Responsible Recovery from COVID-19: An Empirical Overview of Tourism Industry

Jong, Meng-Chang and Soh, Ann-Ni

Universiti Malaysia Sarawak (UNIMAS)

17 May 2021

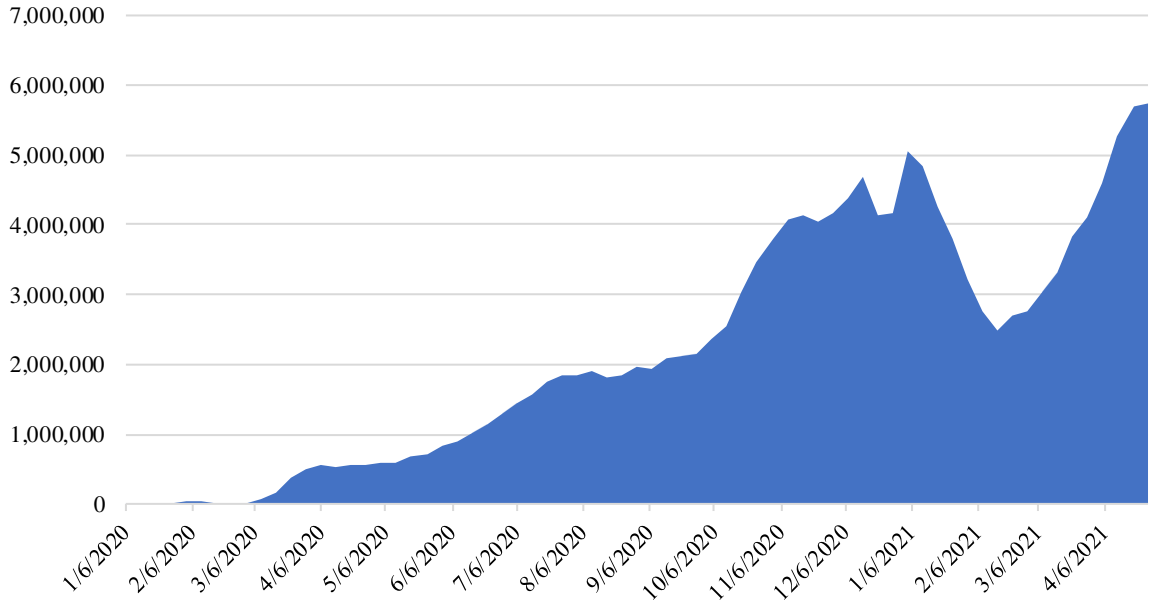
Responsible Recovery from COVID-19: An Empirical Overview of Tourism Industry

Introduction

Over the past few decades, the world has seen a stunning transformation of the tourism industry. The tourism industry is one of the world's largest and fastest growing economic sectors. Thus, it is one of the key economic drivers in most developed and developing countries. In between 2009 and 2019, the real growth of international tourism receipts was increased by 54% which surpassed the world GDP growth of 44% (UNWTO, 2021). The rapid development of transportation systems especially in the airline industry, visa facilitation, and integration among the countries have increased the mobility and movement of the people around the globe, and thus helped to stimulate the rapid growth of the world tourism industry. In 2019, world tourism has received 1.5 billion international tourist arrivals and generated USD1.5 trillion in international tourism receipts. In other words, a steady growth of 4% and 3% is remarkable for international tourist arrivals and international tourism receipts, respectively. Tourism contributed a significant portion (USD9.2 trillion, 10.4%) of world gross domestic product (GDP) (WTTC, 2021). Besides economic contributions, the tourism industry also created millions of jobs. The expansion of the global tourism industry has been beneficial to 334 million people via job opportunities, or 1 in 10 jobs have been created by the industry (WTTC, 2021). In addition, global tourism was the third largest export category after fuels and chemicals. The total export from world tourism was USD1.7 trillion or 28% of the world's services exports in 2019.

Despite the rapid growth of the tourism industry, it is considered a vulnerable industry because it must accommodate the demand changes of tourists, shifts in economic environmental and other unexpected factors such as natural disasters and crises. The tourism industry has faced several crises in the past: the Asian Financial Crisis in 1997, the September 11th Attacks in 2001, Severe Acute Respiratory Syndrome (SARS) in 2003 and the Global Financial Crisis in 2008-2009. The recent health crisis, the COVID-19 virus has hit the tourism industry hard, particularly due to the grounding of airplanes, most of the accommodation industry was forced to shut down major portions of their businesses, and the movement restriction order implemented by all countries has limited the flow of people around the globe. Due to the recent COVID-19 pandemic, global tourism has suffered a total loss of USD4.5 trillion USD, a decline of 49.1% of tourism income in 2020 as compared to the previous year. Besides that, 62 million people have lost their jobs, leaving only 272 million tourism job opportunities globally, signifying a drop of 18.5% in terms of job opportunities compared to preceding year. In terms of visitor spending, the crisis precipitated a sharp decline of 45% for domestic visitor expenditure and 69.4% in terms of international visitor expenditure as recorded in 2020 (WTTC, 2021). Despite the tourism industry's resilience characteristics, it is crucial to identify the factors affecting tourism performance from various perspectives. Ongoing monitoring is required for long term sustainable growth of the tourism industry.

Figure 1. Number of World Confirmed Cases for COVID-19, January 2021-April 2021



Source: WHO Coronavirus (COVID-19) Dashboard and World Health Organization (UNWTO), 2021.

Figure 1 displays the weekly confirmed cases of COVID-19 globally. Despite the trend of COVID-19 confirmed cases experiencing a downturn worldwide in February 2021, case numbers bounced back again and reached their peak during April 2021. The UNWTO created guidelines for restarting tourism and lines of action in COVID-19 recovery plans comprising six key elements: public health, social inclusion, biodiversity conservation, climate action, circular economy, and governance and finance. The integration of these lines of action into government policy is critical and vital. Indeed, there is a strong linkage between tourism and public health during the COVID-19 pandemic. The tourism sector may provide significant assistance by contributing its infrastructure, supply chains, and human resources to the public health services. It is undeniable that the long-lasting synergies between tourism and public health is a good investment towards the preparation of future crises in a nation. Apart from the important role of public health, tourism employers that take the lead in supporting their employees can also repurpose tourism as a community support.

Furthermore, a healthy environment is crucial to the maintenance of competitiveness in the tourism industry and in supporting locales that depend significantly on tourism revenue. During the COVID-19 pandemic, the reduced carbon emissions and a betterment of air quality are temporary. The transformation of tourism operations to address climate change should be one of the most important goals for the sector moving forward. Furthermore, the key elements of a circular economy including the local supply chains and the production and consumption of goods and services could lead the tourism industry to embrace a sustainable and resilient growth pathway. In terms of governance and finance, more inclusive and effective destination management plays a vital role in any tourism recovery plan. Thus, it is utmost important to prepare tourism for a restart and recovery plan following the pandemic to ensure a sustainable economic growth in the sector worldwide.

Literature Review

The following is a review of past tourism studies and their relevance to the current tourism studies concerned with the COVID-19 pandemic. The evolution and transformation concerning the focus of tourism scholars is identified. In studies of the demand in the tourism sector, the theoretical framework is based on consumer theory. Theorists tend to describe the tourists' utility or preference concerning the tourism destination. Besides that, certain literature utilized demand theory to investigate the impact of price on demand in the tourism sector.

In a demand study of tourism, the gravity model developed by Tinbergen (1962) based on the Newton Theory has been widely employed. Hanafiah and Harun (2010), Puah et al. (2019) and Jong et al. (2020) utilized the gravity model in their tourism demand model. The gravity model design is based on the Newton law to describe the bilateral flows of goods and services for international trade. As tourism includes flows of people between the countries, thus the gravity model has received great interest in previous studies. Scholars believe that this model with some modifications will receive considerable interest from researchers in the future. Lim (1997), Song et al. (2012) and Jong (2020) reviewed numerous existing tourism studies. They mentioned that the tourist arrivals were widely employed in the existing tourism literature, and followed by tourism receipts to proxy tourism demand. In existing studies tourist arrivals or tourism receipts have been employed by Aki (1988), Akal (2004), Hanafiah and Harun (2010), Puah et al. (2014), Shahbaz et al. (2017), Soh et al. (2020), Song et al. (2020), Xu et al. (2020) and Yap et al. (2020) to proxy tourism demand.

In developing the tourism demand model, the independent variables consist of income level of the tourists, tourism price, exchange rate, transportation cost, word of mouth and other parameters. In addition, a dummy variable is also employed in several tourism models to capture/represent unexpected events. The selected key determinants employed in the previous studies can be identified in Laber (1969), Kwack (1972), Martin and Witt (1988), McCallum (1995), Rossello-Nadal (2001), Thien et al. (2015) and Yap et al. (2020). The income variable is one of the variables widely employed in the previous studies to investigate its impact on tourism demand (see Kwack, 1972; Aki, 1998; Hanafiah and Harun, 2010; Puah et al., 2014; Thien et al., 2015; Jong et al., 2020; Xu et al., 2020). Based on their empirical research, they concluded that income level has a positive impact on the demand of the tourists. With higher income ability, they have greater purchasing power to travel abroad. Therefore, income level of the tourists is an important parameter affecting tourism demand.

Besides that, the price variable is also commonly adopted in a tourism demand model as detected in Aki (1998), Hanafiah and Harun (2010), and Jong et al. (2020). Their findings evidenced that the tourism price has an adverse impact to the tourism demand in their study. In a recent study conducted by Jong et al. (2020), the panel data approach has been used to estimate the tourism demand in Sabah. In their empirical model, the tourism price is a key determinant in their tourism demand model. As expected, the tourism price adversely and significantly impacts the tourism demand in Sabah. The finding indicated that a 1% rise in tourism price will discourage 0.09% of tourists from visiting Sabah. Travel cost is another key parameter in a tourism demand model (see Martin and Witt, 1988; Thien et al. (2015); Tanjung et al., 2017; Jong et al., 2020). In the existing studies, travel cost can be estimated using data on international crude oil price, geographical distance between the capitals of the countries and by deflating the crude oil with travel distance. In the study of Jong et al. (2020), they measured

the travel cost by multiplying the geographical distance with international crude oil price to better capture the actual transportation cost of the tourists. As expected, their findings verified that transportation cost has a negative effect on tourism demand.

In addition, exchange rate is also often chosen in modelling a tourism demand model. In some studies, the researchers separate the exchange rate and tourism price as different explanatory variables. This is because some researchers argued that tourists tend to respond to the exchange rate movement more than tourism price when they make their travel decision (Lim, 1997). Martin and Witt (1988), Hanafiah and Harun (2010) and Puah et al. (2018a) employed exchange rates in their studies. Consistently, they found a negative relationship between exchange rate and tourism demand. Other key determinants affecting tourism demand include population (Laber, 1969; Martin and Witt, 1988 Hanafiah and Harun, 2010), trade openness (Shahbaz et al., 2017; Chaisumpunsakul and Pholphirul, 2018; Puah et al., 2018a; Gulistan, 2020), financial development (Shahbaz et al., 2017; Chaisumpunsakul and Pholphirul, 2018), word of mouth and satisfaction level (Preko et al., 2020; Tang, 2018), and political stability (Soh et al., 2019a) and corruption (Tang, 2018).

Various types of approaches have been employed in tourism demand studies. Puah et al. (2018b) used time series data to investigate whether tourism expansion will lead to economic growth in Malaysia. In their study, they utilized the Autoregressive Distributed Lag (ARDL) approach, and found that tourism receipts and capital investment in the tourism industry have positive and significant impacts on the economic growth in Malaysia. Thus, the tourism-led growth hypothesis is accepted and concluded that the tourism industry plays a vital role in boosting the economy in Malaysia. Besides time series analysis, the panel data approach is also widely employed by academicians to investigate tourism demand. Panel data has some advantages over time series data models. One of the main advantages of panel analysis is that it can incorporate richer information by combining the time series and cross-sectional data. It can also help to reduce the multicollinearity problem and provide more degrees of freedom. The existing literature utilized the panel data technique can be identified in the study of Chaiboonsri et al. (2010), Tang (2018), Shafiullah et al. (2019) and Jong et al. (2020).

Tourism demand forecasting is also important to predict the future trends of the tourism industry. Soh et al. (2019b) utilized the monthly data from 2000 to 2017 to construct a tourism cycle indicator (TCI) to predict the turning points of the tourism industry in Maldives. Their findings successfully signalled ten economic crises 4.4 months preceding the actual events. This indicates their predicting tool has the ability to detect unexpected events earlier, and thus maybe used to help minimize the negative impact from crises. According to Soh et al. (2019c), they predict the tourism cycle in Fiji by using Markov switching approach. Based on their empirical results, few of the economic crises including the Dotcom bubble event, Subprime Mortgage crisis, and global oil price hike have been successfully detected in their study. This indicates that the tourism cycle indicator (TCI) has the capability to detect events accurately.

The recent COVID-19 pandemic had a tremendous impact on the world economy, particularly the tourism industry. Liew (2020) and Jong et al. (2021) examined the effect of COVID-19 on share prices. Liew (2020) explored the share price of Booking Holdings Inc., Expedia Group and Trip.com Group Ltd. during the outbreak of COVID-19, whereas Jong et al. (2021) investigated the share price of Booking.com. They consistently concluded that the share prices declined sharply and that the crisis left a huge negative impact on share prices due to the

pandemic. Jong et al. (2021) utilized the Markov switching approach to forecast the dynamic relationship between COVID-19, international crude oil price, gold price and the share price of Booking.com. Their empirical findings evidenced that COVID-19 had an adverse impact to Booking.com's share price. Their finding suggested that a 1% increase in COVID-19 cases reduced the share price by 0.27%. They also concluded that the possibility of another wave of COVID-19 is relatively high as the bounce back effect is high based on their empirical model.

Foo et al. (2020) conducted a study to review COVID-19's impacts on Malaysian tourism and summarized its impacts on various industries in Malaysia including the tourism industry, airline industry and hotel industry. They concluded that these industries were heavily damaged by the COVID-19 pandemic due to the tourists around the globe cancelled their trip or delaying their schedule to Malaysia. Their study also highlighted various tourism stimulus packages introduced by the Malaysian government to the tourism players since the implementation of movement restriction order to minimize the adverse impact of the pandemic to the economy in Malaysia. Months after the outbreak of COVID-19, the tourism industry in these areas remained highly uncertain. Although the world remains uncertain and the number of COVID-19 cases continues to climb, numerous countries are preparing recovery plans for their tourism industries. Most countries also sped up their vaccination programmes to foster the recovery of economic activities. However, the recovering and restarting of the tourism industry will be a great challenge for these countries. Consequently, it is critical to forecast COVID-19's effect on the tourism industry so that the government can develop a post-recovery tourism strategy.

The recovery of the tourism industry is essential for each nation considering the industry's significant contribution to the global economy (Ranasinghe, 2021). Ranasinghe claimed that the government, industry players and consumers are worried about future uncertainties and the recovery plan's ability to address their losses during the pandemic. He further stated that the post pandemic recovery to cover basic living needs, medical facilities, and other health developments poses great challenges for underdeveloped countries. He suggested that in order to speed up economic recovery, the capital should inject into the economy, lower the interest rate to attract investments, as well as develop basic facilities and other essential development needed for the countries. Polyzos et al. (2020) used the Long Short-Term Memory (LSTM) technique to estimate the number of Chinese tourists arriving in the United States and Australia based on monthly results. They discovered a dramatic drop in Chinese tourists visiting the United States and Australia as a result of the COVID-19 outbreak. They predicted that the number of Chinese tourists visiting Australia would return to normal within six months, while the United States would take around a year to recover.

In the study by Fotiadis et al. (2021), they also employed the LSTM approach proposed by Hochreiter and Schmidhuber (1997) to forecast the international tourism demand. They mentioned that the recovery of the international tourism industry would be a great challenge because their findings suggested that the loss of tourism demand returns the sector to tourist flows from 2005, implying that 15 years of development will be missed as a result of the pandemic. Their findings indicated that the drop in the number of tourist arrivals ranged between 30.8% and 76.3%, and this momentum will persist at least until mid-2021. Therefore, they argued that the expectation of recovery for the tourism industry in early 2021 is not possible, and they believe the recovery should be after the summer of 2021.

Flattening the curve in the spread of COVID-19 is one of the key objectives for tourism recovery. Prideaux et al. (2020) stated that the global tourism industry has been transformed due to the COVID-19 pandemic. They also mentioned that leadership and expertise are the important elements in flattening the COVID-19 cases because they need to quickly respond to the regulations set by the World Health Organization, and implement significant plans to avert large-scale infections. Sigala (2020) reviewed the existing literature to help the researchers and key industry players to better understand and manage the impact on tourism caused by COVID-19. He mentioned that studies examining, measuring, and forecasting the impact of COVID-19 on the tourism industry are crucial to monitor and respond to the pandemic. He further explained that technology is one of the key solutions in combating the pandemic and helping to re-opening tourism and other economic activities. Mobility tracing applications, robotised-AI technology, big data analysis, and disinfecting technologies provide better safety and security to the people during this critical period.

Li et al. (2021) investigated the recovery and tourism development plan for rural and urban tourism due to COVID-19 in China. They collected Chinese news reports to analyse and visualize the high-frequency words to identify the attitude of the stakeholders toward the future potential of urban and rural tourism. Interestingly, their findings found that the attractiveness of rural tourism is higher than urban tourism during the pandemic. Their finding enriched the existing knowledge of tourism development and management during the crises in the future. In sum, the research on COVID-19 is crucial to identify its impact on economic activities. Future studies on pre-crisis, mid-crisis, and post-crisis economics are needed to gather extra tourism information for future tourism recovery and development plans.

In sum, the recovering and restarting of the tourism industry by following the latest rules and regulations during COVID-19 pandemic will transform the sector into a new global economic sector. Through the road to recovery and restart, the tourism industry will focus on new and innovative strategies for long-term sustainable growth. Further research on pre-crisis, mid-crisis and post-crisis economics are equally important in gathering information for future tourism recovery and development plans.

References

Aki, S. (1998). A compact econometric model of tourism demand for Turkey. *Tourism Management*, *19*(1), 99-102.

Chaiboonsri, C., Sriboonjit, J., Sriwichailamphan, T., Chaitip, P., & Sriboonchitta, S. (2010). A panel cointegration analysis: An application to international tourism demand of Thailand. *Annals of the University of Petroşani, Economics*, *10*(3), 69-86.

Chaisumpunsakul, W., & Pholphirul, P. (2018). Does international trade promote international tourism demand? Evidence from Thailand's trading partners. *Kasetsart Journal of Social Sciences*, *39*(3), 393-400.

Dube, K., Nhamo, G., & Chikodzi, D. (2021). COVID-19 pandemic and prospects for recovery of the global aviation industry. *Journal of Air Transport Management*, *92*, 102022.

Foo, L. P., Chin, M. Y., Tan, K. L., & Phuah, K. T. (2020). The impact of COVID-19 on tourism industry in Malaysia. *Current Issues in Tourism*, 1-5.

Fotiadis, A., Polyzos, S., & Huan, T. C. T. (2021). The good, the bad and the ugly on COVID-19 tourism recovery. *Annals of Tourism Research*, *87*, 103117.

Gulistan, A., Tariq, Y. B., & Bashir, M. F. (2020). Dynamic relationship among economic growth, energy, trade openness, tourism, and environmental degradation: fresh global evidence. *Environmental Science and Pollution Research*, *27*(12), 13477-13487.

Hanafiah, M. H. M., & Harun, M. F. M. (2010). Tourism demand in Malaysia: A cross-sectional pool time-series analysis. *International Journal of Trade, Economics and Finance*, *1*(1), 80-83.

Hochreiter, S., & Schmidhuber, J. (1997). Long short-term memory. *Neural Computation*, *9*(8), 1735-1780.

Jong, M. C. (2020). Empirical review on tourism demand and COVID-19. Munich Personal RePEc Archive.

Jong, M. C., Puah, C. H., & Arip, M. A. (2020). Modelling tourism demand: An augmented gravity model. *Jurnal Ekonomi Malaysia*, *54*(2), 105-112.

Jong, M. C., Puah, C. H., & Soh, A. N. (2021). The impact of COVID-19 pandemic and commodities prices on Booking.com share price. *Advances in Science, Technology and Engineering Systems Journal*, *6*(2), 185-189.

Kwack, S. Y. (1972). Effects of income and prices on travel spending abroad, 1960 III-1967 IV. *International Economic Review*, *13*(2), 245-256.

Laber, G. (1969). Determinants of international travel between Canada and the United States. *Geographical Analysis*, *1*(4), 329-336.

Li, Z., Zhang, X., Yang, K., Singer, R., & Cui, R. (2021). Urban and rural tourism under COVID-19 in China: Research on the recovery measures and tourism development. *Tourism Review*, 1-19.

Liew, V. K. S. (2020). The effect of novel coronavirus pandemic on tourism share prices. *Journal of Tourism Futures*, 1-16.

Lim, C. (1997). Review of international tourism demand models. *Annals of Tourism Research*, *24*(4), 835-849.

Martin, C. A., & Witt, S. F. (1988). Substitute prices in models of tourism demand. *Annals of Tourism Research*, *15*, 255-268.

McCallum, J. (1995). National borders matter: Canada-U.S. regional trade patterns. *The American Economic Review*, *85*(3), 615-623.

Polyzos, S., Samitas, A., & Spyridou, A. E. (2020). Tourism demand and the COVID-19 pandemic: An LSTM approach. *Tourism Recreation Research*, 1-13.

Preko, A., Mohammed, I., Gyepi-Garbrah, T. F., & Allaberganov, A. (2020). Islamic tourism: travel motivations, satisfaction and word of mouth, Ghana. *Journal of Islamic Marketing*, *12*(1), 124-144.

Prideaux, B., Thompson, M., & Pabel, A. (2020). Lessons from COVID-19 can prepare global tourism for the economic transformation needed to combat climate change. *Tourism Geographies*, *22*(3), 667-678.

Puah, C. H., Huan, S. H., & Thien, F. T. (2018a). Determinants of Chinese demand for tourism in Malaysia. *Business and Economic Horizons*, *14*(3), 501-512.

Puah, C. H., Jong, M. C., Ayob, N., & Ismail, S. (2018b). The impact of tourism on the local economy in Malaysia. *International Journal of Business and Management*, *13*(12), 151-157.

Puah, C. H., Thien, F. T., & Arip, M. A. (2014). Singaporean demand for tourism in Malaysia. *Economic Annals-XXI*, *11*, 32-36.

Puah, C. H., Thien, F. T., Arip, M. A., & Chin, M. Y. (2019). Modelling a tourism demand in Vietnam. *International Journal of Economics and Management*, *13*(2), 319-329.

Ranasinghe, R. (2021). After Corona (COVID-19) impacts on global poverty and recovery of tourism based service economies: An appraisal. *International Journal of Tourism and Hospitality*, *1*(1), 52-64.

Rossello-Nadal, J. (2001). Forecasting turning points in international visitor arrivals in the Balearic Islands. *Tourism Economics*, *7*(4), 365-380.

Shafiullah, M., Okafor, L. E., & Khalid, U. (2019). Determinants of international tourism demand: Evidence from Australian states and territories. *Tourism Economics*, *25*(2), 274-296.

Shahbaz, M., Kumar, R. R., Ivanov, S., & Loganathan, N. (2017). The nexus between tourism demand and output per capita with the relative importance of trade openness and financial development: A study of Malaysia. *Tourism Economics*, *23*(1), 168-186.

Sigala, M. (2020). Tourism and COVID-19: Impacts and implications for advancing and resetting industry and research. *Journal of Business Research*, *117*, 312-321.

Soh, A. N., Puah, C. H., & Arip, M. A. (2019a). Forecasting tourism demand with composite indicator approach for Fiji. *Business and Economic Research*, *12*(2), 477-490.

Soh, A. N., Puah, C. H., & Arip, M. A. (2019b). Construction of tourism cycle indicator: A signalling tool for tourism market dynamics. *Electronic Journal of Applied Statistical Analysis*, *12*(2), 477-490.

Soh, A. N., Puah, C. H., & Arip, M. A. (2020). Tourism forecasting and tackling fluctuating patterns: A composite leading indicator approach. *Studies in Business and Economics*, *15*(2), 192-204.

Soh, A. N., Puah, C. H., Arip, M. A., & Kuek, T. H. (2019c). Oil price and Fijian tourism cycle: A Markov regime-switching model. *International Journal of Energy Economics and Policy*, *9*(6), 199-192.

Tang, C. F. (2018). The impacts of governance and institutions on inbound tourism demand: Evidence from a dynamic panel data study. *Asia Pacific Journal of Tourism Research*, *23*(10), 1000-1007.

Tanjung, A., Thien, F. T., Puah, C. H., Brahmana, R. K., & Sianturi, R. (2017). Macroeconomic determinants of Indonesian tourism demand in Malaysia. *Advanced Science Letter*, *23*(4), 3159-3162.

Thien, F. T., Puah, C. H., Hassan, M. K. H., & Arip, M. A. (2015). An ECM analysis of Thai tourism demand in Malaysia. *Mediterranean Journal of Social Sciences*, *6*(3), 162-168.

UNWTO. (2021). *International tourism highlights, 2020 edition*. UNWTO, Madrid. Retrieved from https://doi.org/10.18111/9789284422456.

WTTC. (2021). *Economic impact reports*. Retrieved from https://wttc.org/Research/Economic-Impact

Xu, L., Wang, S., Li, J., Tang, L. & Shao, Y. (2020). Modelling international tourism flows to China: A panel data analysis with the gravity model. *Tourism Economics*, *25*(7), 1047-1069.

Yap, S. A. Y. I., Ayob, N., & Puah, C. H. (2020). Event tourism demand and selected macroeconomic variables: An econometrics view of the long-run and short-run relationships. *International Journal of Business and Society*, *21*(1), 183-196.