AN ANALYSIS OF LABOUR REQUIREMENTS AND THE IMPACT OF COVID-19 ON MALAYSIA'S TOURISM INDUSTRY

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ABSTRACT

The tourism sector is expected to continue experiencing a significant increase in tourist arrivals. Meanwhile, the labour requirement especially in the tourism sub-sector has been anticipated to increase. However, the Covid-19 outbreak has interrupted the number of tourist arrivals to Malaysia. Tourism sector's receipt and the labour requirement will also be affected. The objective of this study is to forecast the labour requirements in the tourism sector in Malaysia. This study provides an initial overview of the labour requirements including during the Covid-19 outbreak which occurred in 2020. The method used in this study was the Input-Output method. The labour requirements were projected for three years, i.e. 2017, 2019 and 2020. Projections were also made based on a 25 percent decrease

in Chinese tourist spending in Malaysia. The results showed that the labour requirements in 2017, 2019 and 2020 increased by 2.6 million people, 2.8 million people and 3.0 million people, respectively. However, when there was a decline in Chinese tourist spending, the labour requirement was 2.6 million people indicating a drop by -11.40 percent. The entertainment and recreation services were the most affected sectors when the Covid-19 outbreak occurred, at a rate of -66.31 percent. Discussions elaborated on the importance of labour requirements estimation in the tourism industry in response to the Covid-19 outbreak. Implications of the study are also highlighted.

Keywords: Covid-19, impact, input-output, labour requirements.

INTRODUCTION

The spread of the Coronavirus disease 2019 (COVID-19) started from Wuhan district, China in December 2019 and currently almost the rest of the world has been affected (Gössling et al., 2020). This happened when the virus mutated amid the lackadaisical attitude of government administrators around the world, despite warnings about its potential disaster (Shane et al., 2020). The spread of COVID-19 has been difficult to control due to late action by governments to implement travel restrictions. This may have been due to the outcome of previous epidemics such as SARS, which only occurred in China and not in other countries. However, the expectations by the countries concerned were wrong because in a short period of time, starting with 41 patients in January 2020 (Huang et al., 2020), by 15 April 2020 close to 2 million people were infected with a total of 12,500 people dead (COVID-19 situation update worldwide, 2020). The number of Covid-19 infections has continued to rise and to eliminate Covid-19 without a vaccine is very difficult.

Covid-19 has also affected the economy (Brodeur et al., 2020; Chetty et al., 2020; Kraus et al., 2020; Surico & Galeotti, 2020). Most major industries have stopped production as the pandemic has simultaneously disrupted both supply and demand in an interconnected world economy (Alexander et al., 2020). The tourism industry is the most affected industry (Zurina, 2020). It is difficult to predict the future of the tourism industry in post-Covid-19, even though there is belief that the tourism industry will recover (Marnie, 2020). Due to the increase in Covid-19 cases globally, the main purpose of this study

is to estimate labour requirements in the tourism industry. In addition, this paper attempts to provide an overview of the Malaysian tourism industry from the 1990s to the early 2020s and its connection to Covid-19. Subsequently, this study will discuss the literature review, research methodology, findings and implications of the study.

Malaysia's Tourism Industry in the 1990s to 2020

The Malaysian Tourism Industry was established in 1987 under the Ministry of Culture, Arts and Tourism with actively planned development strategies starting in 1990 through the launch of Visit Malaysia Year. The development plan that was carried out by the Tourism Development Corporation has succeeded in boosting tourist arrivals to Malaysia until 2019. Despite this, there were also decreasing numbers in some years due to environmental disturbances both within and outside the country. The development scenario of the Malaysian tourism industry can be explained in Figure 1.

Figure 1

Malaysia's Tourist Arrivals and Tourism Receipts (1990–2019)
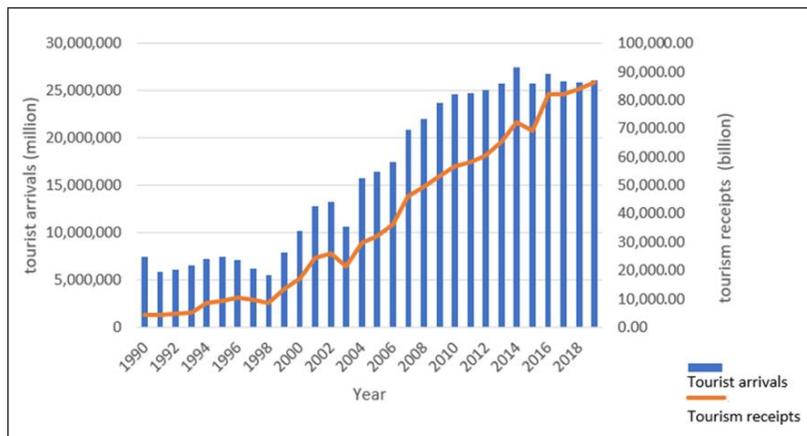
Based on Figure 1, in 1990, the total tourist arrivals and tourism receipts recorded 7.4 million tourists and RM4.5 billion, respectively. The numbers declined slightly the following year because of the Gulf War in 1991–1992 but picked up again in subsequent years. In 1996, the total recorded was 7.1 million tourist arrivals and RM10.4

billion in tourism receipts. Nevertheless, these numbers declined to 5.5 million tourist arrivals and RM8.5 billion in tourism receipts because of the Asian financial crisis in 1997. In 1999–2002, growth continued to remain positive until the end of 2002–2003 when the SARs outbreak resulted in a slight dip in revenue to only 10.6 million tourist arrivals and RM21.3 billion in tourism receipts. Subsequently, growth continued to increase until 2019 even though in 2018, the numbers dipped slightly due to political instability in Malaysia.

When Covid-19 was detected in China in December 2019, the number of its international tourist arrivals dropped. This also impacted the Malaysian tourism industry. For the first half of 2020, Malaysia registered 4.25 million tourist arrivals. This number was down to 68.2 percent for the same period in 2019. The implementation of the movement control order (MCO) in Malaysia on 18 March 2020 continued to hinder the arrival of tourists to Malaysia. Malaysia could no longer receive international tourists because all border checkpoints to enter Malaysia were closed except for citizens who were returning to Malaysia.

This situation showed that Covid-19 was closely related to tourist arrivals to Malaysia and to other tourism destinations. The relationship between Covid-19 and economic activities such as tourism and its impact on society is very significant (Bloom & Cadarette, 2019; Fauci & Morens, 2012; Gössling, 2002; Gössling & Hall, 2006: Gössling et al., 2020; Hall, 2019; Page & Yeoman, 2007; Scott & Gössling, 2015). This relationship has also indicated significant job losses. According to Tan (2020), Covid-19 has threatened 75 million jobs in the global tourism industry and indirectly resulted in a income reduction of about RM9.18 trillion. According to the International Labour Organization (2020), 195 million workers were expected to lose their jobs in the second quarter of 2020 in the overall global economy. Meanwhile, it was estimated that Malaysia would lose at least 951,000 jobs and RM41billion in revenue due to the pandemic, including an estimated loss of revenue of RM3.37 billion in the tourism sector for January and February 2020 (Tan, 2020). Therefore, it is significant to conduct this study which is related to labour requirements in the tourism sector in the wake of Covid-19.

Employment in the Malaysian Tourism Industry

The development of the tourism industry on an annual basis has led to an increase in labour involvement in this industry. Subsequently, employment rates in the Malaysian tourism industry have been seen to increase each year. Table 1 shows the rates and percentage of employment contributions in the tourism industry to total employment for 2016, 2017, 2018 and 2019. The tourism industry which is labour-intensive requires semi-skilled and less skilled workers. The tourism industry is easily affected if any crisis occurs such as economic crises and infectious diseases. However, the tourism industry is also a robust industry (Othman & Salleh, 2010) which indicates that the tourism industry will recover quickly from any crisis.

Table 1

Employment Rate and Percentage of Contribution to Total Employment from 2016 to 2019 in the Tourism Industry in Malaysia

Year	Employment (million people)	Contribution to total employment (%)
2016	3.2	22.7
2017	3.4	23.2
2018	3.5	23.5
2019	3.6	23.6

The increase in tourism spending will also lead to the development of the tourism industry. Tourism spending will result in an increase in output, labour income, tax revenue and imports for all tourism-related sectors either directly or indirectly (Salleh et al., 2011). Malaysia's dependence on trade and tourism from China is relatively high, but not as high as Singapore and Thailand. Thus, based on these indicators the Covid-19 outbreak has affected tourism sub-sectors and employment in Malaysia. It has also affected tourism products such as meetings, incentives, conferences and exhibitions (MICE), transportation, hotels, guest houses, and small and medium enterprises. For example, hotels in Malaysia recorded 95,972 room cancellations and suffered a loss of more than RM40 million until February 2020. In addition, Malaysian travel agencies were also affected when more than 100

small and large tourist groups cancelled their holiday packages to Malaysia (Tan, 2020). Visit Malaysia Year 2020 (VMY2020) were also affected by the Covid-19 outbreak as Chinese tourist arrivals has been one of Tourism Malaysia's top targets with a seven percent increase. If the Covid-19 outbreak is prolonged, the labour requirements in Malaysia's tourism sector will be adversely affected because this sector is labour-intensive.

One of the most effective ways to overcome this problem is to conduct projections on labour requirements (Patrick, 1993). Due to the importance of labour projection, this study focused on projecting labour requirements in the tourism sector of Malaysia.

LITERATURE REVIEW

The Covid-19 crisis that hit both internationally and nationally has directly affected economic growth (Brodeur et al., 2020; Chetty et al., 2020; Kraus et al., 2020; Surico & Galeotti, 2020). Many industries are experiencing the impact of this pandemic, especially the tourism industry (Baum & Hai, 2020; Chebli & Said, 2020; Couto et al., 2020; Deb & Nafi, 2020; Gössling et al., 2020; Uğur & Akbıyık, 2020; Yeh, 2020). Tourism activities that involve temporary movement to destinations outside of residences cannot be conducted when travel restrictions are implemented. Outdoor activities, especially activities involving interaction with other people, have to be restricted for the purpose of physical incarceration (Andersen, 2020). In addition, the tourism industry is an industry that consists of several sectors. Thus, production for each sector has also been affected. When production activities are restricted due to travel restrictions and physical distancing, changes in labour requirements in the market will occur. Therefore, the projection of labour requirements, need to be conducted to assist in reviving the country's economy.

According to Spalletti (2009), the main objective of manpower planners is to project future job demands. Projections are important to ensure that there are no shortages in manpower that will suspend or halt production, which in the long-term will ultimately impact

the country's economic growth. Malaysia is one of the developing countries in the world. Ramarao et al. (2014) stated that developing countries need to plan labour requirements by increasing skilled labour. Nasirzadeh and Nojedehi (2013) concurred with Ramarao et al. (2014) that projecting labour requirements and identifying the level of labour skills in each sector are important to enhance a country's economic growth. For this purpose, the projection on labour requirements needs to be planned well.

Generally, various methods can be used to plan and project labour requirements. Patrick (1993) proposed the Manpower Requirements Approach (MRA) or Manpower Requirements Forecasting which is the best method for this purpose. MRA is a model that demonstrates the relationship between industrial production input and labour requirements. There are several studies on manpower requirements for several industries in Malaysia that apply this method (Ahmad et al., 2012; Rahmah & Idris, 2000; Poo et al., 2011; Zakariah & Siti Khairon, 1997). This method is still relevant today and can be used at any time (Psacharopoulos, et al., 1983).

The most widely used method to forecast labour requirements is the econometric method. The use of econometric methods in projections related to manpower studies began with the study on labour requirements in the Mediterranean Organisation for Economic Co-operation and Development (OECD) Region (Debeauvais & Psacharopoulos, 1985; Parnes, 1962). These studies attempted to link labour requirements in industrial production to a number of economic variables. For example, the growth of an industry is expected to stimulate demand for every job in the industry (Campbell, 1997; Willems, 1998). The study of projection of labour requirements was further developed with time series analysis using the method of Box-Jenkins (Wong et al., 2005) and using Autoregressive Distributed Lag (ARDL) methods and the Pooled Mean Group (PMG) procedures (Ismail et al., 2015). Meanwhile, Ismail et al. (2018) used data panel analysis for a study of labour requirements projection. The econometric method was further expanded with advanced multivariate modelling techniques (Jiang & Liu, 2011; Wong et al., 2007). However, Wong et al. (2004) argued that sometimes some of the variables that were

selected to predict labour requirements were difficult to construct in a model. This was supported by Shields (2004) who argued that in modelling the equation of labour requirements, there was a lack of exogenous variation.

Projection using the Input-Output (IO) analysis is also one of the best methods and is often used by researchers. Usually, IO analysis is used to make plans and expectations for the future. This method involves many sectors compared to the econometric method which only focuses on one sector. This feature shows the relationship between activities in the economy. Generally, IO analysis is used to study the effect of changes in the final demands of an industry that causes an increase in the activity in that industry and related industries. The impact of this change is known as the multiplier effect (Archer, 1977). Many studies have used IO analysis to investigate economic impact (Briassoulis, 1991; Chang et al., 2014; Chang et al., 2016; Fletcher, 1989; Kim & Kim, 2015; Surugiu, 2009; Tohmo, 2005, 2018). However, studies related to predicting manpower requirements using IO analysis are relatively limited especially in Malaysia (Lelchumanan, 2019; Lelchumanan et al., 2019; Poo et al., 2012; Sulaiman & Ismail, 2019; Poo et al., 2011).

In addition, studies related to manpower projections using IO analysis in the tourism sector are also limited especially in Malaysia. Only a few studies have been conducted on manpower projections in the Malaysian tourism sector (Ismail et al., 2012; Salleh et al., 2015). The initial objective of the study by Ismail et al. (2012) was the examination of the services sector. However, as the sub-sectors of the tourism industry consist of various components such as wholesale and retail trade sectors, transportation, hotels and restaurants, this study had indirectly projected the tourism sector. As a result, this study found that sub-sectors in the tourism sector especially the wholesale and retail trade, hotels and restaurants experienced an increase in labour requirements from 2010 to 2015. It was also shown that there was an increase in demand for skilled labour in which the projection results found that more than half of skilled workers were in demand between 2010 and 2015.

Salleh et al. (2015) made a projection on the labour requirements in Malaysia's economy, specifically in the tourism industry by using IO analysis. The purpose of this study was to provide an initial

overview on labour requirements in the tourism sector in 2015. The results showed that the tourism sector which comprised hotels and restaurants, transportation, entertainment and recreation and retail trade sub-sectors had experienced a significant improvement. By 2015, the labour requirements had increased to two million people, equivalent to 22 percent of the country's total labour requirements. This was largely contributed by hotels and restaurants, and retail trade sub-sectors. Since, the tourism industry is involved in several sub-sectors, thus the use of IO analysis is the best and most suitable method to predict manpower requirements and effects from the Covid-19 outbreak.

METHODOLOGY

The main source of data for this study was from the IO Table released by the Department of Statistics Malaysia (DOSM). The Input-Output (IO) Table Malaysia 2015 was used in this study. The data were aggregated into 17 sectors in which the tourism industry's sub-sector encompassed four main sectors; i.e. retail trade for tourism, accommodation and food and beverages, transportation for tourism, and entertainment and recreation. According to Saari and Rashid (2006) the IO model is the closest to describing national accounts, as it shows the flow of final goods and the balance of factors and non-income factors of a sector. Therefore, projection using IO method is a consistent prediction method and the closest to the actual value. Following the said study, the IO method was used in this study.

As the tourism industry is a combination of several sectors, this study forms a combination following Norma Azuli (2017). In the IO approach, the linear equations of the open IO system can be expressed as follows:

$$X = AX + F \qquad (1)$$

X: output vector
A: technical coefficient matrix
F: final demand vector

or,

$IX-AX = F$ (2)

where I is identity matrix (n x n)

$$I = \begin{bmatrix} 1 & 0 & \cdots & \cdots & 0 \\ 0 & 1 & \cdots & \cdots & 0 \\ \vdots & 0 & 1 & \cdots & 0 \\ 0 & \cdots & 0 & 1 & 0 \\ 0 & \cdots & \cdots & 0 & 1 \end{bmatrix}$$

or,

$[I\text{-}A]X = F$ (3)

Equation (3) in the form of a matrix table is as follows:

$$\begin{bmatrix} 1 - a_{11} & -a_{12} & -a_{13} & \cdots & -a_{1n} \\ -a_{21} & 1 - a_{22} & -a_{23} & \cdots & -a_{2n} \\ -a_{31} & -a_{32} & 1 - a_{33} & \cdots & -a_{3n} \\ \vdots & \vdots & \vdots & \ddots & \vdots \\ -a_{n1} & -a_{n2} & -a_{n3} & \cdots & 1 - a_{nn} \end{bmatrix} \begin{bmatrix} X_1 \\ X_2 \\ X_3 \\ \vdots \\ X_n \end{bmatrix} = \begin{bmatrix} F_1 \\ F_2 \\ F_3 \\ \vdots \\ F_n \end{bmatrix}$$

from equation (3), Leontief inverse matrix was obtained:

$$X = (I - A)^{-1}F \qquad (4)$$

where,
X: output vector
I: identity matrix
$(I\text{-}A)^{-1}$: Leontief inverse matrix
Therefore, the coefficient of labour in the economy is obtained by the following approach:

$$l_i = L_i / X_i \qquad (5)$$

where,
L_i: Total labour in industry i
X_i: Total input in industry i
l_i: matrix coefficient vector for labour (i= 1, 2, 3........n)

then,

$$l_i = [\, l_1 \quad l_2 \quad \cdots \quad l_n \,]$$

In the IO model, the formation of matrix vector for n labour coefficient, l_i indicates the total labour required to produce one unit of output in industry, i. The coefficient of labour can be defined as the quantity of labour required by one unit of output. Labour coefficient is an implicit way of measuring labour productivity. The number of workers for each industry in the IO model has a relationship with the amount of output that the industry produces. Therefore, to get the number of workers working in industry i, labour coefficient, l_i should be multiplied by the total output of X_i for that industry. By summing up the result of the multiplied labour coefficient and the total output of all industries in the economy, it is possible to obtain the number of workers for the total economy. Mathematically:

$$L_T = \sum_{i=l}^{n} liX_i \qquad\qquad (6)$$
where,
L_T: total labour force in the economy.

Thus, the labour requirement equation of an Input-Output production system of n sector is
$$L_T = \sum_{i=l}^{n} liX_i \qquad\qquad (7)$$
L: employment
l: the diagonal of coefficient matrix for employment
$(I-A)^{-1}$: Leontief inverse matrix
F: final demand vector

The original model used in this research is a model introduced by Psacharopoulos (1973).

FINDINGS AND DISCUSSIONS

The labour requirement was projected for three years: 2017, 2019 and 2020. The IO Table is developed once every five years or sometimes once every 10 years by DOSM. However, the IO schedule takes a long time to be released. Therefore, to forecast labour requirements was rather difficult. This study attempted to forecast labour requirements

Table 2

Labour Requirements Projection for 2017, 2019 and 2020 as Compared to 2015

Sector	Employment (people)			
	2015	2017**	2019**	2020**
Agriculture	195241.330	228614.105	252230.426	265656.960
Mining	4201.585	4916.130	5424.023	5713.412
Manufacturing	60110.702	70330.377	77603.912	81744.313
Utility	4911.948	5758.503	6345.020	6683.606
Construction	15424.678	18137.424	20118.980	21246.148
Retail trade*	590398.697	696996.133	780277.604	826691.267
Retail, wholesale and motor vehicle	21319.481	24950.992	27496.058	28954.925
Accommodation and food & beverages*	882345.020	1032209.740	1136427.171	1195683.611
Restaurants	15983.459	18613.598	20281.812	21273.274
Transport for tourism*	239056.931	263724.992	282028.055	291765.664
Transport & communication	15146.642	17633.476	19292.140	20262.524
Finance & insurance	29529.832	34676.468	38349.429	40459.503
Real estate & ownership of dwellings	2028.641	2377.009	2623.806	2765.260
Government services	764.920	894.072	978.815	1029.006
Private services	144954.678	169345.009	184941.990	194296.818
Entertainment and recreation services*	19967.740	23198.156	23173.168	23769.931
Total	2241386.284	2612376.183	2877592.408	3027996.224

*tourism sub-sector **forecast

for 2020, whilst the forecast of 2019 and 2017 were conducted to see the development trends of labour requirements. The labour requirements projections were made for 2017, 2019 and 2020, and compared with 2015 (actual data from Input-Output Table 2015); as shown in Table 2.

The total labour requirements for every sector as a result of tourist expenditure was 2.61 million in 2017, 2.88 million in 2019, and 3.03 million people in 2020. The numbers showed that there was an increase in labour requirements each year as compared to 2.24 million in 2015. This is in line with the increase in Malaysia's population; i.e. according to statistics released by DOSM (2018, 2019) in 2017 (32.0 million people), 2019 (32.5 million people) and 2020 (33.8 million people).

The sub-sectors of the tourism sector as shown in Table 2 included retail trade, accommodation and food and beverages, transport for tourism, and entertainment and recreation services. The table shows that accommodation and food and beverages sub-sectors require the most workforce. Total labour requirements during the three years showed 1.03 million people (2017), 1.14 million people (2019) and 1.20 million people (2020). Meanwhile, the entertainment and recreation services sub-sector had the lowest labour requirements, with a total of 23,198.16 people (2017), 23,173.17 people (2019) and 23,769.93 people (2020).

Other sectors received a spill over effect from tourist expenditure (Othman et al., 2011). The private services sector had the highest labour requirements for the years: 2017, 2019 and 2020 with a total of 169,345.01 people, 184,941.99 people and 194,296.82 people, respectively. The tourism sector in Malaysia has been seen as strong with increasing receipts every year. The sector's robustness has been the result of active involvement by the private and public services sectors in promoting Malaysia to tourists. This has been due to diversification of its target markets and product competitiveness (Omar, 2016). The demand for labour in the private services sub-sectors has been huge and hence it is important to further strengthen the resilience of the tourism sector.

As a result of the Covid-19 outbreak, the tourism sector has been negatively affected; especially from the receipts generated by Chinese tourists' expenditure in Malaysia. The Malaysian Institute of

Table 3

The Impact on Labour Requirements Due to Decrease in Chinese Tourists' Expenditure in 2020

Sector	Employment (people) 2020			
	Stable economy	<25%	Changes	Changes percent (%)
Agriculture	265656.96	234924.54	30732.42	-11.57
Mining	5713.41	5054.99	658.42	-11.52
Manufacturing	81744.31	72383.57	9360.74	-11.45
Utility	6683.61	5833.68	849.93	-12.72
Construction	21246.15	19078.19	2167.96	-10.20
Retail trade*	826691.27	771478.09	55213.18	-6.68
Retail, wholesale and motor vehicle	28954.93	25425.54	3529.39	-12.19
Accommodation and food & beverages*	1195683.61	1049468.52	146215.10	-12.23
Restaurants	21273.27	17718.56	3554.72	-16.71
Transport for tourism*	291765.66	254938.44	36827.23	-12.62
Transport & communication	20262.52	17283.59	2978.93	-14.70
Finance & Insurance	40459.50	35829.97	4629.53	-11.44
Real Estate & Ownership of dwellings	2765.26	2440.42	324.84	-11.75
Government services	1029.01	870.24	158.76	-15.43
Private services	194296.82	161994.23	32302.59	-16.63
Entertainment and recreation services*	23769.93	8008.30	15761.63	-66.31
Total	3027996.22	2682730.87	345265.36	-11.40

*tourism sub-sector

Economic Research expects Chinese tourists' expenditure in Malaysia to decline by 25 percent (Bernama, 2020a). Economic growth impacted by the Covid-19 pandemic has reduced the labour requirements in each sector, especially the tourism sector. Table 3 shows the projection of labour requirements as a result of the decrease in Chinese tourists' expenditure in Malaysia in 2020.

With reference to Table 3, when there was a decline in Chinese tourists' expenditure of 25 percent, the labour force requirements was 2.68 million people. The tourism sub-sector of accommodation and food and beverages required a labour force totalling 1.05 million people. Meanwhile, the entertainment and recreation services sub-sector was the sub-sector that required the least labour force, i. e. 8008.30 people.

However, the percentage of change in labour requirements was high at -66.31 percent. The percentage of change was significant as the labour requirements decreased by more than half of the original total labour requirements. The entertainment and recreation services sub-sector was also seen as one of the tourism sub-sectors that attracted Chinese tourists, the least with only 11 to 16 percent of total spending compared to other tourism sub-sectors. This meant that, when there was a decline in Chinese tourist spending in Malaysia, the labour requirements in the entertainment and recreation services sub-sector was the most adversely impacted.

The other sector was government services, which was a sector with a low labour requirement of 870.24 people following the decline in Chinese tourists' expenditure. Meanwhile, the private services sector still required 161,994.23 people, which was a significant number when compared with other sectors. The change in labour requirements for this sector was also higher than other sectors at -16.63 percent. The private services sector is an important sector in maintaining the resilience of the tourism sector. The private services sector has been liberalized by the government to attract more foreign investments (Malaysian Investment Development Authority, n.d.). This sector would in turn, receive the spill over effect of other sectors, especially the tourism sector.

As a consequence of the spill over effect, the country's economic stability was affected. In addition, the government had launched the MCO in several phases starting from 18 March 2020 to 31 December

2020. Although the objective was to monitor the spread of the pandemic, should the MCO period last longer, the country's economy would face a greater setback. Consequently, the Leading Index (LI) reading which measured forward national economic performance in the first and second phases of the MCO declined from -3.6 percent (March 2020) to -5.5 percent (April 2020). However, the change in the percentage of LIs was viewed positively when the government started allowing business activities to operate in May 2020 (DOSM, 2020).

In addition, the labour force participation rate was also affected during the MCO. As the tourism industry is a labour-intensive industry, many sub-sectors have been severely affected. For example, the tourism transport sub-sector, namely air transport, has been adversely impacted by the Covid-19 crisis. National airlines operations had to be limited and suspended especially overseas flights. Finally, airline companies such as AirAsia and AirAsia X had to lay off 10 percent of its total 24,000 workforce due to low employment requirements (Bernama, 2020b).

IMPLICATIONS AND CONCLUSION

Governments need to know actual figures of labour requirements in each sector of the economy. The preparation for labour adequacy is important in ensuring sustainable development. This can be attained by accurately projecting the figures of current and future periods. Based on this initiative, this study has conducted a projected analysis on labour requirements, specifically in the tourism sector. The tourism sector was selected for this study due to its importance in Malaysia's economic development and that it is a labour-intensive sector. Nevertheless, it was and is still highly affected by the Covid-19 outbreak.

The forecast for this study was conducted through the use of the IO method. This method was chosen for its advantages. According to Saari and Rashid (2006), the IO model can provide a picture closest to the national accounts; i.e. by showing the flow of final products, and the balance of factors and non-income factor(s) in a business economy. Based on the IO method, the labour requirements would

increase to 3 million people by 2020. However, due to Covid-19, the labour requirement was reduced to 2.6 million people with a change of -11.40 percent.

This indicated that the tourism sector has contributed significantly to the country especially in generating job opportunities for Malaysians. This is also in line with the government's efforts to provide facilitation funds to sectors involved in National Key Economic Areas (NKEAs) including the tourism sector. It is also seen as a smart partnership between the government and the private sector in improving the quality of the tourism sector in Malaysia. Previously, there was a tremendous increase in output and income from the tourism sector, which provided an opportunity for the country to continue developing this sector. This tremendous change required a huge labour force to secure the government's target of establishing Malaysia as one of the best tourism destinations in terms of global tourism income.

However, with the Covid-19 outbreak in Malaysia, the government needs to take action to overcome this crisis as it has indirectly affected Malaysia's labour requirements. Even though this crisis could be seasonal, its effects could be lasting. The government and the private sector need to work together to ensure that the tourism sector will continue to survive and move forward. Various efforts can be made, for instance, diverting from existing target markets such as China to other target markets. The Ministry of Tourism, Arts and Culture can also target domestic markets, and countries in West Asia and Central Asia, besides stepping up on promotions. Lastly, the Malaysian authorities need to ensure that the Covid-19 outbreak would not affect tourists when they visit the country. Tourists who come from countries that recorded high cases of Covid-19 such as United States, Brazil, and India, have bigger potential to carry the virus. Hence, a more stringent screening process at all airports must be done to curb the spread of Covid-19 to the destinations they visit.

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