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A criminal perspective of the COVID-19 Pandemic's impact on the Distribution of Halal Food

Siti Nur Azizah¹

Universitas Negeri Surabaya, Indonesia

Abstract

The Halal food sector is one of the world's major industries. To meet the needs of Muslim societies, the delivery of halal food must be efficient. However, COVID-19 harms the performance of the halal food business, resulting in massive profit losses and customer unhappiness. This study aims to evaluate the criminal aspect of the COVID-19 pandemic on the distribution of halal food in Indonesia. The association between raw material unavailability, supply chain inefficiencies, wholesaler performance, retailer performance, distributor performance, and halal food distribution is investigated through a questionnaire survey. Two hundred seventy questionnaires were received and analyzed for data. Due to the lack of raw materials caused by COVID-19, the investigation revealed that supply chain operations are performing poorly. The lack of raw materials increases the inefficiency of supply chain processes. The inefficiencies in supply chain operations led to a decline in wholesalers, retailers, and distributor performance. In addition, the reduction in wholesaler, retailer, and distributor performance contributed to the decrease in halal food distribution performance.

Keywords. The halal food industry, raw material, supply chain, wholesaler performance, retailer performance, distributor performance, and halal food distribution.

1. Introduction

Halal food is an absolute necessity for Muslim societies, as Muslim communities always prefer to consume halal meals (Basri & Arafah, 2023; Purwanto et al., 2020). Various Muslim-populated countries require halal cuisine. The availability of halal food in multiple societies is one of the obstacles. Because there is a mixed population in many countries, comprising Muslims and non-Muslims. The availability of halal food is one of the issues nations face in this context. Although halal food distribution companies are present in all nations, delivering halal food in non-Muslim countries is more complicated.

Under the circumstances of COVID-19, halal food distribution poses a more significant challenge to society. Because the COVID-19 imposes several restrictions on commercial activities, it is difficult for many companies to offer halal food (Muslih,

¹ Study Program of Law, Universitas Negeri Surabaya, Jl. Lidah Wetan, Surabaya 60213, Indonesia. Email: sitinurazizah@unesa.ac.id

2021). In the COVID-19 context, the condition of physical mobility disrupts operations in diverse countries the most. The social distance caused several difficulties for businesses to conduct their operations. In this environment, enterprises distributing halal products confront several global obstacles, and consumers continue to experience trouble acquiring halal meals. As halal food comprises multiple types, it is not easy to obtain all varieties in COVID-19. Therefore, under the current climate of COVID-19, halal food distribution is a significant challenge for businesses (Wahyuni et al., 2021).

Similar to other nations, halal food distribution is complex in Indonesia. Because Indonesia is home to a sizeable Muslim population (Untari, 2019; Zulkarnaen et al., 2019), the distribution of halal food and the availability of halal food for the entire population is challenging. In particular, in the context of COVID-19, the delivery of halal food throughout the entirety of Indonesia is one of the most significant obstacles. Therefore, as with other nations, Indonesia faces an essential natural resource availability concern. Notably, the halal food industry has remained in disarray due to the suspension of numerous commercial activities in Indonesia (Riadil, 2020). All activities of the halal food sector were negatively impacted; however, it will take a considerable amount of time to develop to a particular level to distribute halal food throughout Indonesia. Even though halal food distribution is operational in Indonesia, the COVID-19 has rendered the quality of halal food and all operations substandard.

In some areas of Indonesia, the materials necessary to create halal food are lacking, disrupting the supply chain. Due to the lack of halal food materials, the supply chain operations were severely disrupted, resulting in a decline in the industry's overall service quality (Zheng et al., 2022). In addition, the supply chain issues harm the halal food retail industry. It also disrupts the business of food wholesalers in Indonesia. Due to the delay in halal food product distribution, the halal food industry's distributors face numerous difficulties. These difficulties in Indonesia's halal food business harm the overall distribution performance of halal food items in Indonesia.

This study aims to expose the criminal potential of COVID-19 regarding halal food distribution in Indonesia. Research has examined the global halal food industry (Basri & Arafah, 2023; Karim et al., 2022; Mohamed et al., 2022). However, most of these studies have ignored the illegal function of COVID-19 concerning the distribution of halal food items in Indonesia. Thus, the current study addressed an important gap in the literature and emphasized the criminal potential of COVID-19 in the distribution of halal food. The study results can elucidate the issues and difficulties caused by COVID-19 in the distribution of halal food products and identify the numerous challenges encountered by the halal food business in Indonesia. It will assist in directing diverse tactics to resolve challenges and boost the distribution of halal foods in Indonesia.

2. Literature Review

The Halal industry is the newest trend in the international market (binti Nor et al., 2022). With the global Muslim population exceeding three billion, the Halal food industry has become one of the most rapidly expanding enterprises on the worldwide market. The halal industry also encompasses banking, tourism, service, transportation, and food. The current study, however, is limited to the halal food market. This research aimed to explain the role of COVID-19 in the halal food sector.

It is evident from the literature that COVID-19 has a significant impact on global halal food delivery. Therefore, the objective of this study is to determine how the performance of halal food distribution declined. Thus, the current study found the critical issue of raw material shortage for product production. A disruption in raw material production disrupts the supply chain. In addition, this procedure directly affects the performance of wholesalers, retailers, and distributors and the distribution of halal food in Indonesia. Figure 1 depicts the relationship between the unavailability of raw materials, the inefficiency of the supply chain, the performance of wholesalers, retailers, and distributors, and the distribution of halal food.

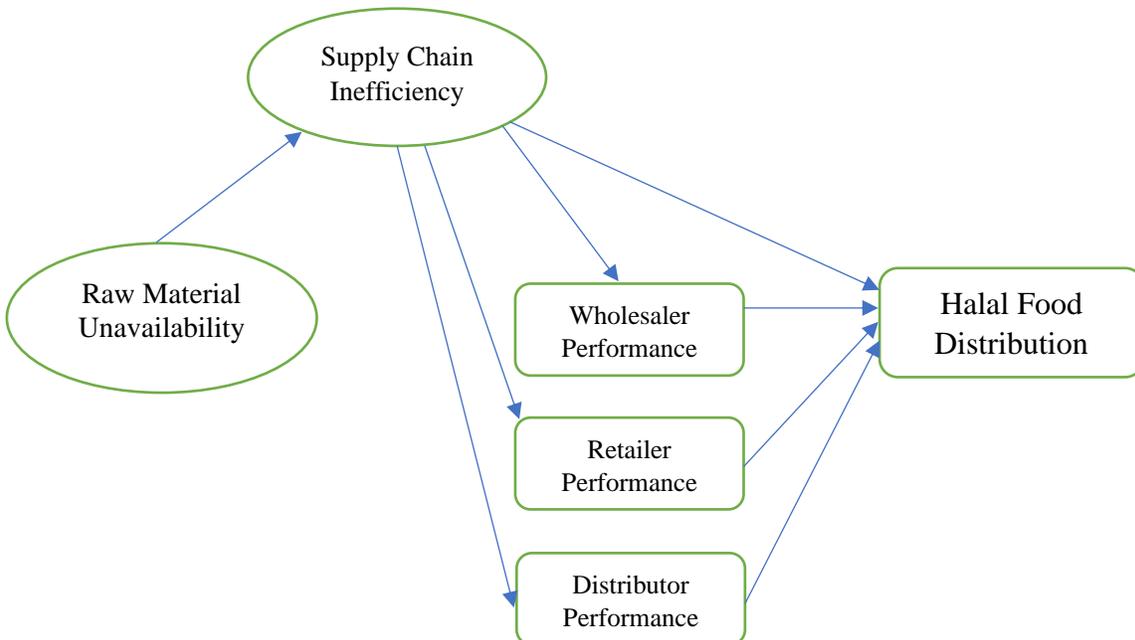


Figure 1. The framework of the Study

2.1 Unavailability of Raw Food Resources

Raw materials are the input goods and inventory that a company wants to manufacture different products. Various restaurants, food manufacturers, and processing plants use numerous diverse types of raw materials to create food products. These comprise raw meat, seafood, poultry, fruits, vegetables, grains, seeds, nuts, dairy, fungi, and eggs. Along with the other organizations, the food industry also requires raw materials to make various products (Gao et al., 2020; Kamble & Raut, 2019). The availability of raw materials in the food industry has major importance. Although the raw material is majorly discussed in several other business organizations, it is less focused on the food industry. Therefore, the current study filled the literature gap by considering the raw material in the food industry. Making various products related to the food industry requires natural food, and the availability of natural foods is most important for the food industry. The unavailability of natural foods for manufacturing various food products may lead to a decrease in the process of halal food. Several types of raw materials are required for the food industry to manufacture multiple products, including various products

related to the meat, vegetables, and other products. The unavailability of different materials for food industry led to the decrease in the manufacturing of food products.

This study centered on the availability of food raw materials during the COVID-19 era. In the period of COVID-19, lockdowns and disruptions in company activities have disrupted the whole commercial market. The COVID-19 halted numerous firms, and their operations were suspended for several years (Purba et al., 2021). Thus, the availability of food supplies remained disrupted, resulting in a decline in the food industry's overall performance. Although the food industry relies heavily on natural foods, COVID-19 rendered natural foods unavailable to produce various items.

2.2 Supply Chain Inefficiency

A supply chain includes a series of steps of getting a product or service to the customer. The steps comprise moving and transforming raw materials into various finished products, transferring those products, and distributing them to the end-user. The process of supply chain is highlighted in Figure 2.

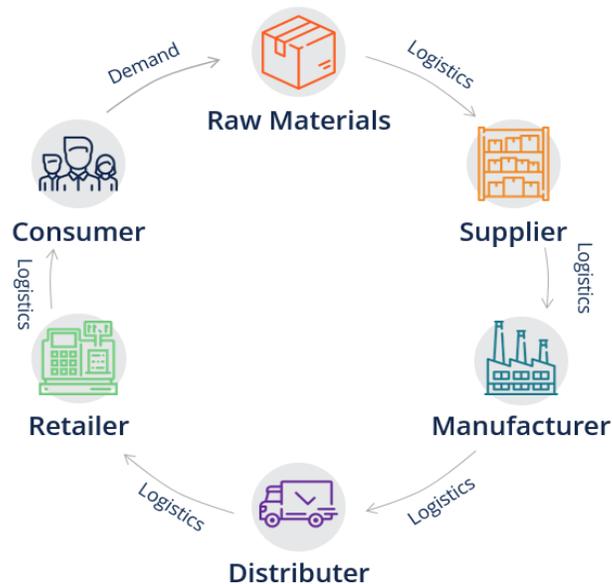


Figure 2. Supply Chain Process

The supply chain is crucial to the product production process since it is dependent on the process from the starting level to the final level of the product, as well as the distribution of the product to the final consumer (Ketchen Jr & Craighead, 2020). Consequently, it begins with the raw materials and concludes with the delivery to the consumer. Therefore, every issue at any stage of the supply chain process delays product production (Rejeb et al., 2021). Like other industries, the food business requires effective supply chain strategies (Nor et al., 2016). The inefficiency in the supply chain refers to the disruption in the supply chain process, which might delay the production of the product. The delay in food delivery to various consumers was caused by the delay in the production of the commodity. The supply chain process generally involves raw materials, suppliers, distributors, retailers, and consumers.

Material availability is crucial for initiating the supply chain process, as it facilitates the timely production of items. All of these supply chain aspects are highlighted in Figure 2. Like other industries, the supply chain in the food business comprises numerous processes, each essential to the production of food items.

2.3 Wholesale Performance

Wholesale is purchasing a variety of items in quantity from a producer at a discount and selling them to a retailer at a higher price (Sheu & Kuo, 2020). Importance of the wholesaler in the supply chain process (Lhassan et al., 2018). The wholesaler's performance is crucial for carrying out all activities and delivering items to consumers promptly. A wholesaler is a person who purchases a variety of goods from the producer and distributes them to retailers. In this method, the wholesaler purchases items from the manufacturer at a discount and distributes them at the actual price. Therefore, wholesalers play a crucial role in the entire process of making and distributing commodities. In the current study, wholesaler performance can be defined as promptly distributing high-quality items to retailers.

2.4 Retailer Performance

A retailer is a person or company that sells a variety of commodities to the general public in relatively small amounts for use or consumption rather than resale. In addition to other aspects of a product's distribution, the function of the retailer is crucial. A retailer is a person who sells modest quantities of a variety of goods and services to numerous customers for consumption. A wholesaler is a person who provides others with small amounts of commodities for personal consumption. It does not contain services intended for resale and is typically limited to smaller quantities than a wholesaler. In all company activities, the performance of retailers is crucial. This study examined the performance of retailers based on acceptable pricing and meeting deadlines. In describing retailer success, the importance of timing, quality, and pricing cannot be overstated.

A retailer's performance is not commensurate with low-quality, high-priced goods. Therefore, store performance is mainly determined by timely delivery, reasonable quality, and fair pricing. Several studies have described retailer performance in various business sectors (Mohanty et al., 2019), but retailer performance in the food industry has not been extensively studied and documented. Mainly, the performance of retailers in halal food distribution is not much confirmed by prior research, so there is a considerable need to explore the role of retailers and their performance in halal food distribution. In light of this lacuna in the literature, the present study sought to examine the role of retailers and their performance throughout the covid-19 years in halal food distribution.

2.5 Distributor Performance

A distributor is an agent who supplies merchants with goods. In addition to wholesalers and retailers, distributors play an important role in businesses (Sinaga et al., 2021). It is one of the most crucial parts of the supply chain process that ensures the timely delivery of various items to consumers. In contrast to other businesses, the food industry relies mainly on distributors. Distributors are businesses that acquire multiple product lines and sell them directly to numerous customers. Therefore, the

distributor is a mediator between the manufacturer and the clients. Distributors are crucial to the success of businesses since they give producers diverse ideas and aid in market targeting. For food firms, it is difficult to cover a particular potential market; nonetheless, distributors are an integral element of the business, allowing producers to target the market and deliver their products to the appropriate individuals.

Therefore, distributors are primarily responsible for the distribution of halal food. The retailer and wholesaler play the most significant roles in the food industry, but the distributor cannot be overlooked. Numerous studies have recognized the importance of the distributor (Bhatt, 2021; Tse et al., 2019). However, in the food business, the role of the distributor's performance has not been extensively documented. In light of COVID-19, this study highlights the importance of distributor performance in the halal food business.

COVID-19 harmed businesses, with the food industry being one of the businesses impacted by the virus (Brooks et al., 2021). The enterprises produce a variety of goods but face a raw material shortage. Similarly, the food business faces several fundamental material-related challenges in making halal food items. Specifically, the lack of raw materials to produce various halal dishes continues to cause concern. In this manner, COVID-19 significantly impacted the performance of the halal food industry. The unavailability of raw materials was the primary difficulty facing the manufacturing industry. Companies could not receive raw materials on time, disrupting supply chain operations as the supply chain is one of the essential aspects of any industry. Any resource-related difficulty in supply chain activity might contribute to inefficiency in supply chain activity (AlZgool et al., 2021; Nordhagen et al., 2021). The inefficient supply chain activity and other supply chain-related activities impact the whole operation. Therefore, the study also examined the relationship between raw material unavailability and food sector supply chain operations. The lack of raw materials causes significant harm to the halal food business. The halal food sector is one of the largest industries worldwide, and corporations distribute halal goods in various nations. However, the paucity of raw materials causes delays in numerous activities, resulting in the lack of halal food in several countries. COVID-19 thus played a criminal role in reducing the operational performance of the halal food industry. Consequently, prior research indicates that COVID-19 has disrupted supply chain operations in the food business (Brooks et al., 2021). Therefore, based on the preceding discussion, the current study proposes that a lack of raw materials leads to supply chain inefficiencies, as indicated in the following hypothesis:

Hypothesis 1. Raw material unavailability has a relationship with supply chain inefficiency.

The disruption inactivity brings on several challenges regarding halal food distribution. The delivery of halal food involves three key components. The first distribution is based on the halal food product wholesaler. The wholesaler relies on distributing commodities to several shops (Ke & Bookbinder, 2018). However, the wholesaler's performance is dependent on the company's supply chain efficiency. The wholesaler's performance significantly impacts the halal food industry's procedures. Previous research has also demonstrated that the wholesaler has significant interaction with the supply chain. However, a decline in wholesaler performance

significantly impacts the entire process. Typically, a wholesaler's performance is determined by supply chain operations. The efficient operations have the potential to improve the performance of wholesalers. However, the impact of supply chain efficiency on wholesaler performance is negative.

Second, the halal food business is also dependent on the performance of retailers. Retailers play a crucial role in the halal food business since they deliver numerous products to consumers. In this way, retailers' version is equally vital in the halal food market. Previous research also suggested that retailer performance in the halal food market contributes significantly to the industry's success (Masudin et al., 2021). However, retailer performance is equally essential to comprehend the company's actions. However, inefficiencies in the company's supply chain activities can affect the performance of its retailers. Previous research has also demonstrated the significant association between supply chain and retailer success (Beullens & Ghiami, 2022).

Thirdly, the halal food business is also dependent on the companies' distributors. Always numerous distributors sell the products to consumers on behalf of the companies. In this approach, the performance of the distributor is also significant. In addition to the performance of the wholesaler and retailer, the distributor's commission also plays a vital role in numerous industries. As demonstrated by prior research, distributors play a crucial role in distributing products for various businesses. In halal food enterprises, distributor performance is dependent on the efficiency of the supply chain process. Increases in supply chain performance can boost the performance of distributors.

Hypothesis 2. Supply chain inefficiency has a relationship with wholesaler performance.

Hypothesis 3. Supply chain inefficiency has a relationship with retailer performance.

Hypothesis 4. Supply chain inefficiency has a relationship with distributor performance.

Hypothesis 5. Supply chain inefficiency has a relationship with halal food distribution.

In addition, the current study indicates that inefficiency in supply chain activities might affect the distribution of halal food, with the wholesaler performance, retailer performance, and distributor performance making the most contribution. Inefficiency in the supply chain has a direct impact on wholesaler performance. Because inefficiency in supply chain performance creates delays in the production of various items, it leads to a decline in wholesaler performance. As the wholesaler's performance depends on the distribution of finished goods to retailers, the delay in the manufacture of goods has a detrimental impact on the wholesaler's performance, hence on the distribution of halal food. Similarly, there is a correlation between retailer performance and halal food distribution. In general, improved retailer performance led to increased halal food distribution. However, a decline in retailer performance leads to a deterioration in halal food distribution. According to prior research, the wholesaler and retailer play a significant role in product distribution (Ke & Bookbinder, 2018; Sumarni et al., 2020). Observations indicate that supply chain efficiency led to a decline in wholesalers and store performance, which led to a decrease in halal food distribution efficiency.

Similarly, according to the current study, there is a correlation between distributor performance and halal food distribution. The negative impact of supplier

inefficiencies and distributor performance decreases halal food distribution. Therefore, it is argued that the performance of wholesalers, retailers, and distributors has a significant association with halal food distribution.

Hypothesis 6. Wholesaler performance has a relationship with halal food distribution.

Hypothesis 7. Retailer performance has a relationship with halal food distribution.

Hypothesis 8. Distributor performance has a relationship with halal food distribution.

Hypothesis 9. Wholesaler performance mediates the relationship between supply chain inefficiency and halal food distribution.

Hypothesis 10. Retailer performance mediates the relationship between supply chain inefficiency and halal food distribution.

Hypothesis 11. Distributor performance mediates the relationship between supply chain inefficiency and halal food distribution.

3. Research Methodology

The current study considered the relationship between raw material unavailability, supply chain inefficiency, wholesaler performance, retailer performance, distributor performance, and halal food distribution. This relationship is based on the primary data as a questionnaire is used to measure this relationship. Therefore, this study is based on a quantitative research approach. Furthermore, this study follows a cross-sectional research design while data collection from respondents.

A survey questionnaire uses five variables: raw material unavailability, supply chain inefficiencies, wholesaler performance, retailer performance, distributor performance, and halal food distribution. The current study analyzed raw material unavailability based on the resources accessible to halal food manufacturers to produce various goods. The present study examined the unavailability of raw materials by observing the availability or unavailability of various food resources to produce multiple products. In addition, the inefficiency of the supply chain is determined by analyzing the performance of different food production phases. The performance of a wholesaler is determined by the delivery of various halal food goods to retailers. Consideration is given to the timely delivery of food items and their reasonable quality and cost. In addition, store performance is evaluated based on the timely delivery of food items to consumers and customers and their appropriate pricing and quality.

Similarly, distributor performance is evaluated based on the timely delivery of products to clients. In addition, halal food distribution is assessed based on the performance of halal food distributors regarding consumer satisfaction. These measures are based on the Likert scale, the most widely used instrument for data gathering and endorsed by several prior studies.

Following the development of a survey questionnaire, its face validity and content validity are proven. To confirm the questionnaire's face validity and content validity, experts in halal food distribution were surveyed for this study. After securing the questionnaire, 80 survey questionnaires are used to conduct the pilot study. According to the pilot study, all scale items are reliable and valid; consequently, none of the scale items are eliminated from the study. Finally, 600 questionnaires were sent

to the respondents in this study. The study's population is comprised of halal food distribution enterprises. The staff of halal food distribution companies was chosen as the study's respondents. In the end, 270 questionnaires were received and analyzed for the current study.

4. Findings

The current study used to analyze data for initial data screening (Ahmad Mahmoud et al., 2018), in which various errors related to the missing value and outlier was examined. Furthermore, the normality of the data is also considered. Data statistics are shown in Table 1. Normality of the information is not a problem in this study because the current research uses Partial Least Square (PLS), which is suitable for examining the normal and non-normal data (Hooi et al., 2018). Data screening shows that retailer performance has two missing values, halal food distribution has five missing values, and supply chain inefficiency has three missing values. All the missing values are removed by using recommended method. On the other hand, no outlier was found in the data.

Table 1. Data Statistics

	No.	Missing	Mean	Median	Min	Max	SD	Kurtosis	Skewness
RMU1	1	0	1.977	2	1	5	0.927	0.771	1.017
RMU2	2	0	2.064	2	1	5	1.201	0.522	1.195
RMU3	3	0	1.843	2	1	5	0.898	0.839	1.093
RMU4	4	0	1.791	2	1	5	0.884	1.37	1.188
RMU5	5	0	2.07	2	1	5	1.149	0.902	1.23
SCI1	6	0	2.064	2	1	5	1.116	0.942	1.214
SCI2	7	0	1.855	2	1	5	0.944	2.867	1.591
SCI3	8	0	1.994	2	1	5	1.128	1.151	1.334
SCI4	9	0	2.105	2	1	5	1.299	0.332	1.201
SCI5	10	0	2	2	1	5	1.131	0.606	1.143
SCI6	11	0	1.924	2	1	5	1.034	0.794	1.138
WP1	12	0	1.983	2	1	5	1.037	1.094	1.234
WP2	13	0	1.913	2	1	5	0.993	1.292	1.29
WP3	14	0	2.07	2	1	5	1.108	0.531	1.103
WP4	15	0	1.924	2	1	5	1.084	0.58	1.174
RP1	16	0	1.994	2	1	5	1.184	0.964	1.306
RP2	17	0	1.797	2	1	5	0.97	2.066	1.46
RP3	18	0	1.965	2	1	5	1.011	0.715	1.092
DP1	19	0	2.227	2	1	5	1.116	-0.128	0.833
DP2	20	0	1.785	2	1	5	0.879	2.987	1.522
DP3	21	0	2.041	2	1	5	1.122	1.183	1.313
DP4	22	0	2.099	2	1	5	1.103	0.602	1.087
HFD1	23	0	2.087	2	1	5	1.104	0.56	1.055
HFD2	24	0	2.256	2	1	5	1.245	-0.188	0.906
HFD3	25	0	2.186	2	1	5	1.186	-0.107	0.92
HFD4	26	0	2.372	2	1	5	1.267	-0.742	0.619
HFD5	27	0	2.39	2	1	5	1.25	-0.596	0.722

Note: RMU = Raw Material Unavailability, SCI = Supply Chain Inefficiency, WP = Wholesaler Performance, RP = Retailer Performance, DP = Distributor Performance, HFD = Halal Food Distribution

Confirmatory Factor Analysis (CFA) is carried out to confirm the factor loadings (Basco et al., 2021; Joe F Hair Jr et al., 2020). Factor loadings are considered to retain or delete the items. All the factor loadings are given in Table 2. This study 0.5 as the minimum level in factor loadings to retain the items. It is evident from Table 2, that all the variables, raw material unavailability, supply chain inefficiency, wholesaler performance, retailer performance, distributor performance, and halal food distribution, have factor loadings higher than 0.5.

Additionally, this study examined composite reliability (CR) and average variance extracted (AVE). To achieve a certain level of reliability, CR is higher than 0.7. All the variables have reached the minimum level of CR. AVE is considered to check the convergent validity. Convergent validity requires AVE above 0.5. It is found that; all the variables have AVE above 0.5. Finally, while considering discriminant validity (Hyland et al., 2019), this study used factor loading in Table 3.

Table 2. Confirmatory Factor Analysis (CFA) Results

Variables	Items	Loadings	Alpha	CR	AVE
Distributor Performance	DP1	0.769	0.724	0.828	0.548
	DP2	0.774			
	DP3	0.626			
	DP4	0.781			
Halal Food Distribution	HFD1	0.813	0.855	0.896	0.632
	HFD2	0.801			
	HFD3	0.822			
	HFD4	0.805			
	HFD5	0.731			
Raw Material Unavailability	RMU1	0.707	0.805	0.865	0.562
	RMU2	0.788			
	RMU3	0.715			
	RMU4	0.75			
	RMU5	0.785			
Retailer Performance	RP1	0.851	0.72	0.843	0.642
	RP2	0.768			
	RP3	0.783			
Supply Chain Inefficiency	SCI1	0.764	0.834	0.878	0.547
	SCI2	0.707			
	SCI3	0.713			
	SCI4	0.723			
	SCI5	0.787			
	SCI6	0.74			
Wholesaler Performance	WP1	0.821	0.779	0.858	0.602
	WP2	0.772			
	WP3	0.802			
	WP4	0.703			

Note: RMU = Raw Material Unavailability, SCI = Supply Chain Inefficiency, WP = Wholesaler Performance, RP = Retailer Performance, DP = Distributor Performance, HFD = Halal Food Distribution

Table 3. Cross-Loadings

	Distributor Performance	Halal Food Distribution	Raw Material Unavailability	Retailer Performance	Supply Chain Inefficiency	Wholesaler Performance
DP1	0.769	0.514	0.53	0.585	0.602	0.72
DP2	0.774	0.444	0.554	0.628	0.654	0.607
DP3	0.626	0.297	0.463	0.409	0.504	0.427
DP4	0.781	0.55	0.542	0.578	0.604	0.508
HFD1	0.569	0.813	0.515	0.418	0.526	0.562
HFD2	0.478	0.801	0.368	0.379	0.465	0.451
HFD3	0.464	0.822	0.49	0.398	0.475	0.456
HFD4	0.514	0.805	0.374	0.498	0.465	0.505
HFD5	0.422	0.731	0.332	0.389	0.337	0.306
RMU1	0.541	0.268	0.707	0.43	0.486	0.467
RMU2	0.578	0.495	0.788	0.56	0.61	0.619
RMU3	0.522	0.34	0.715	0.506	0.517	0.45
RMU4	0.476	0.475	0.75	0.354	0.591	0.466
RMU5	0.534	0.372	0.785	0.441	0.545	0.447
RP1	0.605	0.399	0.513	0.851	0.553	0.641
RP2	0.597	0.428	0.518	0.768	0.491	0.527
RP3	0.604	0.436	0.436	0.783	0.476	0.584
SCI1	0.632	0.507	0.588	0.509	0.764	0.594
SCI2	0.54	0.395	0.584	0.445	0.707	0.474
SCI3	0.65	0.411	0.582	0.5	0.713	0.451
SCI4	0.596	0.346	0.551	0.504	0.723	0.683
SCI5	0.597	0.408	0.563	0.453	0.787	0.745
SCI6	0.529	0.498	0.397	0.393	0.74	0.66
WP1	0.613	0.501	0.59	0.585	0.743	0.821
WP2	0.601	0.44	0.347	0.44	0.63	0.772
WP3	0.562	0.495	0.597	0.613	0.592	0.802
WP4	0.626	0.366	0.496	0.645	0.548	0.703

Note: RMU = Raw Material Unavailability, SCI = Supply Chain Inefficiency, WP = Wholesaler Performance, RP = Retailer Performance, DP = Distributor Performance, HFD = Halal Food Distribution

Moreover, the relationship between raw material unavailability, supply chain inefficiency, wholesaler performance, retailer performance, distributor performance, and halal food distribution are examined. In this data analysis step, the effect of raw material unavailability is considered concerning the supply chain. The impact of supply chain inefficiency is examined with regard to the wholesaler, retailer, and distributor performance. It is also considered concerning halal food distribution. In this relationship, a t-value of 1.96 is deemed to accept or reject the hypothesis (Hair et al., 2021; Joe F Hair Jr et al., 2020; Joseph F Hair Jr et al., 2021). Results in Table 4 show that; raw material unavailability has a significant relationship with supply chain inefficiency, with a t-value of 13.954. The effect of supply chain inefficiency has a significant relationship with wholesaler performance with a t-value of 25.341. Supply chain inefficiency significantly affects retailer performance and distributor with t-value of 7.299 and 19.789, respectively. Additionally, the impact of wholesaler performance, retailer performance, and distributor performance is related to halal food distribution with t-value of 7.46, 4.21, and 2.95, respectively. Furthermore, supply chain inefficiency has a significant relationship with halal food distribution with a t-value of 3.57.

Table 4. Direct Effect Results

	Beta	Mean	SD	T Statistics	P Values
Distributor Performance -> Halal Food Distribution	0.339	0.356	0.115	2.95	0.003
Raw Material Unavailability -> Supply Chain Inefficiency	0.737	0.735	0.053	13.954	0
Retailer Performance -> Halal Food Distribution	0.064	0.067	0.015	4.21	0
Supply Chain Inefficiency -> Distributor Performance	-0.8	-0.804	0.04	19.789	0
Supply Chain Inefficiency -> Halal Food Distribution	-0.119	-0.104	0.033	3.57	0
Supply Chain Inefficiency -> Retailer Performance	-0.633	-0.628	0.087	7.299	0
Supply Chain Inefficiency -> Wholesaler Performance	-0.816	-0.816	0.032	25.341	0
Wholesaler Performance -> Halal Food Distribution	0.18	0.176	0.024	7.46	0

Table 5. Indirect Effect Results

	Beta	Mean	SD	T Statistics	P Values
Raw Material Unavailability -> Supply Chain Inefficiency -> Retailer Performance	0.467	0.462	0.077	6.086	0
Supply Chain Inefficiency -> Retailer Performance -> Halal Food Distribution	-0.041	-0.043	0.052	0.773	0.44
Raw Material Unavailability -> Supply Chain Inefficiency -> Distributor Performance	0.59	0.591	0.055	10.799	0
Supply Chain Inefficiency -> Wholesaler Performance -> Halal Food Distribution	-0.147	-0.143	0.084	1.745	0.082
Raw Material Unavailability -> Supply Chain Inefficiency -> Distributor Performance -> Halal Food Distribution	0.2	0.21	0.07	2.865	0.004
Raw Material Unavailability -> Supply Chain Inefficiency -> Halal Food Distribution	0.087	0.077	0.07	1.244	0.214
Raw Material Unavailability -> Supply Chain Inefficiency -> Wholesaler Performance -> Halal Food Distribution	0.108	0.105	0.063	1.72	0.086
Raw Material Unavailability -> Supply Chain Inefficiency -> Wholesaler Performance	0.602	0.6	0.057	10.652	0
Supply Chain Inefficiency -> Distributor Performance -> Halal Food Distribution	-0.272	-0.286	0.093	2.927	0.004
Raw Material Unavailability -> Supply Chain Inefficiency -> Retailer Performance -> Halal Food Distribution	0.03	0.032	0.039	0.762	0.447

In addition, this study examined three indirect impacts. First, the influence of wholesaler performance as a mediator between supply chain inefficiency and halal food distribution is investigated. Second, the influence of store performance as a mediator between supply chain inefficiencies and halal food distribution is investigated. Third, the influence of distributor performance as a mediator between

supply chain inefficiencies and halal food distribution is investigated. With a t-value of 1.74, the influence of wholesaler performance as a mediator between supply chain inefficiencies and halal food distribution is modest. With a t-value of 0.773, the mediator impact of store performance between supply chain inefficiencies and halal food distribution is also modest. The t-value for the mediator impact of distributor performance between supply chain inefficiencies and halal food distribution is 2.927%. This indirect connection comprises hypotheses 9, 10, and 11. Table 5 outlines indirect impacts.

5. Discussion and Conclusion

This study investigates the criminal implications of the COVID-19 pandemic on the distribution of halal food in Indonesia. Thus, the association between raw material unavailability, supply chain inefficiency, wholesaler performance, retailer performance, distributor performance, and halal food distribution was investigated. In conclusion, a statistical data analysis method is employed to analyze this association. Eight direct and three indirect effect hypotheses are given for eleven hypotheses.

This study investigated hypothesis 1 while examining the direct influence of raw material unavailability on supply chain inefficiency. The results indicate that the scarcity of raw materials has a considerable positive impact on supply chain inefficiencies. It demonstrated that an increase in the unavailability of raw materials could raise supply chain inefficiency. Therefore, the COVID-19 can disrupt the halal food supply chain if materials are unavailable in halal food enterprises. It has a significant influence on diminishing the performance of halal food distribution. The link between raw materials and the supply chain is crucial to numerous company operations (Kolotzek et al., 2018). In hypothesis 2, the impact of supply chain inefficiencies on wholesaler performance is examined. It has been determined that supply chain inefficiency harms wholesaler performance, indicating that a rise in the inefficiency of supply chain activities might result in a decline in wholesaler performance. The third and fourth hypotheses demonstrated the impact of supply chain inefficiencies on the performance of retailers and distributors, respectively. Results also reveal that supply chain inefficiency negatively impacts the performance of retailers and distributors. Supply chain inefficiency decreases the performance of retailers and distributors. These results are consistent with past research because earlier research has also demonstrated that the supply chain significantly impacts the retailer and dispersed performance across various industries (Tarigan et al., 2021). In addition, hypothesis 5 demonstrated the harmful effects of supply chain inefficiency on the dissemination of halal foods.

Hypotheses 6, 7, and 8 are founded on the effect of wholesaler performance, retailer performance, and distributor performance on halal food distribution. The association between wholesaler performance and halal food distribution was highlighted by Hypothesis 6. This hypothesis indicates that the distribution of halal food products in Indonesia will improve when wholesaler performance in the halal food business improves. Similar to the wholesaler, the performance of retailers affects the distribution of halal food in Indonesia, according to Hypothesis 7. The effect of distributor performance on halal food distribution stated in Hypothesis 8 that an increase in distributor performance could boost halal food distribution in Indonesia. The indirect influence of wholesaler performance, retailer performance,

and distributor performance on supply chain inefficiency are measured by hypotheses 9, 10, and 11. Significant is only one indirect effect between supply chain inefficiencies and halal food distribution and distributor performance. Other indirect impacts are inconsequential. It demonstrates that distributor performance reflects the impact of supply chain inefficiency on the distribution of halal foods.

The conclusion is that COVID-19 has significant detrimental effects on the distribution of halal foods in Indonesia. COVID-19 severely impacted the food business and disrupted halal food distribution in Indonesia. As the study demonstrated, raw materials are unavailable for halal food products due to COVID-19. Due to a lack of raw materials, Indonesia's whole supply chain process is insufficient to meet the populace's needs. Therefore, low-level supply chain operations harm the performance of wholesalers, retailers, and distributors. The negative influence on the performance of wholesalers, retailers, and distributors decreases the distribution of halal food in Indonesia.

6. Implications of the Study

The new study has significant theoretical ramifications for the existing literature because it examined the most significant relationships between variables. Earlier studies in the realm of the halal food sector do not document the relationship examined in this research. Although various investigations have detected halal food distribution, the criminal function of COVID-19 has not been examined in earlier research. In addition, the experiments studied the connection between the halal food sector and COVID-19; however, this connection is not considered about the scarcity of raw materials. In addition to the lack of raw materials, previous research has ignored the performance of retailers, wholesalers, and distributors in the halal food business.

Similarly, the supply chain is considered; however, supply chain inefficiency was not considered in previous research. Therefore, this study has significant consequences for the Indonesian halal food market. This study proposed that the halal food business in Indonesia addresses the issue of raw materials to improve the operations of retailers, wholesalers, and distributors, thereby increasing the performance of halal food distribution in Indonesia.

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