

# The tourism system model



## **The Tourism System**

In early tourism research, it was argued that by analysing disaggregated components of tourism, it is possible that an understanding of tourism as a whole could be achieved (Pearce, 1989). However, these reductionist claims often result in a failure to explain the different complex relationships, interactions, interdependencies and impacts within the tourism system (Carlsen, 1999).

For example, traditional tourism models such as Leiper (1979) tourism system model assumes that tourism players function in a coordinated manner, suggesting that tourism could be controlled in a top-down approach (McKercher, 1999). However, tourism displays all the characteristics of complexity. Failing to acknowledge the elements of uncertainty, chaos, dynamics and non-linearity in tourist systems, these simplistic traditional approaches to tourism seems to become irrelevant and invalid.

Tourism is an activity in which people freely engage in, for personal satisfaction or pleasure, where their behaviour is voluntary and discretionary proceeding from one's own free choice (de Freitas, 2002). Thus, tourist's participation is expected to decrease as discomfort and dissatisfaction increase. "Should climate change, so will be the tourism demand" (De Freitas, 2005, 35).

Over the years, more sophisticated models have been developed in attempting to explain what tourism is, its composition and the relationships and interactions that exist within it. From the tourist personality type models (Plog 1974; Pearce 1990), Maslow's hierarchy of needs (Maslow, 1954),

expectancy theory based on Vroom's theory of work motivation by Witt and Wright (1992) to the Mieczkowski Tourism Climate Index (1985) and the push-pull tourism framework (Dann, 1977; Crompton 1979; Iso-Ahola, 1982, 1989; Klenosky, 2002), these approaches provide different but valuable insights for examining the motivations underlying tourist and visitation behaviour. These models have also been useful for the study of the importance of climate to tourism as well as the research on climate change and tourism, providing an understanding and agreement of the varieties and kinds of activities and stakeholders involved.

### **Climate, a Tourism Resource**

Climate exists outside of any tourism project. However, it becomes a resource when incorporated within a good or service. This is illustrated by the high demand of North Europeans travelling to the Mediterranean resorts, seeing it as a land of paradise. In addition, climate is often said to delimit optimal zones for tourism at a global and regional scale, as illustrated by the warm tropical zone, considered optimum for sun and beach tourism (Burton 1991). In this way, climate, a natural resource becomes part of the tourism product.

All of respondents of the survey agreed that climate is important to tourism with 89% ranking it as “very important”. With the aim of accessing how climate fares in relation to other important considerations in tourism demand, Table 2. 1 illustrates the ranks respondents give to each of the factors relevant to their visit to a country for tourism. Attractions in the destination were viewed as the most important factor followed closely by climate.

Of considerable importance to this study which may have been omitted in many studies focusing on the temperate regions, 95% of respondents believed that escaping from their country's winter cold is at least of some importance in their decision for travel. This shows how weather and climate are intrinsic components of the vacation experience and can act as a central motivator in an individual's selection of holiday destination, the timing of holiday travel as well as a salient factor in tourism spending and holiday satisfaction.

This study measures up to many other researches such as that done by Hu and Ritchie (1993). Measuring the importance of destination characteristics, they reviewed several destination image studies from the 1970s and found that “ natural beauty and climate” were of universal importance in defining destinations attractiveness. Using a representative survey, Hamilton and Lau (2005) confirmed that climate is at least the third most popular attribute in tourists' decision making.

Climate can directly affect tourism. There seems to be a clear connection between weather, climate, and human sensitivity. Atmospheric weather conditions may impact tourist demand, participation, experiences and satisfaction (de Freitas, 2003; Yu et al, 2009). People usually dislike very cold or hot climates and possibly very humid ones probably for good reasons founded in evolutionary biology (Heal and Kristrom, 2002). Survey result of this study proves similar conclusion where 74% of respondents indicate that they were more likely to travel during their country's winter and 19% during summer. None of the respondents chose autumn and spring as the season they would want to travel out of their country.

A warm climate seems to be a huge attraction for many of the mid-latitude tourists with 100% citing a “ hot and sunny” weather condition as the preferred choice in the country they visit, even for those who want to escape the summer heat in their country. This proves Maddison and Bigano (2000) findings that the ideal temperature at the most popular tourist destinations are those offering warmer temperatures of around 31oC.

### **In Context: Sentosa**

Climate has been argued to be one important component which shapes a destination’s image and in some regions of the world, constitutes the resource on which the tourism sector is predicated (Lohmann and Kaim 1999). For example, marketed as “ The Island for All Seasons”, the Mediterranean climate which Cyprus, Greece has been blessed with, has identified as the fundamental attribute attracting tourists to the destination. Mather et al contends that “ the climate is a dominant factor in much of the travel that takes place from northern Europe to the Mediterranean (...) Not only is the purpose of this mass movement of people primarily leisure-based, visiting a sunny beach destination is the intrinsic reason for travel” (2005, 70).

Being a tropical country, Singapore and in particular Sentosa has the perfect conditions for the creation of the ideal tourist coast – all-year sunshine, warm water, white sandy carbonate beaches and coral reefs -popularised in the three “ Ss”: sun, sea and sand (Wong, 2003). Sentosa is Singapore’s premier island resort getaway and Asia’s leading leisure destination. It receives over 6 million visitors yearly, making it the most visited paid-access attraction in Singapore. According to partial break-down of visitor arrivals to all the paid

attractions in Singapore as seen in Figure 2a, it shows consistency with Sentosa being the most visited paid-access attraction among all groups of tourists. Thus, it makes a good case study for studying climate as a resource for beach tourism in Singapore.

Findings in this study show that although the warm tropical climate of Singapore appeals to the mid-latitude tourists, inducing them to visit the Island of Sentosa as well as their beaches, weather did not prove to be the ultimate choice affecting tourists' decision to Sentosa. In fact, although weather ranks second after attraction/activities, given only a choice, only about one quarter, specifically, 27% of the tourists chose weather to be the most important.

One reason for this may be because climate invokes the concept of weather which is what tourists anticipate experiencing at a specific destination and is a key factor of consideration for tourists, consciously or implicitly during travel planning (de Freitas, 2002; Gomez Martin, 2005). Thus, having already considered Singapore's hot and humid climate before the trip, factoring in possible weather conditions that might be experienced, attractions and activities that can be found in Singapore is determined to be more important at the expense of weather. This result corresponds to the activities that respondents carry out in Sentosa illustrated in Table 2. 2, with "visiting attractions" being the most carried activities by all tourists during their day in Sentosa.

The preference of tourists for certain climatic and weather conditions highlights the relationship between tourism and climate. Naturally, different

tourism types and activities require different climatic conditions. Thus, climate is one important variable that influences among other factors, what and when particular kind of tourism activities can be done carried out.

For example, climate has been identified as the fundamental attribute attracting tourists to the Mediterranean area (Mather et al, 2005; Amelung and Moreno, 2009). Seeking and enjoying the sun is one of the main reasons why many tourists go away on holiday, evident in 70%-80% of UK holidaymakers citing better climate abroad as the primary reason for their trip (Perry, 1993). Similarly, winter sports depend directly on climatic resources. Without snow or low temperatures for the artificial production of snow, the development of ski resorts would not have been possible (Gomez Martin, 2005).

In this study on Sentosa, the activities that can be carried out by tourists (Table 2. 2) could be sub-divided into two categories: weather dependent and weather independent. Swimming/sun tanning, picnicking and water sports/playing volleyball is to a large extent dependent on weather, especially to the presence of sunshine and rainfall. Although a large percentage of 59% tourists came to Sentosa specifically for sun tanning and swimming, respondents seems to participate largely also in non weather specific activities such as visiting attractions, shopping and dining in an indoor eatery. This result points to an important fact that although Sentosa depends largely on its beaches as well as some outdoor attractions, they provide a diversified range of activities which tourists are also attracted in but do not solely tap on the appeal of the weather.

### **Climate versus Weather**

Climate invokes the concept of weather in that it is defined as the accumulation of daily and seasonal weather events over a long period of time whereas, weather is the condition of the atmosphere at any particular time and place (de Freitas, 2002). In a study of this nature, McEvoy (2008: 103) reminds that it is important to differentiate between visitor responses to climate versus weather conditions. Decision-making relating to tourism such as the destination and period of travel has been found to be based largely on climate information. On the other hand, the vacation period is much more weather-dependent and reliant on short term forecasts where actual weather information is more important than climate information (Matzarakis, 2007).

The nature of the relationship between the atmospheric environment and the enjoyable pursuit of outdoor recreational activity may be seen to be a function of facets of on-site atmospheric conditions, the weather. Pleasant weather increases tourist satisfaction, whereas severe weather conditions such as rain and strong winds disrupt outdoor activities. In southern Alaska, for example, tour operators noted a marked difference between the sunny, dry summer of 2004 and wet summer of 2006.

Although this study fully acknowledges the importance of climate to tourism, with weather being an important factor, survey results show the possibility that destinations may also be chosen in spite of the likely bad weather.

Figure 1 illustrates the findings.

The result suggests that even if it rains on the day that tourist decides to go to Sentosa, 49% of the respondents would not alter their original plan to visit



the island. The reasons cited were more or less similar in that they would “ choose to visit other attractions within Sentosa” and “ stay in indoor venues”. All of the 28% tourists who states that there will be changes to their plans to Sentosa were at Sentosa beach specifically for the purpose of outdoor beach activities such as swimming, sun tanning and picnicking. Therefore, with some tourist activities more sensitive to weather than others, metrological conditions may affect or disrupt the construction of the planned day’s event.

On the other hand, Sentosa Island with many indoor attractions, allows for contingency plans to be made which enables tourists to be independent of weather conditions. With “ visiting attractions” being the most carried out activity for respondents (Table 2. 2), as well as “ attraction/activities” cited as the most important factor affecting their decision to visit Sentosa, it suggests why majority of tourists may not change their plans to visit Sentosa even under unforeseen weather events. Therefore, although climate and weather is one of the many factors that may influence tourist decisions, good weather may not be the primary reason for selecting destinations.

### **Weather Forecast**

Mark Twain’s famous quote of “ Everybody talks about the weather but no one does anything about it” is often held up as a truism but Twain himself have said this “ ain’t necessarily so”. Along the same line of argument, Dewar (2005) contends that humans may not be able to alter the day-to-day weather but they do alter their behaviours to either avoid or take advantage of these weather conditions. To some extent as discussed previously, a majority of respondents seems to have predicted that they would alter their

behaviours, by visiting indoor attractions to avoid unfavourable rainfall events.

Weather forecasting is a useful way to alter one's behaviour or plan activities to suit prevailing weather conditions on the day of event. Favourable climate and weather conditions are essential advantages which influences the degree of satisfaction, allowing tourists to enjoy their holiday activities safely and comfortably, helping them fulfil the desires that originally brought them to the destination (de Freitas 1990, 2003; Blazejczyk, 2001; Gomez-Martin, 2005). However, it is surprising that although 59% of respondents engaged in a pre-planned weather dependent activity of sun tanning and swimming as well as 10% for picnicking, only a small percentage of 13% admitted to have checked the weather forecast before coming to Sentosa.