National disaster management in the ASEAN-5: an analysis of tourism resilience

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Abstract

Purpose – This report aims to present a detailed evaluation of resilience planning of the ASEAN-5 tourism sector to national disasters. The project analyses the challenges to the tourism industry in the ASEAN-5 (Singapore, Indonesia, Thailand, the Philippines and Malaysia) countries due to national disasters (economic crisis, health hazards, natural calamity and/or act of terrorism) and the effectiveness of the measures taken in response to disastrous events.

Design/methodology/approach – The project analyses the effect of national disasters over a 10-year period in the ASEAN-5 countries on tourism economy and effectiveness of government action in resilience planning. The study uses two research questions to comment on comparative effectiveness of resilience planning in the ASEAN-5 nations.

Findings – The findings of this study revealed that national disasters affect a country’s tourism sector performance and its economy negatively. In particular, national disasters have harmful effects for a country’s tourism arrivals, tourism receipts, gross domestic product and unemployment. The findings reveal that regardless of geographical closeness of the ASEAN-5 countries, each experienced different effects in terms of national disasters and each used different government recovery measures.

Practical implications – This paper builds a knowledge management system for national disasters and the tourism sector. It provides a ready reference of timeliness and effectiveness of measures and to develop a framework for future tourist disaster management systems. Specifically, the relationships between the tourism indicators explored in this study contribute significantly to the knowledge on how these indicators interact to affect the tourism industry and the country’s economy. Furthermore, this information would act as a guide for countries to design and implement resilience planning and disaster management response.

Originality/value – Resilience planning is emerging as a key area under sustainable development. This report presents an evaluation of resilience planning of the ASEAN-5 tourism sector to national disasters.

Keywords Disaster response, National disasters, Tourism economy, Tourism resilience planning

Introduction

Resilience planning has been linked to sustainable development (Lew, 2014). Resilience adapts to change by building capacity to return to a desired state, following unanticipated disruptions such as national disasters (Derissen et al., 2011). Resilience planning in the tourism sector, by its nature, is complicated and multidimensional; it can be examined from social, cultural, economic, political, environmental and institutional points of view (Chheang, 2013; Wanhill, 2000). This paper analyses the performance of the tourism sector during national disasters. In particular, this paper focuses on the ASEAN-5 countries, which comprises Indonesia, Malaysia, the Philippines, Singapore and Thailand. Identified as dynamic zones for tourism development, the ASEAN-5 countries are known for their rich heritage, cultural diversity, tropical tourism and low-cost destinations (Conrady and Buck, 2010).
Given that the ASEAN-5 countries play a significant role in tourism development, an unfavourable effect on the global tourism industry would in turn affect these countries negatively. The occurrence of natural disasters is one such factor which affects the tourism industry adversely. This would eventually affect the economic growth of the affected countries. In the past decade, several natural disasters have affected the tourism industry and the development of travel and tourism in the ASEAN-5 countries (Boukas and Ziakas, 2013; Koenig and Bischoff, 2004; Zhang and Yan, 2012). However, there has been a lack of research done on the effects of disasters on the ASEAN-5 countries and the effectiveness of the measures taken to rehabilitate the tourism industry (Liu, 2014; Morakabati et al., 2012; Ryan and Page, 2012; Wanhill, 2000).

Literature review

The tourism industry is an industry which has a substantial market share (Mistilis and Sheldon, 2006). Regardless of this, the tourism industry is vulnerable to national disasters, as there is no fixed measure that can be used in response to disasters (Boukas and Ziakas, 2013; Ghaderi et al., 2014; Smorfitt et al., 2005; Zhang and Yan, 2012). This is largely due to the variability of each disaster. A number of studies have examined the effect of disasters on tourist destinations and the tourism industry in general (Boukas and Ziakas, 2013; Ghaderi et al., 2014; Huan et al., 2004; Vasantha Saman Kumara, 2008; Zhang and Yan, 2012). The classification of disasters plays a crucial role in disaster management responses, as response to each disaster may differ depending on its characteristics (Granvorka and Strobl, 2013; Koenig and Bischoff, 2004; Zhang and Yan, 2012). Disasters can be classified into five major categories, namely, political events, natural disasters, epidemics, financial events and man-made disasters. Each disaster has its own level-of-scale that needs careful study to provide various information, such as duration of disaster, the level of control, the extent of damage caused and the people affected (Laws et al., 2007; Huan et al., 2004).

The effects of tourism disasters can be linked to developments in the economic, sociocultural, political and environmental domains that affect demand and supply in destination countries. Economic downturns and recession, fluctuating exchange rates, loss of market confidence and withdrawals of investment funds are some effects of the disasters in the global tourism market. The events that occurred in the ASEAN-5 region resulted in a negative economic impact on the tourism sector as a whole. The disasters caused a reduction in the drivers of the tourism economy such as “tourist arrivals” and “tourist receipts”. This study did not extend itself to an in-depth study of the various disasters, rather, it focused on the effects of disasters and the effectiveness of disaster response measures put in place. The following section reports a series of national disasters which have occurred during the period of 2001 to 2011.

Disasters and their economic effect

For the purpose of this research, national disasters have been classified into the following categories: economic crisis, natural disasters, health hazards and terrorism. Generally viewed as disasters, these categories have been developed after a careful survey of the existing literature (Fuchs, 2013; Keller and Hystadt, 2008; Laws and Prideaux, 2005; Lindell, 2013; Liu, 2014; Page, 2009; Ritchie, 2009).

Economic crisis (2008)

The occurrence of the Global Financial Crisis (GFC) in 2008 caused a downturn in the world’s economy (Farrar and Parsons, 2013; Lai and Ravenhill, 2012). The GFC hit the ASEAN-5 region’s economy, causing a downfall of 3.5 per cent since the Asian financial crisis in the 1990s (Sangsubhan and Basri, 2012; Simarmata, 2013). The GFC had affected travel agents, hotels, airlines industry, other tourism stakeholders and the investments made in this sector negatively. This resulted in adverse effects on the tourism industry.
preliminary figures of the United Nations World Tourism Organization indicated a continuous negative growth amongst destinations from all around the region which resulted from a decrease in demand in major source markets (Sangsubhan and Basri, 2012).

**Natural disasters (2004, 2012)**

The ASEAN-5 cultural landscapes are becoming an area of interest for tourists from all around the world. The ASEAN-5 countries provided a warm invitation and a relaxing place for tropical lovers. This was the case until an underwater earthquake resulted in a tsunami along the coastline of Sumatra on 26 December 2004 (Vries, 2011), killing over 7,000 tourists while nearly 500 went missing. Almost half of the casualties came from Western countries (Vries, 2011). The impact of the tsunami was extremely devastating that it resulted in tourists being afraid to travel to the region. This demonstrates the negative effect of natural disasters such as tsunami, floods, earthquakes and typhoons on the tourism industry of the affected destinations. Taking into account that tourism contributes to more than half of the national income in the ASEAN-5 countries, disasters, such as the tsunami, reduce the flow of tourists in the affected area and contributes to the slowing down of the economic growth (Gurtner, 2007b). For instance, the 8.2 magnitude earthquake in Sumatra, Indonesia, on 11 April 2012 caused a widespread loss of life and property (Zou and Wei, 2010). Tourists and residents were forced to evacuate the coastal areas, bringing the economy to a halt (Vltchek, 2012). This exhibits the damaging impact natural disasters have on the affected country.


Since 2003, a series of pandemics and epidemics have been reported in the ASEAN-5 region (Lee, 2011). These have resulted in a large number of casualties (Asia Business Council, 2010). These pandemics included SARS (2003), avian flu (2005-2007) and swine flu (2009-2010). The occurrence of the epidemics was simultaneous (Ooi et al., 2013). When the global influenza pandemic occurred, about 25 per cent of the world’s population fell ill (World Health Report, 2007, as cited in Asia Business Council, 2010). This led to the interdependence of societies and the economies. Based on trade and travel, the negative economic impact of a pandemic/epidemic was detrimental. These medical crises caused heavy losses and crippled business continuity. The Asian Development Bank (Verbiest and Castillo, 2004) reported that the loss in gross domestic product (GDP) in Southeast Asia due to SARS was $18 billion or 0.6 per cent of the global GDP in 2003. Likewise, due to other epidemics like swine flu and avian flu, travel and tourism suffered the hardest hit (Lee, 2011). Therefore, health hazards have a significant negative impact on the performance of the tourism industry of the affected country.


The threat of terrorism is causing a major impact on the tourism industry. The rapidly changing and globalized world has witnessed several conflicts about regionalism, especially after the Second World War (Prawindarti, 2008). Terrorism has emerged as a serious threat worldwide. The security and protection of the tourism industry has become a vulnerable and assailable target of terrorism. Several incidents of terrorism had disastrous effects. The most destructive attack was on the World Trade Center in New York, popularly known as the 9/11 attack. The attack shocked the world and affected tourist flow globally. According to the World Trade Organization, tourist arrival dropped by more than 33 per cent worldwide after the 9/11 attack. With a fall of 50 per cent in the tourism business, the Muslim majority countries were affected the most (Bonham et al., 2006). The Bali Bombing in 2002 and 2005 also resulted in widespread fear of travelling to Indonesia and other Southeast Asian countries, thus leading to a reduction in tourism gains in the ASEAN-5 (Acharya, 2006). Both the bombings had occurred in the tourist district of Kuta, Bali, resulting in a large number of casualties. The bombings created a fear in tourists to visit Indonesia. This resulted in a decrease in the number of tourists visiting Indonesia,
which affected the aviation sector adversely (Gurtner, 2007a). The downfall in the tourism sector was also observed when the Manila Hostage Crisis occurred in the Philippines in 2010, where Hong Kong tourists were killed. This had created fear in the minds of tourists, thus resulting in tourists viewing Southeast Asia as an unsafe destination (Ooi et al., 2013). Similarly, the Thailand Bombing in 2012 created a perception amongst travellers from all around the world that travelling to the ASEAN-5 region may endanger their lives (Ooi et al., 2013). This indicates the harmful effects terrorism has on the tourism industry.

**Government measures to counter disasters**

The government responses to the disastrous events were aimed for reducing the impacts on the affected regions. The effects could be seen in all the countries; however, in the developing countries, the disasters had a disproportionate impact. The losses caused by the disasters were immense, not only in terms of human lives but also in terms of infrastructure. Asian Development Bank and the Asian Development Bank Institute (2013) states that an estimated damage of US$60bn of the average annual direct earnings occurred due to disasters in Asia and Pacific region within the period of 2001-2011. The government of individual countries and international agencies collaborated together to work on the recovery and make strategies to minimize the risk of future events. The recovery plan for the GFC was made by the USA in which an US$825-bn plan was sanctioned and Obama proposed reinvestment in January 2009 (National Republican Senatorial Committee Report, 2012). Despite the massive US Federal bailout, subsidies and takeovers that had already occurred, there was an anticipated or underway will to revive the American economy and restore the symbiotic balance between Asian-savers and American-spenders to normalize the situation. The measures taken by governments of other countries to GFC were Singapore’s SG$20.5bn “Resilience Package” in 2009 and the Bridging Loan Program (Thum, 2010), “Government’s Credit Guarantee Scheme”, Government’s Spending Programs by the Malaysian Government (Abidin and Rasiah, 2009), “Philippines’ Economic Resiliency Plan”, “Filipino Expatriate Livelihood Support Fund” and Comprehensive Livelihood and Emergency Employment Program by the Philippine Government (Ortiz, 2010). There were other financial collaborations to counter the problems of financial crisis, but the graving impact of the crisis can still be observed by the economies worldwide.

The responses for natural disasters were taken to promote the sustainable development and implement strategies and action plans for risk reduction management. Several international organizations like the World Bank, United Nations Office for Disaster Risk Reduction (UNISDR) and Global Facility for Disaster Reduction and Recovery joined as international partners (Joint Initiative set up to Finance ASEAN Disaster Resilience, 2011). The ASEAN Agreement on Disaster Management and Emergency Response made a binding agreement with the ASEAN member states to promote regional cooperation and collaboration in reducing the disaster loss. Other technical support from the World Bank and UNISDR was given to help the ASEAN Secretariat for rescue and recovery programmes. The National Disaster Risk Reduction and Management Council coordinated a mechanism to address immediate needs and help required for the areas affected by Typhoon Bopha (World Economic Forum, 2012). The National Disaster Management Agency (BNPB) established a Technical Assistance Team to help the governor of West Sumatra to implement the rehabilitation and reconstruction plan for recovery from the earthquake (Harvey and Smyth, 2012).

The ASEAN Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre) immediately deployed the “ASEAN-Emergency Rapid Assessment Team” (ASEAN-ERAT) to assess the needs and to quickly provide necessary aid to the disaster-affected areas. The Malaysian Government announced remuneration packages for tsunami victims (Association of Southeast Asian Nations, 2011), displaced residence and fishermen. The United Nations Children’s Emergency Fund provided lifesaving...
humanitarian relief to the survivors. An agency named “Badan Rekonstruksi dan
Rehabilitasi” (Agency for the Rehabilitation and Reconstruction) was formed in Indonesia.
Phuket Tourism Risk Management Strategy, Phuket Action Plan and Tsunami Emergency
Reconstruction Program were started by the international bodies (Jayasuriya and McCawley, 2008).

Several governments took a series of remedial measures to reduce and overcome the adverse impact of epidemics caused globally. “SARS preparedness and compliance program” (World Health Organization, 2004) was started with relevant sections of WHO infection control guidelines. The Singapore Health Ministry invoked the “Infectious Disease Act”, the SG$230m Rescue Package was introduced for the Tourism and Transport Industry and the SARS relief package was distributed to all the epidemic-affected areas (Curley and Thomas, 2004).

The response to the terrorist activities by the affected regions and international security agencies was to safeguard the prime tourist destinations for the travellers from all around the world. The “Back to Bali” campaign was started after the Bali Bombings in 2002 with the aim of regaining consumer confidence both internationally and domestically and to improve Bali’s image as a safe, enjoyable and attractive destination to visit (Gurtner, 2004).

The ASEAN Declaration on Joint Action to Counter Terrorism outlines measures to fight terrorism and the creation of the National Commission on Terrorist Attacks Upon the United States (the 9/11 Commission). Terrorists charged and accused for the attacks were arrested, and the national governments from all over the world took several security measures to make the destinations a safe one (Soesilowati, 2011).

Research objective

Key studies have highlighted the importance of effective counteractive measures for national disaster management (Ooi et al., 2013; Gurtner, 2004; Soesilowati, 2011). However, there is a lack of literature on the effectiveness of national disaster management measures undertaken by the governments of various countries (Becken et al., 2014; Sardana and Dasanayaka, 2013). Hence, this research study aims to overcome the gaps in literature by attempting:

- to examine the effectiveness of government responses to address disasters;
- to study the ASEAN-5 region with regards to disasters and the economic performance of the tourism sector; and
- to analyse the relationship between disasters and key indicators (GDP, unemployment, tourist receipts and tourist arrivals).

The research questions of the current study are as follows:

RQ1. What are the impacts of national disasters on the performance of the tourism sector and economy of the ASEAN-5 countries?
RQ2. Were disaster response measures successful in reviving tourism sector in the ASEAN-5 countries?

This paper analyses the data on key indicators outlined in the preceding section and makes observations on effectiveness of resilience planning and disaster response and management initiatives.

Methodology

The data for this study were drawn from a pool of research papers and statistics prepared by international agencies. Secondary data were sourced from annual reports, newspaper articles, journal articles, related books, published reports and international organization websites on major disaster events that affected the ASEAN-5 region. These countries are the Philippines, Indonesia, Singapore, Thailand and Malaysia. The statistical data for each
country were collected from two international sources, namely, the ASEAN Statistical Year Book and the World Bank. The data were collected for an 11-year period from 2001 to 2012. A total of 13 disaster events were considered for the study. The four categories and the year of occurrence are as follows:

- the GFC (2008);
- natural disasters (2004, 2012);
- health hazards (2003, 2005, 2007, 2009, 2010); and

Analysing the effect of disasters and corresponding government action on key economic variables is the key component of this research project. The four indicators observed in this study are tourist arrivals, tourist receipts, GDP and unemployment. While tourist arrival and tourist receipts are the most relevant variables to measure tourism demand in a country (Kadir and Abd Karim, 2012; Kulendran and Witt, 2003; Witt et al., 2004), GDP and unemployment reveal the overall macroeconomic performance of a country. Given the importance of these indicators (Cho, 2001; Fourie and Santana-Gallego, 2011; Turner et al., 1997), these indicators are used to study the data of the present study.

Findings and discussion

The current study examined the impact of major national disasters on the tourism economy in selected countries, namely, the ASEAN-5 countries. In addition, this study studied the effectiveness of the counter measures taken by the respective governments against disasters. In analysing the tourist economy, four key indicators of the tourism industry were studied, particularly, tourist arrivals, tourist receipts, GDP and unemployment. The findings and discussion are presented according to the research questions of the study:

RQ1. What are the impacts of the national disasters on the performance of the tourism and economy of the ASEAN-5 countries?

Tourism variables and economic variables trending.

A composite comprising two graphs is presented for each of the ASEAN-5 countries. The first graph depicts the trend in the tourism industry and the second shows the macroeconomic profile of the country. Descriptive statistics for the four indicators of the tourism industry for Indonesia, Malaysia, the Philippines, Singapore and Thailand are illustrated in Figures 1, 2, 3, 4 and 5, respectively.

In addition, a series of correlation analyses were conducted to explore the relationships between the four main indicators of the tourism industry: Tourist arrivals, tourist receipts, GDP and unemployment (refer to Table I for details). The analyses were conducted for each of the ASEAN-5 countries. Correlation between variables is a technique to know how well the variables are related (Babbie, 2013). The most common way to know statistical correlation is the Pearson product moment correlation or PPMC (Baggio and Klobas, 2011; Coakes, 2013). PPMC coefficients were computed to assess the relationship between the four key indicators used in this project (tourist arrivals, tourist receipts, GDP and unemployment).

Indonesia. Descriptive statistics illustrated in Figure 1 show that tourist arrivals and tourist receipts in Indonesia decreased significantly after the Bali Bombing, SARS and tsunami, which occurred in 2002, 2003 and 2004, respectively. Other disasters such as the avian flu in 2005 and GFC in 2008 resulted in a dip in tourist arrivals and tourist receipts, but less in comparison to other events. These demonstrate that the tourism economy of Indonesia was deeply impacted by the national disasters which occurred. However, the continuous rise in the tourism economy can be associated with proactive and successful implementation of government measures in response to the relevant disasters. The major dip in the 2009 GDP
of Indonesia can be related to the GFC. Another noteworthy observation is that the consistent decline in unemployment since 2005 is accompanied by a rise (with the exception of 2009) in tourist arrivals and tourist receipts. This shows the relationship between tourism growth (i.e. tourist arrivals and tourist receipts) and unemployment. In particular, this demonstrates the negative relationship between tourism drivers (tourist arrivals and tourist receipts) and unemployment. This has further been supported by the PPMC analysis conducted to investigate the relationship between tourism drivers (tourist arrivals and tourist receipts) and unemployment for Indonesia. There was a strong, negative and statistically significant relationship between the tourism drivers and unemployment. In particular, this indicates that as tourist arrivals and tourist receipts increase, unemployment decreases in the Indonesia. This signifies the crucial role the tourism sector plays on the employment level of a country.

Malaysia. The data obtained in this present study revealed that the tourism economy of Malaysia is strong and is rising continuously. The impacts of disasters on Malaysia’s tourism drivers were evident from the substantial drop in tourist arrivals and receipts in the year 2003. This can be attributed to the combined effect of the Bali Bombing (2002) in Indonesia and SARS (2003). Furthermore, the slow growth in tourist arrivals and slowdown in GDP (% growth) in 2005 can be associated with the tsunami tragedy which occurred in December 2004. However, the rise in GDP and falling unemployment before the occurrence of GFC imply that the measures taken by the government to boost the Malaysian economy were effective. As evident from Figure 2, the year 2009 observed a decrease in tourist receipts and an increase in unemployment level. As a result, the national percentage growth of GDP had slid back. This demonstrates the negative impact of national disasters on the performance of the tourism industry and economy of Malaysia. However, despite the negative relationship between tourist
receipts and unemployment derived from the descriptive statistics, the correlation analysis for the relationship between tourist receipts and unemployment revealed a statistically insignificant relationship.

The Philippines. The tourism economy of the Philippines in Figure 3 shows a tapering of the tourist arrivals and receipts. This is largely due to the Davao airport bombing which occurred in 2003. There was a steady growth in the tourism economy from 2004 to 2007. However, after the occurrence of the GFC (2008) and swine flu (2009), there was a decrease in the overall tourist economy and loss of growth in GDP. The tourism sector was suffering during 2008 to 2009. This implies that the occurrence of national disasters such as the GFC and the swine flu (2009) results in unfavourable effects on the country’s tourism drivers. Thus, national disasters have had a negative impact on the Philippines’ tourism industry and economy.

The major fluctuations in the GDP levels convey a weak relationship between the growth patterns of the tourism sector and the national GDP. This is further supported by the results of the correlation analyses, where it was found that GDP had an insignificant relationship with both tourist arrivals and tourist receipts.

Singapore. Figure 4 reports a positive growth trend of the tourism economy of Singapore. However, the growth trajectory was affected by the disasters such as SARS in 2003 and the combined effect of GFC and avian flu in 2008-2009. The country’s economy was also growing steadily in most years, except 2008 and 2009, wherein the GFC had a dampening effect on the economy. In 2001, the GDP was at the lowest in a decade, while the unemployment rate was on an upward trend. This can be attributed to the occurrence of the attack on the World Trade Center in 2001. Therefore, in relation to RQ1, it appears that national disasters affect the country’s key tourism indicators negatively. In turn, the
country’s economy suffers. Furthermore, correlation analyses revealed a moderate, positive and statistically significant relationship between tourist receipts and GDP for Singapore. Thus, when tourist receipts are affected negatively, GDP would decrease as well.

**Thailand.** The trend for Thailand in Figure 5 exhibits positive signs of both the tourist sector and the country’s economy before the SARS outbreak in 2003. The GDP trend line for the decade registered a continuous tapering. A significant fall in the country’s economy was registered in 2009 with the advent of the GFC. The corresponding fluctuations in the tourism variables signify that the tourism sector was sensitive to these disasters. These demonstrate the negative effects national disasters have on the country’s tourism industry and economy:

**RQ2.** Were disaster response measures successful in reviving tourism sector in the ASEAN-5 countries?

Findings suggest that the Indonesian economy is resilient and has been successful in recovering from economic depressions caused by disasters. The government’s remedial measures have been very effective in reducing the unemployment rate, increasing the GDP (except the year of the GFC 2009) and boosting the tourism industry. The continuous rise in the tourism economy observed from the descriptive statistics illustrated in Figure 1 can be associated with proactive and successful implementation of government measures in response to the relevant disasters. The country experienced continuous growth in tourist arrivals and tourist receipts during the decade, despite a few devastating disasters (Sangsubhan and Basri, 2012). In summary, the Indonesian Government is not only focused on short-term recovery but also on long-term goals of growing the tourism sector (Acharya, 2006).
On the other hand, the Malaysian economy fluctuated substantially over the period and failed to provide sustained growth. This suggests that the disaster management measures used by the Malaysian Government might not have guided the tourism industry and the economy in the correct direction. The statistical tests could not establish a strong negative relation between unemployment and GDP. In fact, the links between economic growth, tourism sector performance and unemployment rate are inconclusive. The tourism industry in Malaysia has exhibited strong performance when compared to the overall economy (Abidin and Rasiah, 2009). The tourism sector recovered quickly from disasters. While Malaysia was affected by the disasters which occurred, it is apparent that the measures used by the government in response to the GFC had affected economy recovery positively. For instance, it can be observed from Figure 2 that there was an increase in the percentage growth of GDP and a decrease in unemployment in the year 2010. This indicates the effectiveness of the measure undertaken by the government in response to the GFC for national disaster management. In general, it is evident that the tourism economy of Malaysia is growing at a healthy rate. The findings suggest that while tourism is a growing sector in Malaysia, the economy is not dependent on tourism because its economic priorities lay in other sectors (Ajagunna, 2014).

The tourism industry of the Philippines has always been seen as a strong and growing industry. The tourism sector was quick to recover from disasters and rebound to a growth trajectory during the period of 2001 to 2011. The performance of the economic indicators as seen in Figure 3 suggests that the Philippine economy is resilient and uses good disaster management systems to generate long-term growth. For instance, as seen in Figure 3, in 2010, the tourist economy and the GDP both regained momentum
after the occurrence of the GFC (2008) and the swine flu (2009). This indicates the effectiveness of the counteractive measures used by the government. The country’s unemployment level reduced significantly and had stabilized in the later years. The growth in the tourism industry has a strong positive effect on the country’s employment levels, thus reducing unemployment in the country. The statistical analysis suggests a significant and strong relation between the tourism sector in the country and unemployment rate. Although the share of the tourism sector in the overall GDP is not very significant, tourism has rooms for development and growth in the Philippines (Ritchie, 2009; Ortiz, 2010).

In the case of Singapore, the Singaporean economy has generally enjoyed high growth rates over the decades (Doraisami, 2011). Out of the ASEAN-5 countries, Singapore faced the least number of national disasters, with the exception of GFC, SARS and avian Flu which affected its tourism industry. The Singapore Government’s disaster management measures have been effective in inducing a quick recovery from disaster. From Figure 4, the tourist arrivals and tourist receipts reveal a constant growth over the years, indicating that the disaster management measures undertaken by the Singapore Government were successful. The tourism sector reported significant gains due to robust policy decisions. Statistical correlation analysis for Singapore suggests a strong negative relation between the growth of tourism industry and unemployment rate. Thus, a decline in the tourism industry has resulted in an upward trend in the unemployment rate and vice versa (Zhang and Yan, 2012).

Finally, the Thai economy and the Thai tourism sector were among the worse affected by national disasters in the ASEAN-5 countries. Thailand’s GDP has exhibited a continuous drop during the 2001-2011 period, with more significant losses during 2003 to 2009. However, the Thai tourism sector has demonstrated quick recovery even when
faced with multiple disasters (Ghaderi et al., 2014; Gurtner, 2007b). From Figure 5, it can be observed that the government measures to revive the economy had mixed results, as some economic performance indicators such as unemployment improved, while other indicators such as GDP did not. This indicates that the measures used by the government were effective only to a certain extent. The statistical analysis reveals a significant and strong negative correlation between the tourism industry indicators and the country’s unemployment rate. This signifies that early and complete recovery and growth in the tourism industry has a direct effect on reducing unemployment rate (Becken et al., 2014).

Conclusion
This research provides an analysis of impacts of national disasters on the tourism sector and the economic performance and effectiveness of measures introduced by the governments to revive the economy in the ASEAN-5 region. The study contributes to the understanding of resilience planning on the tourism sector, specifically the effectiveness of the government’s recovery measures in each of the ASEAN-5 countries and to analyse the tourism industry outcomes of the disaster management systems. In relation to the research questions of the current study, the findings of this study revealed that national disasters affect a county’s tourism sector performance and its economy negatively. In particular, national disasters have harmful effects for a country’s tourism arrivals, tourism receipts, GDP and unemployment. The findings reveal that regardless of geographical closeness of the ASEAN-5 countries, each experienced different effects in terms of national disasters.
and each used different government recovery measures. The effectiveness of the measures used was also explored.

This paper builds a knowledge management system for national disasters and the tourism sector. It provides a ready reference of timeliness and effectiveness of measures and to develop a framework for future tourist disaster management systems. Specifically, the relationships between the tourism indicators explored in this study contribute significantly to the knowledge on how these indicators interact to affect the tourism industry and the country’s economy. Furthermore, this information would act as a guide for countries to design and implement resilience planning and disaster management response.

References


Further reading


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