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Predicting the Global Halal Food Industry Market Share

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The Halal Food Industry is one of the largest sectors in the global Islamic economy and has experienced significant growth over the past decade. This study aims to predict the global market share of the halal food and beverage industry using data from 2012–2017 sourced from the 2018 Global Islamic Economics Report (GIER). Three forecasting methods were used, namely Trend Analysis, Multiplicative Decomposition, and Exponential Smoothing with Trend, with the help of POM-QM Version 3 software. The results show a general upward trend in the Halal Food market share, although some methods show variations in certain years. The MAPE value shows that the Trend Analysis and Multiplicative Decomposition methods have a higher accuracy rate (0.04) than Exponential Smoothing with Trend (0.06). These findings provide an initial overview to understand the dynamics of global Halal Food industry growth and can be used as a reference for industry players, policymakers, and academics in formulating strategies for the development of the halal sector in the future.

Keywords: Halal Food; Global Halal; Prediction

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INTRODUCTION

The halal food and beverage industry is one of the fastest growing sectors in the global Islamic economy. The growth of the global Muslim population, increasing consumer awareness of halal products, and the widespread adoption of halal standards in various countries have made this sector a significant economic force in the international market. In *the* 2018 *Global Islamic Economics Report* (GIER), the Halal Food sector was recorded as the largest component of *the Islamic Economy*, with its economic contribution continuing to increase from year to year.

Like other global markets, the Halal Food industry is also influenced by demand dynamics, regulatory developments, and technological innovations in the supply chain. Therefore, predicting the development of this industry's market share is very important to understand the direction of global growth and anticipate changes in consumption trends. Such predictive information can help stakeholders, including the government, business actors, and halal certification agencies, in formulating relevant business strategies and policies.

The global halal food industry has transformed from a niche religious market into one of the fastest-growing segments of the global food economy. Driven by the rising Muslim population—approximately 1.9 billion people worldwide—and increasing international interest in safe, ethical, and traceable food, the halal sector has become a strategic domain in global trade and national economic development. Today, halal signifies not only religious compliance but also quality, hygiene, sustainability, and transparency throughout the supply chain.

Globalization has fundamentally reshaped how food is produced, processed, and traded. As supply chains extend across multiple countries and involve complex networks of suppliers, logistics operators, and regulators, the assurance of halal compliance has become more challenging and more crucial. Consequently, halal certification has emerged as an essential mechanism for verifying compliance with religious principles, food safety standards, and international trade requirements. Certification systems, governed by national authorities and independent Halal Certification Bodies (HCBs), now play a pivotal role in enabling cross-border trade and building consumer confidence (Hakim et al., 2022).

In recent decades, the halal food industry has also gained prominence due to its strong alignment with contemporary consumer values. In addition to religious considerations, halal products are increasingly perceived as hygienic, high-quality, ethically produced, and environmentally responsible. This shift has attracted non-Muslim consumers, expanding the market beyond traditional Muslim-majority countries and positioning halal as a universal standard for safe and ethical consumption.

From an economic perspective, the halal food sector contributes significantly to global trade flows, export diversification, and national economic development strategies. Countries such as Malaysia, Indonesia, Turkey, the United Arab Emirates, Brazil, and Australia have developed specialized halal infrastructures—ranging

from certification systems and research institutions to halal logistics networks and industrial parks—to strengthen their position in the global market. These developments reflect a broader recognition among governments and industry stakeholders that the halal industry presents strategic opportunities for investment, innovation, and competitiveness (Laila et al., 2021).

At the same time, the industry faces several complex challenges (Widiastuti et al., 2020). Fragmentation in halal standards, limited harmonization across regions, supply chain vulnerabilities, and incidents of fraud continue to threaten consumer trust and hinder market expansion. These challenges underscore the need for stronger governance, technological integration, and international cooperation, particularly through organizations such as the Organization of Islamic Cooperation (OIC) and the Standards and Metrology Institute for Islamic Countries (SMIIC).

Against this backdrop, understanding the dynamics, actors, and evolving trends shaping the global halal food industry is essential for policymakers, scholars, industry practitioners, and investors. The industry's future development will depend on how effectively it leverages digital technologies, strengthens regulatory frameworks, ensures supply chain integrity, and responds to shifting global consumer preferences. As such, the global halal food industry represents not merely a religious or cultural domain, but a strategic and rapidly growing component of the global food economy.

This study focuses on predicting the global market size of the halal food and beverage industry using historical data from 2012 to 2017. Three forecasting *methods*—*Trend Analysis*, *Multiplicative Decomposition*, and *Exponential Smoothing with* Trend—were selected to provide a comprehensive overview of future growth potential. In addition, this study compares the accuracy levels of each method by measuring *the Mean Absolute Percent Error* (MAPE) so that the most appropriate forecasting method can be determined in this context.

Thus, the results of this study are expected to provide practical and academic contributions, especially in supporting strategic planning and decision-making in the global Halal Food industry sector.

METHODOLOGY

This study attempts to predict the global market size of the *Halal Food* industry. The data used is the market share of the *Halal Food* Industry worldwide from 2012 to 2017. The data was taken from the *2018 Global Islamic Economics Report (GIER)* published by Thomson Reuters. The prediction methods used in this study are three *forecasting* methods, namely: (1) Trend Analysis, (2) Multiplicative Decomposition, and (3) Exponential Smoothing with Trend. The *software* used as a tool is POM-QM Version 3. POM-QM stands for Production and Operations Management -- Quantitative Methods, an operations management software developed by Pearson Prentice Hall USA.

Below is a clear and academically structured explanation of (1) Trend Analysis, (2) Multiplicative Decomposition, and (3) Exponential Smoothing with Trend—commonly used techniques in time series forecasting. Trend analysis is the process of identifying the long-term direction in a time series. It shows whether the variable increases, decreases, or remains constant

over time. Multiplicative decomposition breaks a time series into four components, assuming they interact multiplicatively. Meanwhile, Exponential Smoothing with Trend also known as Holt's Linear Trend Method, this model extends simple exponential smoothing by adding a trend component.

RESULTS AND DISCUSSION

Based on the results of data processing, the results of the prediction calculations for the total market share of the *Halal Food* Industry or the halal food and beverage industry worldwide for the future are as shown in the following table.

Table 1. Results of Global *Halal Food* Industry Prediction Calculations (Billion USD)

	Trend Analysis	**Multiplicative Decomposition**	**Exponential Smoothing**
2012	1088	1088	1088
2013	1292	1292	1292
2014	1128	1128	1128
2015	1173	1173	1173
2016	1245	1245	1245
2017	1303	1303	1303
2018	1302.73	1247.96	1313.86
2019	1330.71	1342.91	1351.72
2020	1358.68	1292.08	
2021	1386.65	1389.56	
2022	1,414.62	1336.2	
MAPE	*0.04*	*0.04*	*0.06*

*Prediction results

Based on Table 1, in general, the market share of the *Halal Food* Industry worldwide from 2012 to 2017 experienced a significant increase. In 2012, the value was only USD 1,088 billion, but in 2017, the market share of the *Halal Food* Industry worldwide increased to USD 1,303 billion, or an increase of 19.7%.

The results of the prediction calculations for the global halal food and beverage industry market share in 2018 using the trend analysis approach show a slight decline to USD 1,302 billion, but an increase to USD 1,330 billion and USD 1,358 billion in 2019 and 2020, respectively. The global *halal food* industry market share in 2021 and 2022 is predicted to increase to USD 1,386 billion and USD 1,414 billion, respectively. The following is a graph of *the trend analysis* method (regress over time) for the global *halal food* industry market share, where the black line represents actual data and the blue dotted line represents predicted data.

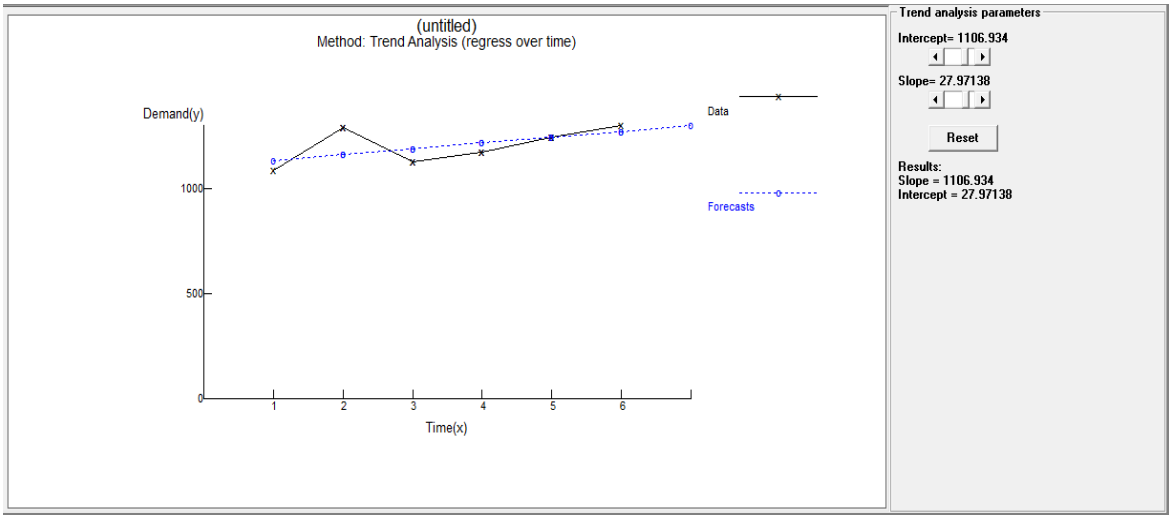

Figure 1. *Trend Analysis* Method

The results of the calculation of the global halal food and beverage industry market share in 2018 using the Multiplicative Decomposition approach showed a decline to USD 1,247 billion, but increased to USD 1,342 billion in 2019 and fell again to USD 1,292 billion in 2020. The global *halal food* industry market share in 2021 is predicted to increase to 1,389 billion USD and decline to 1,336 billion USD in 2022. The following is a graph of the results of the *Multiplicative Decomposition* method for the global *halal food* industry market share, where the black line represents actual data and the blue dotted line represents predicted data. The red line represents *the trend.*

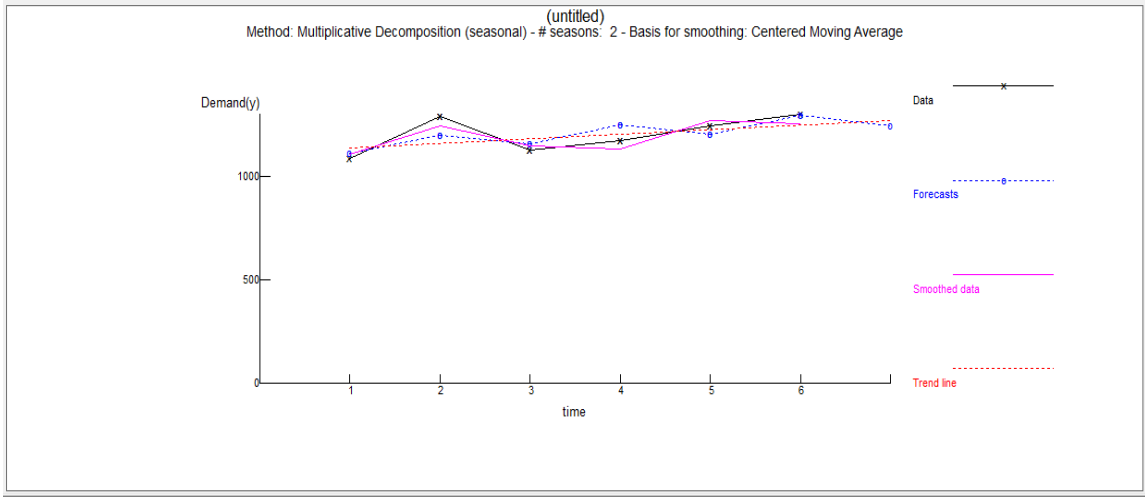

Figure 2. *Multiplicative Decomposition* Method

Finally, here are the results of the *Exponential Smoothing with trend* method. The results of the prediction calculations for the global halal food and beverage industry market share using the Exponential Smoothing with trend approach only cover two years, namely 2018 and 2019. In 2018, the predicted global *halal food* market share increased to USD 1,313 billion, and increased again in 2019 to USD 1,351 billion. The

following is a graph of the *Exponential Smoothing with Trend* method for the global *Halal Food* Industry market share, where the black line is the actual data and the blue dotted line is the predicted data.

The MAPE (Mean Absolute Percent Error) value or average error percentage for the three methods above is 0.04 for *Trend Analysis* and the *Multiplicative Decomposition* method, and 0.06 for the *Exponential Smoothing with Trend* method. This means that the first two methods are relatively better at predicting than the third method (Exponential Smoothing).

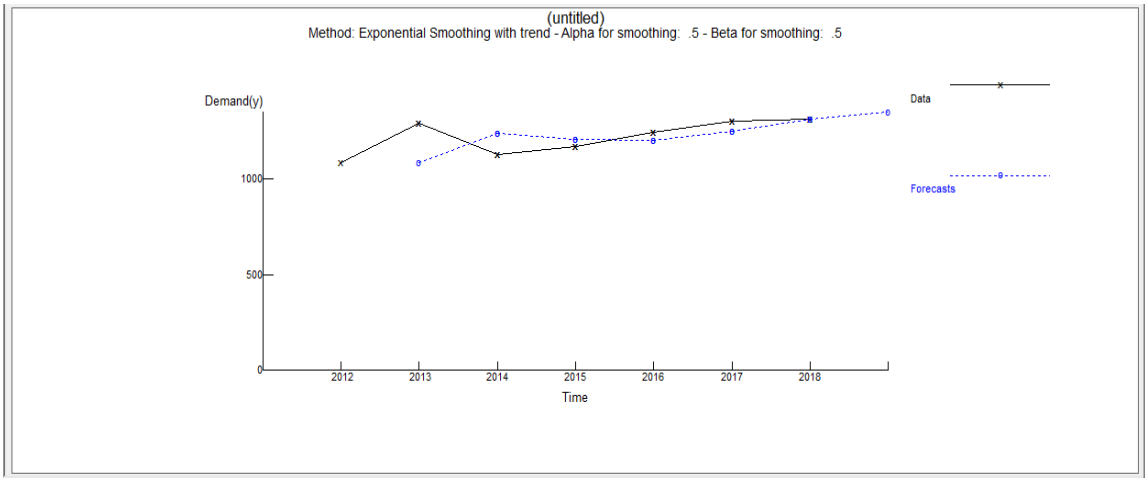

Figure 3. *Exponential Smoothing with Trend* Method

FINDING

Data processing results show that the global Halal Food industry market share in the 2012–2017 period experienced consistent growth. In 2012, the market value was recorded at USD 1.088 billion and increased to USD 1.303 billion in 2017, or an increase of around 19.7%. This finding is in line with the *Global Islamic Economy Indicator* (GIEI) report, which states that the halal sector, particularly food and beverages, is the largest contributor to the global Islamic economy (DinarStandard, 2018; Reuters, 2018).

Trend Analysis Method

The results of the prediction through *Trend Analysis* show a consistent growth trend in the medium term. In 2018, the market value is predicted to decline slightly to USD 1302.73 billion before increasing again in 2019 (USD 1330.71 billion) and 2020 (USD 1358.68 billion). This growth pattern is in line with the linear growth theory commonly used in short- to medium-term forecasting, especially for markets experiencing stable demand (Makridakis, Wheelwright & Hyndman, 1998).

This method is effective when used on economic data that shows a relatively stable growth pattern. In the context of the halal industry, studies by Alserhan (2015) and Wilson (2014) confirm that demand for halal products tends to increase linearly as a result of the growing Muslim population and increasing awareness of halal products.

Multiplicative Decomposition Method

Predictions using the *Multiplicative Decomposition* method produce more varied patterns. 2018 showed a decline to USD 1247.96 billion, but increased again in 2019

(USD 1342.91 billion) before falling again in 2020 (USD 1292.08 billion). This ups and downs pattern illustrates that the decomposition method captures seasonal components and short-term fluctuations that may not be captured by linear trend models.

Decomposition models are widely used in Islamic economics research to measure market dynamics influenced by seasonal factors, such as halal food consumption during Ramadan and Eid al-Fitr (Yusoff & Wilson, 2016). The variation in estimates produced by this method can reflect the sensitivity of the halal market to global economic cycles, changes in purchasing power, and regulations on the import/export of halal products.

Exponential Smoothing with Trend

The *Exponential Smoothing with Trend* method provides more moderate predictions, with market growth reaching USD 1313.86 billion in 2018 and USD 1351.72 billion in 2019 ( ). However, this model can only provide predictions for the next two years. This is in line with the characteristics of *Holt's Linear Trend* method, which is generally used for data without strong seasonal patterns but is capable of capturing short-term trends (Holt, 1957; Hyndman & Athanasopoulos, 2018).

Although the model results are fairly stable, the MAPE value shows that this method is less accurate than other methods. In the context of the halal industry, structural factors such as changes in international halal policies, certification standards, and developments in emerging economies often cause data fluctuations that cannot be fully captured by the *exponential smoothing* model (Lada & Goh, 2015).

Comparison of Method Accuracy (MAPE)

The MAPE value evaluation shows that the *Trend Analysis* and *Multiplicative Decomposition* methods have higher accuracy (MAPE = 0.04) than *Exponential Smoothing with Trend* (MAPE = 0.06). This is in line with the research by Hyndman & Koehler (2006), which states that linear trend and decomposition models tend to be more accurate for economic data with stable growth patterns.

In previous studies on halal industry forecasting, trend-based methods have also been proven to be more accurate, as found by Rahman & Jalil (2014) and Rusydiana (2020), which show that the global halal market follows a relatively consistent and predictable growth pattern using medium-term trend models.

CONCLUSION

Based on the prediction results for the 2019 period, it is estimated that the market share of the *Halal Food* Industry or the halal food and beverage industry worldwide will be in the range of 1330.71 billion USD to 1351.72 billion USD. From these results, the pessimistic prediction value is 1330.71 billion USD and the optimistic prediction value is 1351.72 billion USD. Meanwhile, the realistic prediction value for the global halal *food* industry market share is in the range of 1342.91 billion USD. Based on statistical indicators, specifically the MAPE value, the *Trend Analysis* method *(regression over time)* and *Multiplicative Decomposition* are relatively more effective in predicting the *global Halal Food* Industry market share compared to the *Exponential Smoothing with Trend* method.

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