

# Research Horizons

*Highlights of Recent Research by the SHTM*

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## Climate Key to Improving Tourism Demand Forecasts

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Understanding how climate influences tourists' decisions about when and where to travel can help to predict travel demand for a particular destination, according to the SHTM's Dr Carey Goh. Although much is already known about how economic factors affect such demand, Dr Goh suggests that a complete understanding is impossible without considering the effects of social and psychological factors. Being able to predict when and why people are most likely to travel would help planners and policymakers to develop and market their services more effectively.

### **Predicting Tourism Demand**

As one of the largest industries in the world, tourism has a considerable effect on the global economy, and the demand keeps on growing. Dr Goh notes the importance of forecasting that demand for "efficient tourism planning and important managerial decisions". Although it can be influenced by numerous factors, our present understanding of tourism demand is based primarily on assumptions that tourists' incomes, the price of transport, advertising, exchange rates and so forth have the greatest effects on the urge to travel.

According to Dr Goh, economic factors alone cannot provide a complete explanation of travel demand, and non-economic, psychological, anthropological and sociological factors should also be considered. These factors might include "the tourist's social status, personal interests, and cultural background" and the geographic and climatic characteristics of the destination country. Dr Goh points out that there is no real reason for the failure to consider such factors in addition to price and income, "rather, it is a matter of common practice".

As a starting point in attempting to improve the forecasting of tourism demand, Dr Goh focuses specifically on

climate "because of its pervasive nature in many economic activities, particularly those that are dependent on natural resources such as tourism". Although other factors may be important, a better understanding of how weather affects tourists' decisions would help planners to predict when tourists are most likely to visit a destination and how best to develop facilities and services. For instance, Dr Goh suggests that planners could choose to "promote tourism activities during the off peak period to reduce seasonality". However, little is known about precisely how climate actually affects tourism demand.

### **A Forecasting Model**

Dr Goh builds a forecasting model to investigate how climate, in comparison to economics factors, affects tourism demand. Her focus is "demand for long-haul and short-haul travel to Hong Kong from its major tourism-generating markets", with Hong Kong chosen as the destination market because even though it is located in the tropics it has a subtropical climate with distinct seasons. That distinguishes it from other destinations such as those located "close to the equator or polar regions", because tourists are more likely to consider seasonal weather patterns when planning trips to Hong Kong.

The forecasting model incorporates data on arrivals from the four tourism markets that generate 75% of arrivals in Hong Kong: the United States and the United Kingdom as long-haul destinations, and China and Japan as short-haul destinations. Travel demand is measured by the number of arrivals from the four markets from August 1984 to December 2011.

The model includes various economic factors that are commonly used to predict tourism demand, such as the cost of tourism in the destination relative to the tourists'

home countries, the price of tourism in alternative destinations and the level of income in the origin markets. It also includes the volume of trade between the origin and destination countries because approximately 32% of arrivals in Hong Kong are for business purposes. The climatic factors under consideration include the daytime temperature in Hong Kong, the relative humidity, rainfall, the number of hours of sunshine per day and wind speed.

### **Economic Influences**

Dr Goh finds that the change in tourism demand over time indicates that “neither habit, persistence nor positive word of mouth” influence international tourists’ decisions to travel to Hong Kong. For visitors from the US, she notes, travel is considered a “luxurious good”, presumably due to the high cost of traveling such a long distance. The cost of living for tourists in Hong Kong seems to be important in encouraging visitors from both the US and Japan to visit, although the same does not appear to be true for visitors from the UK. Trade is also an important factor for visitors from the US, Japan and China.

In examining the effects of particular events during the study period, Dr Goh finds that the Asian financial crisis reduced the number of visitors from the UK, Japan and China, and the SARS epidemic led to a fall in visitors from long-haul destinations. However, the 9/11 terrorist attacks did not appear to reduce the number of visitors from the US.

### **Climate and Tourism Demand**

By including climate in the prediction of tourism demand, Dr Goh finds that the model produces much more accurate predictions than those using “the conventional economic framework”. This improvement in forecasting applies to visitors from all four origin markets, and implies that “climate plays an important role in the travel decision making process of travellers from all four origins”.

However, there is some discrepancy in the significance of climatic conditions for travellers from different types of origin markets. Tourists travelling to Hong Kong from the US are more easily influenced by weather than those from short-haul markets. Dr Goh speculates that this is probably because tourists from the US “are more concerned about and kept aware of climatic conditions in Hong Kong”. Given that they travel from a distant country with different climatic conditions at the time of their departure, this is not surprising. In contrast, Dr Goh suggests that short-haul

visitors from Japan and China might be “less sensitive” to weather changes in Hong Kong. They travel relatively short distances, and at any time of the year are likely to meet similar conditions on arrival as they were experiencing on departure.

### **A Planning Resource**

Dr Goh notes that hers is only a preliminary effort to broaden the scope of demand forecasting, and that many other factors could be considered in the effort to generate more accurate predictions. These might include elements of consumer behaviour and destination choice, as well as “factors related to the competitiveness of a destination” and traveller characteristics.

Nevertheless, the preliminary inclusion of climatic information in tourism demand forecasting is a breakthrough with practical implications. As Dr Goh suggests, tourism practitioners and policymakers cannot control climate conditions. Yet they can “utilise their knowledge of demand patterns and develop their marketing plans and tourism resources accordingly”.

### **Points to Note**

- Accurate forecasting of tourism demand is important for planners and policymakers
- Current forecasts tend to consider only economic factors
- Social and psychological factors are also important
- The inclusion of climate factors produces more accurate forecasts

Goh, Carey. (2012) “Exploring the Impact of Climate on Tourism Demand”. *Annals of Tourism Research*. Vol. 39, No. 4, pp. 1859-1883.