

## TOURIST AREA LIFE CYCLE STAGE AND THE IMPACT OF A CRISIS

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*This paper examines the relationship between the tourist area life cycle and the recovery period following a crisis. There have been many studies of the tourist area life cycle theory and its application to the evolution of a tourism destination or resort. While it is clear that a tourism destination follows an asymptotic curve from its inception through development and stagnation, it is not clear how destinations in various stages of the tourist area life cycle are impacted by a crisis. This study focuses on two countries in Southeast Asia (Singapore and Vietnam) that are in different stages of the life cycle. The purpose of the study is to examine the relative impact of the SARS epidemic on the visitor arrivals of the two nations. Both ASEAN nations were exposed to the crisis, and the results show that the impact of the crisis, and the resulting recovery, did vary according to the life cycle stage.*

*Tourist area life cycle, visitor arrivals, SARS crisis, ASEAN*

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### INTRODUCTION

Tourism is one of the leading industries throughout the world and, according to the figures reported in the 2002 ASEAN Statistical Yearbook, tourism receipts account for 4.81% of GDP for countries belonging to the Association of Southeast Asian Nations (ASEAN). In 2003, over 37 million tourists visited the region, accounting for over \$27.6 billion (USD) in tourist receipts. This was down from the previous year due to the SARS epidemic, but the ASEAN region continues to increase in popularity as a tourist destination.

The ASEAN region underwent a financial crisis in the mid- to late-1990s, a health epidemic (i.e., SARS) in 2003, and a natural disaster in the form of a Tsunami at the end of 2004. All of these events had a negative impact on visitor arrivals to the region and provide challenges for the member countries. For example, over 70% of the international visitor arrivals to ASEAN countries are generated by other ASEAN member countries (approximately 40%) and the rest of Asia (approximately 30%). Specifically, three of the top five visitor-generating markets for the ASEAN region are ASEAN countries (i.e., Singapore, Indonesia, and Thailand) and the other two are China and Japan. Therefore, it would stand to reason that catastrophic events in the Asian region would have a significant impact on the international arrivals for all Asian countries.

Crises or disasters such as these cannot be predicted, resulting in a lack of preparation leading up to the event. However, countries do have crisis management and disaster recovery programs to deal with the aftermath from catastrophic events (Blake and Sinclair, 2003). These programs should

facilitate rapid communication, impact assessment, and rumor control. The first step in the disaster recovery process is to perform a business impact analysis that considers all of the potential impacts from each type of disaster (e.g., natural disasters, terrorism, economic crises, etc.). The extent of the damage to tourism flows is likely to depend on the current level of visitor arrivals and the annual growth rate (i.e., tourist area life cycle stage).

The purpose of this study is to examine the effect, if any, that the tourist area life cycle stage has on the overall impact of a crisis on visitor arrivals. First, there is a discussion of the tourist area life cycle concept and the previous research in this area. Second, a short history is provided for Singapore and Vietnam regarding the evolution of tourism in each country. Third, the visitor arrivals and growth rates for each country are examined and the tourist area life cycle stage is determined. Finally, the time series data are evaluated for specific trends in arrivals and growth rates following the SARS epidemic.

## BACKGROUND

Plog (1973) published the first article that looked at destinations as products that evolve through a series of stages that attract different types of visitors as the destinations evolve. The first type of traveler is the 'allocentrics' who are adventurous and seek out new destinations. They are followed by increasing numbers of 'mid-centrics' who look for better accommodations and service, and finally, 'psychocentrics' who look for familiarity and security. The number of visitor arrivals will eventually decrease as the established destination has to compete with newly developing destinations. This was followed by Stansfield (1978) who described a 'resort cycle' of development, expansion, a shift in socio-economic background of travelers, and eventually decline.

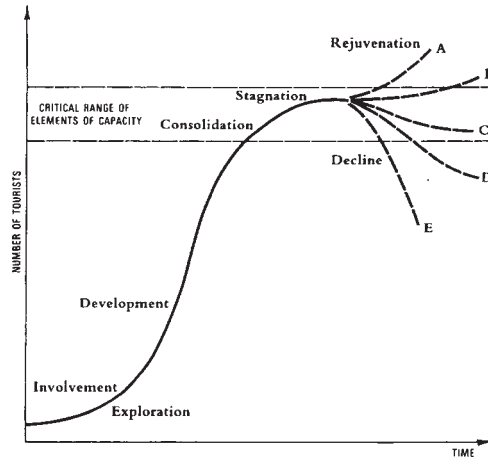
### Tourist Area Life Cycle Concept

The concept of a tourist area life cycle (TALC) was introduced by Butler (1980) to explain the evolution of a tourist area over time. This concept is similar to the product life cycle, which was first introduced in the marketing literature (Bass, 1969; Harrell and Taylor, 1981). The product life cycle theory suggests that a new product or brand will start slow with negative profits, proceed to a growth stage experiencing a rapid increase in sales and profits, move into a maturity stage where sales level off and profits begin to decrease, and finally reach a decline stage with decreasing sales and profits. The life cycle follows an asymptotic curve, which resembles the letter 'S'.

According to the tourist area life cycle concept, a tourist destination progresses through five stages: exploration, involvement, development, consolidation, stagnation, and post-stagnation (see Figure 1). During the post-stagnation stage, a tourist area faces several possibilities ranging from rejuvenation to decline. The process illustrated in Figure 1 has two axes representing the number of visitors and time. An increase in either direction implies a general reduction in overall quality and attractiveness after capacity levels are reached (Butler, 1980).

During the *exploration stage*, there are a few adventurous tourists visiting sites with few public facilities. The visitors are initially attracted to the destination because of some natural physical feature. At this point, the destination only attracts a very specific type of visitor. As the destination moves into the *involvement stage*, there is limited interaction between tourists and local community, resulting in only basic services. Increased advertising induces a pattern of seasonal variation and a definite market area begins to emerge.

## TOURIST AREA LIFE CYCLE STAGE



**Figure 1**  
**Tourist Area Life Cycle**  
(Source: Butler, 1980, p. 8)

The *development stage* is the last stage where there is continued growth in the number of visitor arrivals. There is a noticeable development of additional tourist facilities and increased promotional efforts. The destination experiences a shift in control of the tourist trade to outsiders, and the number of tourists at peak periods outnumbers the local residents. This results in some antagonism toward tourists.

Once the growth rate of visitor arrivals begins to decrease, the destination enters a *consolidation stage*. Tourism has become a major component of the local economy, and a well-delineated business district has begun to take shape. Some of the facilities are outdated and the destination tries to extend the tourist season. This leads to the *stagnation stage* where peak numbers of tourists and capacity levels are reached. The destination has a well-established image, but it is no longer popular and the lodging facilities begin to erode and turnover. Finally, the destination reaches the *post-stagnation stage* facing options ranging from rejuvenation to decline, represented by various levels of change (both positive and negative) in the number of tourist arrivals. The result depends on the destination's ability to position itself and find a viable market. The following section will discuss previous research using the TALC concept and the various stages of evolution.

### Tourist Area Life Cycle Applications

Throughout the decade following Butler's article, research focused on applying the TALC to specific destinations and testing its ability to be operationalized for planning and decision-making. Some researchers examined the physical and psychological factors that affect the life cycle and the eventual decline of the destination. Carrying capacity, location, tourist base, and destination management were cited as important factors related to decline (Cooper and Jackson, 1989; Hovinen, 1982). Meyer-Arendt (1985) studied the effect of cultural patterns on the life cycle of a destination. In addition, environmental factors such as beach erosion were found to cause the onset of decline. Haywood (1986) attempted to operationalize the TALC using a Darwinian natural selection process. Mainly, stages were identified based on intermediate growth rates and the standard deviation of the annual growth rate for the entire period.

In the 1990s, researchers continued to address the applicability of the TALC concept and discuss methodological issues (Agarwal, 1997; Douglas 1997). Once again, carrying capacity and government policy were found to have an impact on the life cycle and the ability of a destination to avoid decline (Getz, 1992; Ioannides, 1992; Martin and Uysal, 1990). A popular focus of research during this period was the post-stagnation stage and the strategies for rejuvenation and extension of the TALC (di Benedetto and Bojanic, 1993; Knowles and Curtis, 1999; Priestly and Mundet, 1998). Other studies focused on external factors like competitive structure (Debbage, 1990) and economic conditions (Tooman, 1997; Williams, 1993). The general consensus at this point was that the TALC is dependent on many factors that are destination-specific and it is difficult to operationalize. The major use of the TALC concept was to describe the evolution of a destination after-the-fact.

The beginning of the current decade has seen a shift in focus from applying the TALC to proposing alternative approaches for studying the evolution of destinations. Prideaux (2000) offered a 'resort development spectrum' based on the supply side (i.e., tourism market). According to this model, the destination evolves as the tourist base shifts from local to regional to national to international. Similarly, Moore and Whitehall (2005) applied a 'Markov switching model' and found that there is no one life cycle for all source markets. Toh, Khan, and Koh (2001) tested a 'travel balance approach' that looks at tourism imports and exports. This approach suggests that a destination's trade balance will be positive (i.e., exports exceed imports) and increase from introduction through maturity, then start to decrease, and eventually become negative in the decline stage. Hovinen (2002) revisited the life cycle concept and identified a maturity stage during which growth, stagnation, decline, and rejuvenation can coexist, and Aguilo et al. (2005) found that islands need to adapt to environmental conditions in order to sustain tourism.

Finally, several researchers have used the TALC concept in studying tourism in Southeast Asia. Smith (1992a, 1992b) focused on the evolution of beach resorts in Thailand and other Southeast Asian countries. In particular, the research was concerned with the negative impacts of the urbanization of beach resorts leading to decline. The researcher proposed a model of integrated resort development to avoid earlier mistakes and minimize the negative impacts as the beach resorts become "cities by the sea." Dahles and Bras (1999) found that the opportunities and restrictions for self-employed street guides in Indonesian cities varied according to the TALC stage of the city (e.g., consolidation versus development). Toh, Khan, and Koh (2001) tested their 'travel balance approach' using visitor arrivals data from Singapore. The researchers concluded that Singapore was currently in the maturity stage and moving toward decline.

## **METHODOLOGY**

The role of the tourist area life cycle stage in the overall impact of a crisis on visitor arrivals is examined using two ASEAN countries, Singapore and Vietnam, which are proposed to be at various stages of tourism development. The crisis chosen for the analysis is the SARS epidemic that occurred mainly in 2003. SARS is the acronym for 'Severe Acute Respiratory Syndrome' which is a pneumonia-like illness that is spread through close contact with someone who has the disease. The World Health Organization (WHO) started to view SARS as a global threat in February, 2003 after a report from China, where the disease was first identified in November, 2002. The WHO and the U.S. Center for Disease Control (CDC) issued travel advisories for parts of China, Hong Kong, Singapore, and Hanoi, Vietnam.

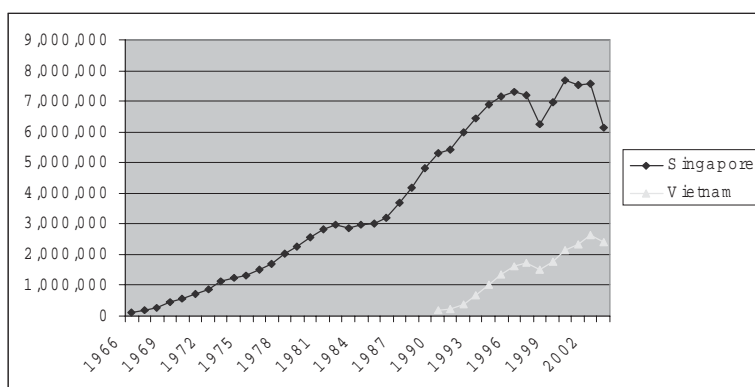
Although SARS continued to spread to new regions, these were the most hard-hit by the disease (Mason et al., 2005). Therefore, Vietnam and Singapore were chosen as the comparison countries for this study because of their close proximity, their equal exposure to the SARS disease resulting in

travel advisories, and their differing stages of tourism development. This selection process was meant to control for as many extraneous factors as possible for this preliminary investigation. In other words, the goal was to make sure that any difference in changes in visitor arrivals was due to varying impacts of the crisis rather than other factors specific to one country, such as economic conditions or political stability.

The annual visitor arrivals and growth rates for each country are available through the websites for the tourism board of the respective countries. The arrivals data for Singapore runs from 1966 to 2003 and the data for Vietnam runs from 1990 to 2003 (see Appendix). The difference reflects the timing of each country's movement into the involvement stage and the creation of a data gathering body, or research program, with the charge of keeping statistics on tourism. Once the arrivals were collected, the annual growth rate was calculated for each year. Finally, the change in visitor arrivals and the growth rate following the SARS epidemic in 2003 were examined to determine if there were any differences in the relative impact on the two countries.

## RESULTS

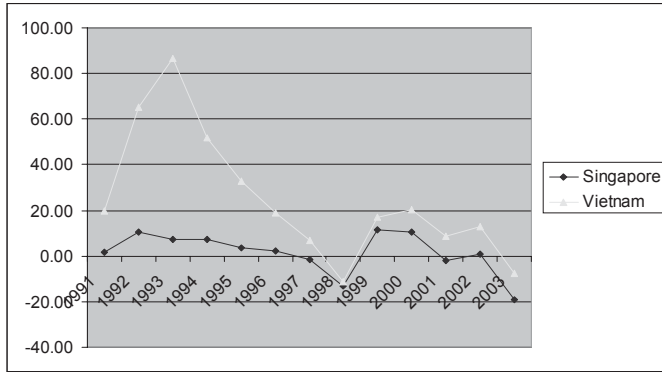
The first step in the research process was to determine the tourist area life cycle stage of each country (see Figure 2). Singapore has the longer tourism history and appears to be in the stagnation stage of the tourist area life cycle. The total number of visitor arrivals has leveled off, and the growth rate is declining. In contrast, Vietnam is still in the early stage of its evolution as a tourist destination. The visitor arrivals continue to grow, but the rate has slowed slightly. However, the country has not experienced the development stage and the pattern resembles that of Singapore in the beginning of its life cycle. Therefore, Vietnam would appear to be in the involvement stage of the tourist area life cycle.



**Figure 2**  
**Annual Visitor Arrivals by Country**

It is important to examine both the overall level of visitor arrivals and the annual growth rate in order to draw an accurate conclusion regarding each country's tourist area life cycle stage (see Appendix). For example, the growth rate for Vietnam decreased significantly leading up to the Asian financial crisis in 1997-1998, reaching a level similar to that of Singapore (see Figure 3).

However, the actual level of visitor arrivals is still much smaller for Vietnam in comparison to Singapore. An examination of Vietnam's growth rate could lead to a mistake in identifying the TALC stage if the pattern of arrivals wasn't viewed relative to the other countries (e.g., Singapore).

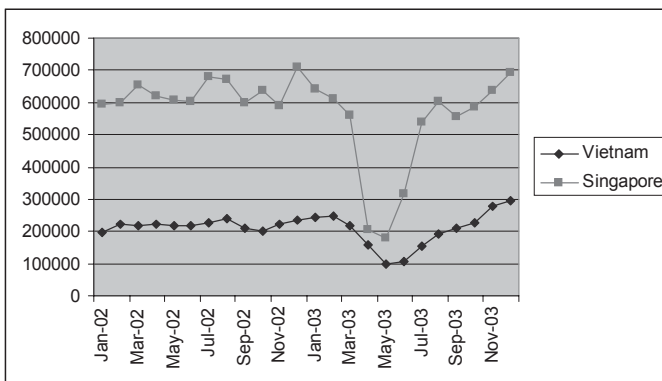


**Figure 3**  
**Annual Growth Rate in Visitor Arrivals by Country**

The life cycle of a country can also be affected by its capacity for hosting visitors. Singapore is a small country and has reached its capacity in terms of visitor arrivals. There are not as many places to visit within the country, the infrastructure has been developed for some time, and travel policies have been lenient. Therefore, there are not many “new customers” and the market has become saturated. It is difficult to experience increasing growth rates, but the country can maintain its current level of growth based on increases in the population of visitor-generating countries and the popularity of the ASEAN region for tourism.

**Impact of SARS**

The monthly visitor arrivals for the years 2002 and 2003 were examined to determine the impact of the SARS epidemic on travel to Vietnam and Singapore. Figure 4 illustrates the time series patterns for the two countries. The first case of SARS was discovered in November 2002 but the health crisis didn’t reach its epidemic stage until early 2003. The first major travel advisory was issued in March 2003 resulting in a large drop in visitor arrivals in April, 2003.



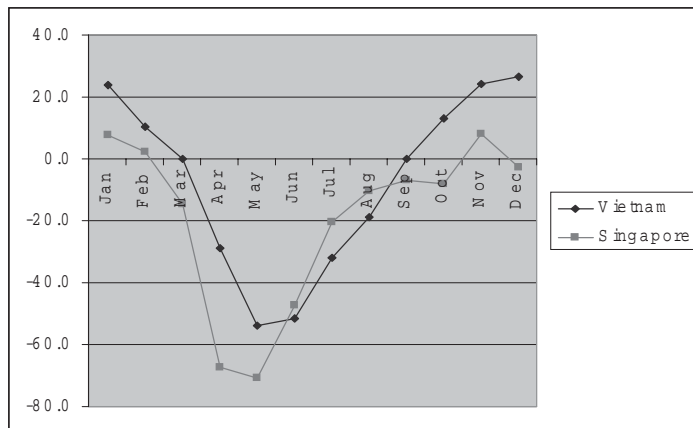
**Figure 4**  
**Monthly Visitor Arrivals for 2002-2003**

Both countries, Vietnam and Singapore, experienced a significant decrease in visitor arrivals following the travel advisory. Vietnam and Singapore were mentioned, along with China, as the areas most hard-hit by the disease. The visitor arrivals for Vietnam dropped 26.9% from March to April, and Singapore arrivals dropped 63.7% for the same period. The annual growth rate from 2002 to 2003 was negative for both Vietnam (-7.58%) and Singapore (-19.07%). In order to test the significance of the difference in visitor arrivals from 2002 to 2003, a t-test was performed on the monthly times series data for each country (see Table 1). The difference was significant for Singapore ( $t=2.312$ ,  $p=.039$ ), but not for Vietnam ( $t=.904$ ,  $p=.384$ ).

**Table 1**  
**Differences in Visitor Arrivals**

Country	Year	Mean	T-score	Significance
Vietnam	2002	218,999	0.904	0.384
	2003	202,395		
Singapore	2002	630,593	2.312	0.039
	2003	510,541		

The monthly change in arrivals from March to April, the annual growth rate in arrivals, and the comparison of annual arrivals from 2002 to 2003 would all indicate that the impact of SARS was more pronounced for Singapore than Vietnam. This suggests that countries in the later stages of the tourist area life cycle (e.g., consolidation, stagnation, or post-stagnation) would be more susceptible to a crisis than countries in the earlier stages (e.g., inception or involvement). Finally, it is important to evaluate the recovery period from a crisis such as the SARS epidemic. Figure 5 illustrates the same month growth rate in visitor arrivals from 2002 to 2003 for both countries.



**Figure 5**  
**Same Month Growth Rate in Visitor Arrivals**

The patterns for the same month comparisons between 2002 and 2003 are similar for both countries from January through August. The figures represent the percentage change in visitor arrivals for the same month from 2002 to 2003. However, Vietnam achieves a slightly positive growth rate in September, which accelerates through the end of 2003 (see Table 2). In contrast, Singapore doesn't reach a positive growth rate until November, and the rate becomes negative again in December. In

other words, Vietnam is able to recover by September (within 6 months), and Singapore hasn't fully recovered by the end of the year (9 months later). Therefore, in addition to experiencing a more significant initial impact of the crisis, the recovery period is also longer for the country in the later stage (i.e., stagnation) of the tourist area life cycle.

**Table 2**  
**Same Month Comparisons**

Month	Vietnam		Singapore	
	Change in Arrivals*	% Change	Change in Arrivals*	% Change
January	47,067	23.7	45,023	7.5
February	23,308	10.4	14,327	2.4
March	-205	-0.1	-95,206	-14.5
April	-64,113	-28.8	-418,739	-67.3
May	-117,353	-54	-428,336	-70.7
June	-113,294	-51.5	-285,382	-47.4
July	-72,196	-32	-138,660	-20.4
August	-44,904	-18.8	-69,415	-10.3
September	210	0.1	-40,650	-6.8
October	26,467	13.3	-52,283	-8.2
November	53,899	24.2	46,962	8
December	61,861	26.5	-18,256	-2.6

\* change in arrivals = (month in 2003 – same month in 2002)

This decrease in same month visitor arrivals could also be evaluated in terms of tourist receipts. Based on the figures for visitor arrivals and tourist receipts in the 2002 ASEAN Statistical Yearbook, Singapore received approximately \$845 per visitor in tourist receipts and Vietnam received approximately \$642 per visitor. The total loss in same month visitor arrivals for Vietnam in 2003 was 192,253, or \$127.9 million in tourist receipts. The total loss in same month visitor arrivals for Singapore in 2003 was 1,440,616, or \$1.2 billion in tourist receipts. This information would be useful in evaluating the potential impact of a crisis on the tourism industry in a particular country. Obviously, the impact was much greater for the country in the stagnation stage in the TALC than for the country in the involvement stage. The overall loss in 2003 in same month visitor arrivals was 7.5 times more for Singapore, and the loss in tourist receipts was 9.4 times more.

## CONCLUSIONS

The purpose of this study was to offer a preliminary investigation of the relationship between the tourist area life cycle stage and the impact of a crisis on visitor arrivals. Two ASEAN countries (Singapore and Vietnam) were chosen because they were in different stages in the tourist area life cycle and they were equally exposed to the SARS epidemic, including travel advisories. Vietnam is in the early stages of the TALC, while Singapore has reached the later stages evidenced by the consolidation and stagnation of visitor arrivals. Vietnam is still in the process of positioning and creating a destination image, while also working on its infrastructure for tourism. It seems logical to expect destinations in different stages of the TALC to react differently to a crisis, given the differences in market conditions and destination image. This is important in estimating the potential impact of a crisis and creating a disaster recovery program.



The results of this analysis indicate that both countries were indeed affected by the SARS epidemic. The overall number of visitor arrivals decreased, the annual growth rate was negative, and same month comparisons showed a negative change in arrivals. However, the general proposition in this study is that the tourist area life cycle stage of the country will have a mediating effect on the impact of a crisis on visitor arrivals. Singapore, the country in the consolidation/stagnation stage, seemed to experience a larger immediate decrease in visitor arrivals (absolute and percentage-wise) and took longer to recover to positive growth. The immediate impact on Vietnam, the country in the involvement stage of the TALC, was similar in percentage terms but the recovery period was much quicker.

This outcome could be explained by the level of competitiveness for countries in various stages. Countries that have gone through consolidation and/or stagnation have reached peak levels of visitor arrivals and have limited growth potential. These countries are seen as run-of-the-mill destinations and many tourists are repeat visitors. Therefore, it is easy for them to cancel a trip or choose an alternative destination that is safer and/or less expensive in the event of a crisis. This effect is similar to products in the mature stage of the product life cycle. There are many homogeneous brands in a market with strong price competition. Given the high level of sales in the market, a small percentage decrease in market share can lead to a large loss in revenue. Also, any kind of crisis such as a product recall (e.g., pharmaceuticals or automobiles) can result in major losses for the company.

Conversely, countries that are in the earlier stages of the TALC have not reached a high level of visitor arrivals, but they are somewhat unique in their offering and there aren't as many substitutes. Tourists will be less likely to cancel a trip or visit an alternative destination. The most likely action will be to postpone the trip and visit later when it is deemed safe or more affordable. However, the immediate impact on visitor arrivals in percentage terms may be similar to countries in later stages of the TALC because of the low level of arrivals before the crisis. A small change in visitor arrivals could represent a large change in percentage terms. However, the overall impact in visitor arrivals will be less and the recovery period will be quicker. A crisis like the SARS epidemic can have a major impact on global tourism and there is some speculation that there could be a future outbreak (Mason et al., 2005). An analysis of the impact of the 2003 SARS crisis can be useful in predicting the potential impact of a future outbreak on visitor arrivals and tourist receipts.

### **Limitations and Suggestions for Future Research**

This study provided some interesting findings that are worthy of further attention. However, there were some limitations associated with the research design. First, there were only two countries in two stages of the TALC analyzed in this study. The countries were both from the ASEAN region, limiting the generalizability of the results. It would be difficult to make inferences to other countries and regions without further analysis. The research design could be enhanced by including countries from several regions and all six stages of the TALC. Second, the impact on visitor arrivals was examined for only one type of crisis at one point in time. It is not known whether these results would be the same across all types of crises (e.g., natural disasters, terrorist attacks, health issues, etc.) and during different time periods. A more comprehensive research design could include more events over a larger timeframe (e.g., a few decades).

There is always a tradeoff in research between internal validity and external validity. There was an attempt made in this study to control for extraneous effects by choosing two countries from the same region that were equally exposed to a crisis at the same point in time. While this improved the internal validity of the study, it did affect the ability to make inferences to the overall population of tourist destinations and account for all types of crises. It would be difficult to control for other factors that could influence visitor arrivals if the research design included all of the possible types of crises and

various regions throughout the world. Each region would have its own particular set of economic, socio-demographic, and political conditions. However, it would be interesting to evaluate the impact on visitor arrivals for different categories of crises for destinations in different stages of the TALC throughout the world.

## REFERENCES

- Agarwal, S. (1997). The resort cycle and seaside tourism: an assessment of its applicability and validity. *Tourism Management*. 18(2), pp.65-73.
- Agarwal, S. (2002). Restructuring seaside tourism. The resort lifecycle. *Annals of Tourism Research*. 29(1), pp. 25-55.
- Aguilo, E., Alegre, J., and Sard, M. (2005). The persistence of the sun and sand tourism model. *Tourism Management*. 26(2), pp.219-231.
- Bass, F.M. (1969). A new product growth model for consumer durables. *Management Science*, 15(5), 215-227.
- Blake, A. and Sinclair, M.T. (2003). Tourism crisis management: U.S. response to September 11. *Annals of Tourism Research*. 30(4), pp.813-832.
- Butler, R.W. (1980). The concept of tourism area cycle of evolution: implications for management of resources. *Canadian Geographer*. 24 (1), pp.5-12.
- Cooper, C. and Jackson, S. (1989). Destination life cycle. The Isle of Man case study. *Annals of Tourism Research*. 16(3), pp.377-398.
- Dahles, H. and Bras, K. (1999). Entrepreneurs in romance tourism in Indonesia. *Annals of Tourism Research*. 26(2), pp.267-293.
- Debbage, K.G. (1990). Oligopoly and the resort cycle in the Bahamas. *Annals of Tourism Research*. 17(4), pp.513-527.
- di Benedetto, C.A. and Bojanic, D.C. (1993). Tourism area life cycle extensions. *Annals of Tourism Research*. 20(3), pp.557-570.
- Din, H.D. (1992). The “involvement stage” in the evolution of a tourist destination. *Tourism Recreation Research*. 17(1), pp.10-20.
- Douglas, N. (1997). Applying the life cycle model to Melanesia. *Annals of Tourism Research*. 24(1), pp.1-22.
- Getz, D. (1992). Tourism planning and destination life cycle. *Annals of Tourism Research*. 19(4), pp.752-770.
- Harrell, S.G. and Taylor, E.D. (1981). Modeling the product life cycle for consumer durables. *Journal of Marketing*, 45, 68-75.
- Haywood, K.M. (1986). Can the tourist-area life cycle be made operational? *Tourism Management*. 7(3), pp.154-167.
- Hovinen, G.R. (1982). Visitor cycles: outlook for tourism in Lancaster county. *Annals of Tourism Research*. 9(4), pp.565-583.
- Hovinen, G.R. (2002). Revisiting the destination lifecycle model. *Annals of Tourism Research*. 29(1), pp. 209-230.
- Ioannides, D. (1992). Tourism development agents: the Cypriot resort cycle. *Annals of Tourism Research*. 19(4), pp.711-731.
- Knowles, T. and Curtis, S. (1999). The market viability of European mass tourist destinations. A post-stagnation life-cycle analysis. *Journal of Tourism Research*. 1(2), pp.87-96.
- Martin, B.S. and Uysal, M. (1990). An examination of the relationship between carrying capacity and the tourism life cycle: management and policy implications. *Journal of Environmental Management*. 31, pp.327-333.
- Mason, P., Grabowski, P., and Du, W. (2005). Severe acute respiratory syndrome, tourism and the media. *International Journal of Tourism Research*. 7(1), pp.11-21.

- Meyer-Arendt, K.J. (1985). The Grand Isle. Louisiana resort cycle. *Annals of Tourism Research*. 12(3), pp.65-73.
- Plog, S. (1973). Why destination areas rise and fall in popularity? *The Cornell Hotel and Restaurant Administration Quarterly*. 14(3), pp.13-16.
- Prideaux, B. (2000). The resort development spectrum – a new approach to modelling resort development. *Tourism Management*. 21(3), pp.225-240.
- Priestley, G. and Mundet, L (1998). The post-stagnation phase of the resort cycle. *Annals of Tourism Research*. 25(1), pp.85-111.
- Smith, R.A. (1992a). Beach resort evolution: Implications for planning. *Annals of Tourism Research*. 19(2), pp.304-322.
- Smith, R.A. (1992b). Review of integrated beach resort development in Southeast Asia. *Land Use Policy*. 9(3), pp.209-217.
- Stansfield, C.A. (1978). Atlantic City and the resort cycle. Background to the legalisation of gambling. *Annals of Tourism Research*. 5(2), pp.238-251.
- Toh, R., Khan, H., and Koh, A. (2001). A travel balance approach for examining tourism area life cycles: the case of Singapore. *Journal of Travel Research*. 39(4), pp.426-432.
- Tooman, L.A. (1997). Applications of the life-cycle model in tourism. *Annals of Tourism Research*. 24(1), pp.214-234.
- Williams, M.T. (1993). An expansion of the tourist site cycle model: The case of Minorca (Spain). *Journal of Tourism Studies*. 4(2), pp.24-32.

## APPENDIX

Year	Singapore		Vietnam	
	Arrivals	Rate	Arrivals	Rate
1966	128,670	NA	NA	NA
1967	204,852	59.21	NA	NA
1968	251,135	22.59	NA	NA
1969	455,794	81.49	NA	NA
1970	579,284	27.09	NA	NA
1971	703,089	21.37	NA	NA
1972	880,200	25.19	NA	NA
1973	1,134,493	28.89	NA	NA
1974	1,233,854	8.76	NA	NA
1975	1,324,312	7.33	NA	NA
1976	1,492,218	12.68	NA	NA
1977	1,681,985	12.72	NA	NA
1978	2,047,224	21.71	NA	NA
1979	2,247,091	9.76	NA	NA
1980	2,562,085	14.02	NA	NA
1981	2,828,622	10.4	NA	NA
1982	2,956,690	4.53	NA	NA
1983	2,853,573	-3.49	NA	NA
1984	2,991,430	4.83	NA	NA
1985	3,030,970	1.32	NA	NA
1986	3,191,058	5.28	NA	NA
1987	3,678,809	15.28	NA	NA
1988	4,186,091	13.79	NA	NA
1989	4,829,950	15.38	NA	NA
1990	5,322,854	10.21	181,175	NA
1991	5,414,651	1.72	217,410	20
1992	5,989,940	10.62	359,142	65.19
1993	6,425,778	7.28	669,862	86.52
1994	6,898,951	7.36	1,018,244	52.01
1995	7,137,255	3.45	1,351,296	32.71
1996	7,292,521	2.18	1,607,155	18.93
1997	7,197,871	-1.3	1,715,637	6.75
1998	6,241,152	-13.29	1,520,128	-11.4
1999	6,958,201	11.49	1,781,754	17.21
2000	7,691,000	10.53	2,140,110	20.11
2001	7,522,000	-2.2	2,330,050	8.88
2002	7,570,000	0.64	2,627,988	12.79
2003	6,126,569	-19.07	2,428,735	-7.58