only 131 questionnaires were returned and used for final analysis. For data analysis purposes, SPSS version 20 was used to perform distribution, correlation, and regression analyses.

## RESULT AND DISCUSSION

The Indonesia government through the Ministry of Maritime Affairs and Fisheries are focussing on the skilled fisheries by assisting them in order to drive the nation economy. In 2019, relatively 576 fishery ports were reportedly spread across all provinces in the country. According to Badan Pusat Statistik Indonesia (2020), Aceh has the most significant number of fishery ports located in the westernmost part of the country. It constitutes relatively 20% of the total, resulting 114 fishery ports.

Meanwhile, the provinces with the least number of fishery ports are Jambi, South Sumatra, and West Papua, and each has only one. Fishery ports in Indonesia are divided into four categories as stated in the Regulation of the Minister of Marine Affairs and Fisheries Number: PER.08/MEN/2012, including:

1. Class A Fishery Port, called Samudera Fishery Ports (PPS)
2. Class B Fishery Port, called Nusantara Fishery Ports (PPN)
3. Class C Fishery Port, called Pantai Fishery Ports (PPP)
4. Class D Fishery Port, called Pangkalan Pendaratan Ikan (PPI)

There are 8, 14, 28, and 526 for Class A, B, C, and D fishery ports, respectively. However, there was an increase of 1 and 5 ports for Class B and D, respectively, compared to data obtained in 2018 (Badan Pusat Statistik Indonesia, 2017, 2019, 2020). Surprisingly, of 576 Class D in Indonesia, 69% have Tempat Pelelangan Ikan (TPI) or Fish Auction Points, while 31% lack this facility. Based on this, Classes A and D have the least and most TPIs, respectively (Badan Pusat Statistik Indonesia, 2020).

### Respondents Description

Of the 150 questionnaires distributed, 131 were returned as data to be analyzed. There are 93 male respondents and 38 female respondents meet in Nusantara Fishery Ports. The majority of respondents worked at the Nusantara Fishery Ports for more than 15 years with a total of 67 people, 31 had work experience for a range of 11-15 years, and 33 respondents had a livelihood ranging from 5-10 years at the Nusantara Fishery Ports. Of the 131 respondents who returned the questionnaire, 98 Muslim respondents and 33 non-Muslim respondents, with various job statuses, including 16 KKP civil servants, 43 fishermen, 24 suppliers/agents, 35 port workers, and as many as 13 buyers/consumers.

**Table 1: Validation Data Result**

Statement	r <sub>result</sub>	r <sub>tabel</sub>	Decision
<b>Vision for change (X1)</b>			
The company accepts the new policy and conducts training from the Halal Supply Chain	0,600	0,197	Valid
The company understands the importance of new policies of Halal Supply Chain training	0,645	0,197	Valid
The company changes its leadership vision to Islamic leadership	0,581	0,197	Valid
The company prepares to face the Halal Supply Chain	0,849	0,197	Valid
The company rearranges your organizational structure to face the Halal Supply Chain	0,836	0,197	Valid
All employees understand the existence of a Halal Supply Chain	0,806	0,197	Valid
All employees are allowed to participate in the Halal Supply Chain	0,852	0,197	Valid
The company can provide suitable facilities to deal with the Halal Supply Chain	0,870	0,197	Valid
<b>Management support (X2)</b>			
The company appeals halal logistics and how the employees respond	0,704	0,197	Valid
The company prepares to face the Halal Supply Chain	0,686	0,197	Valid
The company guides the Halal Supply Chain	0,841	0,197	Valid
The company provides direction to employees to know their roles in dealing with the Halal Supply Chain	0,871	0,197	Valid
<b>Environment (X3)</b>			
The company gives employees the right to make decisions	0,811	0,197	Valid
The existence of the global halal market affects the company's Halal Supply Chain services	0,597	0,197	Valid
Management makes cooperation between employees	0,865	0,197	Valid
The company provides trust and equal treatment between employees	0,849	0,197	Valid
The company acknowledges and learns about existing market competition	0,836	0,197	Valid
The company has provided advice and training on Halal Supply Chain	0,866	0,197	Valid
<b>Employee (X4)</b>			

The company holds employee consent	0,617	0,197	Valid
Islam is the primary consideration for recruiting employees	0,705	0,197	Valid
The company conducts training for employees who have been recruited regarding the Halal Supply Chain	0,714	0,197	Valid
Prospective employees who are recruited must meet criteria, such as knowing logistics, essential management, etc., to be considered	0,951	0,197	Valid
<b>Halal Assurance System (X5)</b>			
The company's information system can ensure the halal logistics system runs well	0,944	0,197	Valid
The company creates a new operating system to meet the applicable halal regulations	0,909	0,197	Valid
The company implements a system that can track shipments to ensure the process of delivering to the consumers	0,908	0,197	Valid
Consumers are aware of halal logistics and inquire about the halalness of the products	0,705	0,197	Valid

The criteria used in finding the validity of the statements used in this study are as follows: confidence level = 95 percent ( $\alpha = 5$  percent), all indicators used to measure the variables used in this study have a greater correlation coefficient from  $r$  table = 0.197, indicating that all indicators are valid.

**Table 2: Reliability Data Result**

Variable	Alpha Cronbach	Decision
Vision for change	0,904	Reliable
Management support	0,642	Reliable
Environment	0,862	Reliable
Employee	0,632	Reliable
Halal Assurance System	0,936	Reliable

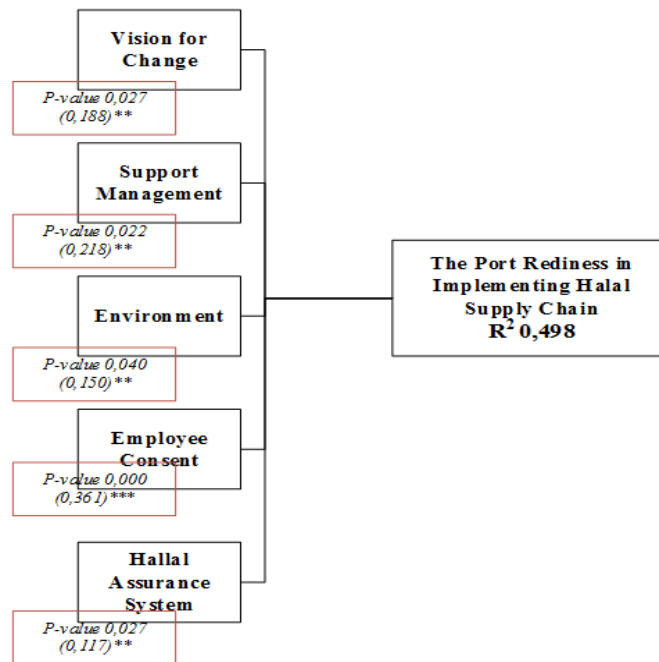
If the value of Cronbach's Alpha  $> 0.6$ , then the instrument is reliable. From the reliability test result, the reliability coefficient for all variables used in this study is greater than the critical value, which is 0.6. Therefore, it can be concluded that all questions in this study can be declared reliable.

**Table 3: Regression Analysis Results**

Independent Variable	Regression Coefficient	Sig-t (p-value)
Constant	0,243	
Vision for change	0,188	0,027
Management support	0,218	0,022
Environment	0,150	0,040
Employee	0,361	0,000
Halal Assurance System	0,117	0,027
F count	20,681	
Sig-F	0,0000	
Adjusted R <sup>2</sup>	0,498	

With a coefficient of determination (Adjusted R2) of 0.498, it can be concluded that the vision for change, management support, environment, staff recruiting, and halal assurance system all influence 49.8% of the success of halal logistics. In contrast, the remaining 50.2 percent is influenced by other variables that are not included in the research model.

### Hypothesis Test



\*\*\* Significant at p-value < 0.01; \*\* significant at p-value < 0.05; \* significant at p-value < 0.10

The variable vision for change is obtained p-value (0.027) because the value of sig t (0.027) < 0.05, it can be concluded that Ho is rejected, which means that the vision for change has a significant positive effect on the success of the Halal Supply Chain. The management support variable obtained p-value (0.022), because the value of sig t (0.022) < 0.05, it may be concluded that Ho is rejected, implying that management support has a considerable positive impact on the success of the Halal Supply Chain. The environmental variable obtained p-value (0.040), because the value of sig t (0.040) < 0.05, it can be concluded that Ho is rejected, implying that the environment has a significant positive effect on the success of the Halal Supply Chain.

The employee Consent variable obtained p-value (0.000). Because the value of sig t (0.0000) < 0.05, therefore it can be concluded that Ho is rejected, implying that the employee Consent has a significant positive effect on the success of the Halal Supply Chain. The halal assurance system variable obtained p-value (0.027), because the value of sig t (0.027) < 0.05, it can be concluded that Ho is rejected, which means that the halal assurance system has a significant positive effect on the success of the Halal Supply Chain.

**Table 4: Descriptive Analysis Results**

**Vision for Change**

No	Question	Mean	Category
1	The company accepts the new policy and conducts training from the Halal Supply Chain	3,15	Strongly Agree
2	The company understands the importance of new policies of Halal Supply Chain training	3,35	Strongly Agree
3	The company changes its leadership vision to Islamic leadership	3,25	Strongly Agree
4	The company prepares to face the Halal Supply Chain	3,01	Agree
5	The company rearranges your organizational structure to face the Halal Supply Chain	3,04	Agree
6	All employees understand the existence of a Halal Supply Chain	2,97	Agree
7	All employees are allowed to participate in the Halal Supply Chain	3,07	Agree
8	The company can provide suitable facilities to deal with the Halal Supply Chain	3,06	Agree

**Management Support**

No	Question	Mean	Category i
1	The company appeals halal logistics and how the employees respond	3,13	Strongly Agree
2	The company prepares to face the Halal Supply Chain	3,35	Strongly Agree
3	The company guides the Halal Supply Chain	3,12	Strongly Agree
4	The company provides direction to employees to know their roles in dealing with the Halal Supply Chain	2,92	Agree

**Environment**

No	Question	Mean	Category
1	The company gives employees the right to make decisions	3,04	Agree
2	The existence of the global halal market affects the company's Halal Supply Chain services	3,06	Agree
3	Management makes cooperation between employees	3,06	Agree
4	The company provides trust and equal treatment between employees	3,14	Strongly Agree
5	The company acknowledges and learns about existing market competition	3,22	Strongly Agree
6	The company has provided advice and training on Halal Supply Chain	2,96	Agree

### Employee

No	Question	Mean	Category
1	The company holds employee consent	2,61	Agree
2	Islam is the primary consideration for recruiting employees	3,32	Strongly Agree
3	The company conducts training for employees who have been recruited regarding the Halal Supply Chain	3,29	Strongly Agree
4	Prospective employees who are recruited must meet criteria, such as knowing logistics, essential management, etc., to be considered	3,34	Strongly Agree

### Halal Assurance System

No	Question	Mean	Category
1	The company's information system can ensure the halal logistics system runs well	2,10	Disagree
2	The company creates a new operating system to meet the applicable halal regulations	2,17	Disagree
3	The company implements a system that can track shipments to ensure the process of delivering to the consumers	2,26	Disagree
4	Consumers are aware of halal logistics and inquire about the halalness of the products	2,37	Disagree

This study shows that the vision for change has a considerable positive impact on the success of the Halal Supply Chain. As a result, increasing the vision for change will improve the Halal Supply Chain implementation success. The vision for change usually comes from top management. Suppose top management has a goal to transform the company's operations to meet the halal logistics requirements (Rusydia et al., 2023). In that case, all employees must learn, understand, and handle all logistics activities according to the halal logistics criteria. However, organizational leaders must understand that the vision only serves as a guide for their employees when change is needed. All management and technical levels will benefit from the guidelines and training to implement proper halal logistics. These results support Tarmizi et al., 2014 which found that vision for change has a substantial beneficial impact on the success of the Halal Supply Chain implementation.

This study shows that management support has a considerable beneficial impact on the success of the Halal Supply Chain implementation. This result means that more outstanding management support will improve the success of implementing the Halal Supply Chain. Employees play a more prominent role in support actions than top management. Other levels of management must contribute ideas, instructions, and guidance to implement a halal logistics system in the company and ensure that the entire system is well prepared to cope with failures, problems, and risks. Top management must explain and provide training so that all levels of management understand their individual roles in carrying out halal logistics to gain support



from other levels of management. These results are following Tarmizi et al., 2014 which found that management support has a considerable beneficial impact on the success of halal logistics implementation.

This study shows that the environment has a significant positive impact on the Halal Supply Chain implementation success. This indicates that improving the environment will boost the success of the Halal Supply Chain implementation (Fernando et al., 2022). Both internal and external factors can influence an organization's readiness to change. Both of these factors can have an impact on organizational readiness. An efficient workplace can encourage employees to perform well to carry out halal logistics according to the Halal Supply Chain requirements. Employees' productivity can improve if they work in a conducive workplace environment. Teamwork and strong relationships among employees can make the work environment more efficient, whereas the external environment consists of various things. Government, for example, can sometimes be a positive force for change in a company, but it can also be a roadblock. Logistics agents must prepare to face all the problems that come with change. These results support Tarmizi et al., 2014 which found that the environment has a considerable beneficial impact on the success of the Halal Supply Chain implementation.

This study shows that employee Consent has a considerable beneficial impact on the implementation of the Halal Supply Chain. This suggests that increasing employee Consent will improve the success of the Halal Supply Chain implementation. Employee recruiting is critical for a company or organization to prepare for halal logistics implementation. Muslim employees will be easier adapting to changes in logistics operations than non-Muslim employees. The most critical aspect of instilling the halal concept to the employees is halal training. The most difficult challenge will be faced by the management level when communicating the concept of halal to non-Muslim employees from the details of operations and information systems. It is critical to train employees at all levels of the company or organization, from management to the employees, to embrace all halal logistics.

This study shows that halal assurance system has a significant positive impact on the success of the Halal Supply Chain implementation. This indicates that improving the halal assurance system will boost the success of the Halal Supply Chain implementation. Since logistics companies are involved in the halal sector, one of the most significant issues is the halal assurance system. The halal assurance system can provide general instructions for all halal logistics operations in the company. The halal assurance system provides standards to ensure the supply chain integrity of halal products (Khan et al., 2021). A halal assurance system ensures that all entities involved in the halal product supply chain can meet all halalan-toyiban standards in all areas, including management systems, halal risks, halal facilities, equipment, and infrastructure. The assurance system can provide information about halal products, including ingredients, manufacturing processes, and logistics activities relevant to halal demands, based on Indonesian legislation and halal regulations, including food preparation, control, and logistics.

## CONCLUSION

The results of this study show that some factors are affecting the readiness to implement Halal Supply Chain. Those factors include the vision for change, management support, working environment, employee consent, and halal assurance system. The study results show that those factors have a considerable beneficial impact on the success of Halal Supply Chain implementation. With the impact of the vision for change, management support, working environment, employee recruitment, and the halal assurance system, as one of the food-based logistics agents, Nusantara Fishery Ports needs to consider these factors to be ready in implementing Halal Supply Chain simultaneously or partially.

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