Internet and Prospects of Non-Sharia Hotels in Indonesia

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Abstract : This journal aims to determine the business prospects for the Non Sharia hotel industry in Indonesia. We carry out simulations based on estimates of internet user growth, tourism arrival and hotel performance using data from the annual report of all hotels listed on the stock exchanges both in Indonesia every year from 2000 to 2019. In making hotel performance forecasting, this study uses a model Autoregressive moving average (ARMA). The estimation results are used to compare the performance of the hospitality industry in Indonesia from 2000 to 2019. We find that massive internet inclusion makes it easier for consumers to make decisions in choosing accommodation.

Keywords: economic growth, consumption, MSME credit, capital expenditure, Least Square Panel

JEL Classification : C0,G0,E4

1 INTRODUCTION

Indonesia is a country with a Muslim majority population. Indonesia, of course, the majority of its population is influenced by the understanding and teachings of Islam in carrying out their lives. The Indonesian hotel industry is grouped into the sharia hotel industry and the non-sharia hotel industry. The majority of Indonesia's population is Muslim, what is the perspective of the local market, namely the domestic market in the non-sharia hotel industry in the domestic market with a Muslim majority population.

In consumer behaviour theory, consumers are influenced by perspectives and mindsets that are motivated by beliefs and life experiences and information (Close,2012). The development of information suggestions follows the development of technology. Technology development to adapt to the increasingly varied challenges in the hotel industry. Although pandemic era policies are still being developed in hotels around the world including hotels in Indonesia. It can be said that guests will see major changes when they check in anywhere. For the foreseeable future until vaccines, widely effective treatments or direct testing for the coronavirus are available.

Staying at hotels tends to be an easy affair, especially in high-end hotels where personalized services and amenities for hotel customers have long been part of the hotel business itself. Guests will want keyless and contactless check-ins and checkouts as well as some personalized interactions. The role of technology is very important. The development trend of check-in and check-out is increasing in the hotel business in the era of the Covid-19 pandemic. Including the development of digital technology that adapts to a pandemic. Hotels must survive and adapt to the pandemic (Hao, et, al, 2020)

The outbreak of the Covid-19 virus reduces the performance of the hotel business and increases the risk of the hotel business, especially in hotel occupations (Filimonau, et, al, 2020). Focusing on technological innovations to reduce guest interactions with employees and improve hygiene has the potential to play a key role in the recovery of the hotel industry from the 2020 coronavirus pandemic (Shin & Kang, 2020).

2 LITERATURE REVIEW

To understand the prospects of the hotel business, especially hotels, it is necessary to understand the performance of the hotel itself (Dredge & Gyimóthy, 2017). To understand hotel performance, an understanding of production output is required. Because a hotel is a service business, its production output is in the form of a service which is very different from the production output in the form of goods. Where the hotel occupancy rate is an indicator in measuring hotel performance. Of course, this does not conflict with production theory (Feiertag, 2020).

In understanding the concept of future business prospects, besides understanding production theory, it is also necessary to understand the theory of the firm (Melin, et, al, 2014; Rohn & Evens, 2020). The firm theory is a microeconomic concept founded in neoclassical economics. In neoclassical economics, an economic approach focuses on the production, consumption and distribution of income in the market through supply and demand. The firm theory is a microeconomic concept which states that companies are decision-makers to maximize profits (Brown & Nwagbara, 2019).

The company's theory explains that company revenue depends on the demand for the company's products, both goods and services (Drucker, 2017). This is explained in the following model:

$$TR = P \times Q$$

Where TR is total revenue, P is Price and Quantity is production output where production output that generates income is production output sold (Chapman, 2012). Thus becoming

$$P \times S = TR$$

Where S is the total production output sold or it is also called sales.

Because the origin of income is production output and production output which produces income is the production output sold, two points of view are needed, namely the point of view on supply and the point of view on-demand (Varian, 2019).

One production function that is known and still used in modern times is the Cobb – Douglas Function (Prajapati, 2020). The Cobb-Douglas Production Function represents the relationship between production output and a combination of production input factors, namely capital and labour used to obtain production output (Besanko & Braeutigam, 2020).

The Cobb-Douglas production function was developed by economist Paul Douglas and mathematician Charles Cobb, the Cobb-Douglas production function is usually used in macroeconomic and microeconomic models because it has a number of realistic properties (Arredondo & Garcia, 2020). The equation for the Cobb-Douglas production formula, where K represents capital, L represents labour with the following mathematical equation:

$$Q = f(L, K)$$

Where Q is Production output, L is labour input and K is Capital input (Aryasri, 2020).

The modern era which is full of technology makes production more efficient and technology is an important factor in the production process (Zheng, D. 2016). Solow introduces technological factors as production inputs. The Solow model is developed through a production function that describes the relationship between input and output at the aggregate level. The Cobb - Douglas function is a production function that can be used in the Solow model (Berg, 2016). In its simplest form the Cobb - Douglas function is as follows:

$$Q = f(L, K)$$

Where $Q(L, K) = \alpha \, L\beta \, K1{-}\beta$

Where α and β are constants (Uskov, et, al, 2020)

Solow includes two factors into the Solow model, namely labour growth and technology growth (Dudley & Poston, 2019). Specifically, at time t, output (Q_t) is determined by the input of capital (K_t) and labour (L_t) and technology (A_t) according to the production function adopted from the Cobb Douglas function as follows:

$$Q_t = K\alpha \, t \, (A_t L_t) \, 1{-}\alpha$$

The new variable A_t represents the level of technology at time t. Both the L_t labour input and the technological level A_t are assumed to grow at a constant rate. This technological formulation is referred to as labour enhancement. Technology makes labour more effective so that effective labour input is the same as $A_t \, L_t$ (Ahiakpor, 2013).

In the hotel business, understanding the level of production can not only be seen from the supply side but also from the demand side because the hotel business is a service business that can only be produced when consumers come with as many production levels as the arrivals of consumers who stay at hotels or use hotel services (Christou, 2016).

The production function can be used to understand the supply side. To understand the demand side, namely consumers, the theory of absolute income can be used. Returns to the company's income from the production output that is sold or bought by consumers. Of course, the consumer who buys this has the purchasing power of his income which is translated into the following equation:

$$Y = C$$

Where Y is income and C is consumption or income spent. Theory Absolute Income explains this equation (Keynes, 2019). Based on this equation and the previous function so that the new equation can be understood, namely

$$C = P \times S$$

Where C is the amount of money used to make consumption at the price of the goods or services consumed (P) x the price of the goods or services purchased. So that

$$Q = S$$
$$C = Y$$
$$Y = TR$$
$$TR = C$$

Where Q is the production output sold for sales Production output (S) purchased by consumers is $C = P \times S$ with consumer income of Y. Consumers in buying production output are influenced by consumer perspectives (Bracamonte, et, al, 2020; Chawla, et, al, 2020). In the service industry, including hotels, the consumer's perspective on hotel service attributes is very important (Liu, et, al, 2020; Akhtar, et, al, 2019).

3   RESEARCH OBJECTIVE AND METHODOLOGY

To analyze the prospects for future Islamic hotels, especially after the coronavirus pandemic ends, we adopt the theory of the firm and absolute income as a supply and demand perspective using the Cobb-Douglas function and the Sollow model to determine variables and analyze quantitatively using the Autoregressive moving average (ARMA) model for creating hotel performance forecasting. The forecasting results form the basis for the analysis of hotel business prospects and potential threats and opportunities through the estimated variable behaviour.

The ARMA model combines the autocorrelation (AR) method and moving averages (MA) into a time series composite model (Weiss, 2018). With the following model:

$xt = \varphi 1xt - 1 + \varphi 2xt - 2 +\ldots + \varphi pxt - p + t + \theta 1t - 1 +\ldots + \theta qt - q.$

In general, this form of the combined ARMA model can be used to model the time series in fewer terms overall than the MA or AR model itself. It expresses the estimated value at time t as the number of q terms representing the average variation of the random variation over the previous q period (a component of the MA), plus the number of AR p terms which computes the current x-value as the weighted sum of the most recent p values.

As previously explained, this research adopts the theory of the firm, absolute income theory, the Cobb Douglas function and the Solow model. Starting from the equation of the theory of the firm which is described in the literature review as follows:

$TR = P \times Q$
$TR = P \times S$
$S = Q$
$TR = Y$
$Y = C$

Where TR is the income or total revenue from sales of production output, P is the price of the output of production and Q is the total output of production. The production output that generates income is the production output sold (S). Where the level of sales depends on the level of consumer purchasing power which is described in Absolute Income Theory with the following equation:

$Y = C$

Where Y is the expendable income of C. Because what generates income is the production output sold, $P \times S = TR$. So $Q = S$ in the hotel business, S is the financial performance of hotels or hotel revenue.

Adopt the cobb-Douglas function with the general equation of the cobb Douglas function as follows:

$Q = f(L, K)$

Where Q is the production output which is a function of L as the input for labour or human resources and the input for K as capital. Where

$Q(KL) = \alpha K\beta L\beta -1$

Where Q (KL) is the production output for K and L where α and β are constants with a value of 0 to 1. It can be denoted as follows:

$Q = \alpha K\beta L1-\beta$

Adopting a solow model with a general model for the Cobb Douglas function as follows:

$Qt = K\alpha t (AtLt) 1-\alpha$

Where t is the time series over time. When simplified without time series or time t0 becomes

$Q = K\alpha (AL) 1-\alpha$

When the constant is 1 it becomes

$Q = K(AL)$ or $Q = KAL$ or $Q = A K L$

Where A is a technological factor. With the previous equation, $Q = S$ is observed to be $S = A KL$ because $KL = Q$ and in the hotel business $Q = $ Total guests, Q can be represented on the total arrival of travellers which we notify as Tourism Arrival by considering the following equation

$S = A Q$

Where S is the supply viewpoint which is denoted as the total production output sold and A is the demand or consumer point of view so that A for technology can be represented on the use of technology used by consumers to order services or hotel production output which in this study is represented as the internet Inclusion represented by total internet users in the study area which in this study is notated as TIS. And Q is the total output of production. Where is the total production output. Because $TR = C$ and $C = P \times S$ or $P \times S = TR$. So that $PS = AQP$. Where, $QP = APS$ So that $TR = f(A, C)$ So this research focuses on three variables, namely:

Hotel total revenue or TR Hotel as the dependent variable
Tourism Consumptions or C as an independent variable
Total Internet Users or A.

Adopt the general ARMA equation as follows:

$St = \beta 1St-1 + \beta 2St-2 +\ldots + \beta 1At-1 + \beta 2At-2 +\ldots + B1Ct-1 + \beta 2Ct-2\ldots + Et$

Where e is an error notation or a variable outside the estimate.

Where
S = Sum of Hotel Performance
A = Total Internet Users
TC = Tourism Consumptions

4   RESULTS AND DISCUSSION

In this section, sub-sections are divided, namely the results as a sub-estimation result containing the ARMA estimation results and the MATRIX SWOT analysis results. The second is Sub Discussion which is a sub discussion of the research results.

The estimation results of the non-sharia ARMA Hotel are as follows

$S = -24.6545476396 * A + 774.490300768 * TC - 662180522,362$

From the estimation results, it can be seen that the total internet user direction (A) is negative or the constant is negative. This means that the increasing inclusion of the internet on hotel consumers where hotel consumers can

be anyone, both local consumers and consumers from out of town or abroad. The deeper the inclusion of the internet, the more alternative accommodation options are so that tourism arrival can choose other accommodation besides hotels such as inns or hostels which are relatively cheaper than hotels. Or choose a sharia hotel with a variety of perspectives such as Muslim friendly. Because what is estimated in this estimate is non-sharia hotels.

Tourism Arrival is positive, meaning that hotel revenue relies on the arrival of travellers where the more tourists come, the more potential consumers use hotel services.

To make it easier to read our estimates, we summarize them in the following :

Variable	Coefficient	Std. Error	t-Statistic	Prob.
A	-24.65455	16.72012	-1.474543	0.1586
TC	774.4903	164.5115	4.707818	0.0002
C	-6.62E+08	7.54E+08	-0.878694	0.3918

S-squared	: 0.969315
Mean dependent var	: 4.73E+09
Adjusted R-squared	: 0.965705
S.D. dependent var	: 2.02E+09
S.E. of regression	: 3.73E+08
Akaike info criterion	: 42.45166
Sum squared resid	: 2.37E+18
Schwarz criterion	: 42.60102
Log likelihood	: -421.5166
Hannan-Quinn criter	: 42.48081
F-statistic	: 268.5112
Durbin-Watson stat	: 1.409951

To see the performance trend of Non- Islamic hotels, the following ARMA forecasting is presented:

Figure 1. ARMA forecasting Result
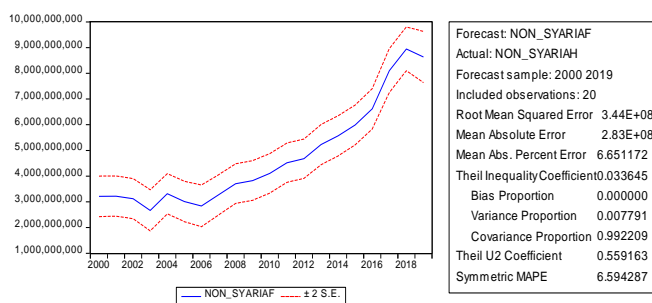
The total hotel performance trend tends to increase where every time there is a decline in performance it is followed by a recovery trend. With the internet that has more and more users and is increasingly unlimited. Making both an opportunity and a threat to the hotel industry. To increase the chances of becoming a request for hotel services and minimize the threat of misinformation or slander.
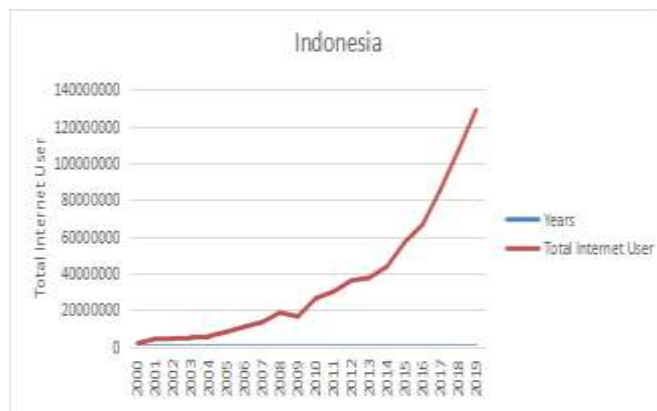
Source: World Bank, 2020 (processed)

With a fairly large demographic, Indonesia is a large enough market for the hotel business for domestic guests with internet inclusion increasing dramatically since 2014. Of course, the opportunity to gain occupation via the internet can continue to be improved.

5 CONCLUSION

The hotel industry, both Sharia and Non-Sharia hotels, were hit hard by the 2020 corona pandemic. However, with internet inclusion and New Normal behaviour, the hotel industry has hopes of recovering when the corona is over. Based on the estimation results, the identity of majority belief does not determine the behaviour of the type of hotel in Indonesia. Even though the majority of the population is diverse in Islam, the non-Sharia hotel industry still has a high occupation and tends to grow in the research period, namely 2000-2019. The development of the Internet facilitates the dissemination of information and makes it easier for consumers to choose the hotel where they want to stay.

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