THE FACTORS THAT INFLUENCE THE BOUNDARY BETWEEN THE MARKETS OF COMPETING TOURIST DESTINATIONS

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Abstract

Purpose – The aim is to understand the framework concerning the market area of competing tourist destinations and the relationship between the shape of the boundary line between markets and the factors that influence tourism to understand what is required to maintain a competitive tourist destination.

Design, Methodology and Approach – The classical market area model is used, applying factors that influence the competitiveness of tourist destinations: cost to experience the tourist destination; the disutility/utility at the tourist destination; the strength of the destination's branding; transportation fee; the cost related to travel time; and the disutility/utility from transportation means.

Findings – Using the above method, this research confirms how the shape of the boundary line between two competing tourist destinations is affected by these factors. This will enable tourist destinations to further develop its competitiveness by helping identify potential markets not yet captured by the tourist destination. This could assist, local governments, tourist related industries and organizations understand potential areas of investment.

Originality of the research – The originality of this paper is applying the classical model of market used in economic theories to the tourism sector to understand the factors that influence competitiveness of a tourist destination.

Keywords travel related costs, tourist destination, utility, branding, travel time, market area

INTRODUCTION

Travel and tourism contributes to over 10% of global GDP and the economic ripple effect and job creation effect from tourism reaches various areas such as retail, food-service, hotel, culture, nature and transportation, accounting for 1 in 10 jobs around the world (Ministry of Land, Infrastructure, Transport and Tourism, 2015; Sinclair and Stabler, 1997; World Travel & Tourism Council, 2017). Tourism can bring about the development of information technologies, the improvement of infrastructures, environmental sustainability and the increase in leisure time (Kuroda, 2012; Ministry of Internal Affairs and Communications, 2015; World Economic Forum, 2017). Leisure travel can also support relaxation and improve overall wellbeing (Yasumura et al., 2011). In this way, tourism plays an important role in society. As a result, competitiveness between tourist destinations are expected to become severe and initiatives to identify benchmarks to assess travel and tourism competitiveness is extensive. World Travel & Tourism Council have provided the World Travel & Tourism Competitiveness Monitor in 2004 which included a set of social and economic data for eight main indicators (price competitiveness, human tourism, infrastructure, human resources, environment, openness, technology and social development (Manzanec, Wöber and Zins, 2007). The World Economic Forum (2017) created the Travel & Tourism Competitiveness Index which covers four broad factors of competitiveness (enabling environment; travel and tourism policy and enabling conditions; infrastructure; and natural and cultural resources) to analyse the performance of 136 economies.

The competitiveness of a destination has been defined as"the ability of a destination to maintain its market position and share and/or improve upon them through time" (d'Hauteserre, 2000, p.23). Further defined by Hassan as "the destination's ability to create and integrate value-added products that sustain its resources while maintaining market position relative to competitors" (Hassan, 2000, p.239). There is a growing number of literature which study the competitiveness factors of tourist destinations. Ritchie and Crouch have developed a comprehensive framework over the years which covers important factors of tourist destination competitiveness (Crouch, 2010; Crouch and Ritchie, 1999; Ritchie and Crouch, 2003). Dwyer and Kim (2003) developed tourist destination indicators that cover endowed resources, supporting factors, destination management, situational conditions, demand factors, and market performance indicators. Mazanec, Wöber and Zins explains the shortcomings of "the destination competitiveness models of Crouch and Ritchie or Dwyer and Kim as being systems of definitional rather than cause-effect relationships" (Mazanec, Wöber and Zins, 2007, p.88). They explain that the focus is on definition and to analyse tourism activity already achieved rather than what is necessary for sustainable growth. They further identify that there are limited incorporations of economic theories in destinations competitiveness modelling, such as the hedonic price theory which has been applied by Mangion, Durbarry and Sinclair (2005).

This paper attempts to apply the classical model of market used in economic theories to the tourism sector to understand the factors that influence competitiveness of a tourist destination. It focuses on tourist destinations in direct competition since in order for a tourist destination to sustain and increase its competitive performance, it needs to benchmark itself against its main competitors and address areas of weak competitive performance as identified by Kozak and Rimmington (1999). Thus, a framework concerning the market area of the competing tourist destinations will be provided based on the classical market area models (e.g. Fetter, 1924; Godlund, 1956; Hyson and Hyson, 1950). The first purpose of this research is to confirm the shape of the boundary line between the market areas of two tourist destinations, by applying the factors of tourist destinations examined are in a competitive relationship and thus, tourists are not able to visit both destinations at the same time. The second purpose of this research is to examine the factors of tourism that will affect the shape of the boundary line between two competing tourism that will affect the shape of the boundary line between two competing tourism that will affect the shape of the boundary line between two competing tourism that will affect the shape of the boundary line between two competing tourism that will affect the shape of the boundary line between two competing tourism that will affect the shape of the boundary line between two competing tourism the stinations.

In this research, the factors which will have an impact on the shape of the boundary line will be classified into three. The first factor is the costs incurred at the tourist destinations. The average expenditure by tourists to experience the tourist destination is added with

the cost from the average disutility from the tourist destination relative to the average utility from the tourist destination. Here, we call this the burden of tourist destinations. The reason why utility/disutility for tourist destinations are included as a cost is because it is necessary to consider implicit costs such as, enjoying the landscape and services. In previous studies, utility/disutility were included in the satisfaction of tourist destinations (Stevens, 1992; Yuksei, 2001; Riganti and Niikamp, 2008). Through the analysis, if a destination finds that in order to be competitive, it requires to reduce the total burden to experience the tourist destination and further market opportunities are identified, then plans could be implemented to achieve this. For example, the local government could provide subsidies to the private goods/services which have public or universal value and enhance the tourist experience. If the market opportunity could be confirmed, the private sector could also be encouraged to make investments to improve the utility experienced at the tourist destination. There are numerous examples of attempts to improve the utility in major tourist destinations in Japan. To improve the utility of sightseeing in Kyoto, the local government provides subsidies for signage with tourist information and the establishment of tourist information centres (Kyoto city 2016). Collaboration with the local private transportation firms to improve the utility of sightseeing is also seen in Kyoto by setting up a committee. This includes tactical discussions such as making it easier to understand bus and train routes (Kyoto city, 2012). To improve the landscape, Kyoto subsidises the upkeep of historical buildings and districts and it also provides subsidies for the adoption of electric cars to taxi firms and car rental services (Kyoto city, 2016). Other efforts to enhance the environment can be seen in Kobe where they subsidise the establishment of parks and flower beds and the maintenance of trees (Kobe city, 2014). To improve sanitation, Kyoto supports the building and maintenance of wellmaintained toilets for tourists (Kyoto city, 2016). Kobe provides subsidies to clean rubbish from the streets and to clean bus stops and stations (Kobe city, 2014). Nara Prefecture provides low interest and interest free loans and tax benefits for the establishment and maintenance in lodging facilities which may improve the quality as well as increase competitiveness in price (Nara prefecture, 2017). Tobu Railway Company saw the new Tokyo Sky Tree as an opportunity to grow its market and decided to provide special tourist passes for transport which includes discounts on admission for facilities in the vicinity (Development Bank of Japan, 2015). Other endeavours to reduce the cost to experience the tourist destination as well as reduce congestion can be seen in Kamakura, where tourists receive discounts for admission and shops if they use the park and ride system. In this way, there are various means to reduce the burden to experience tourist destinations. The second factor is related to the travel to the tourist destinations, which we will refer to as the travel related burden. This is represented by the sum of the average transportation fees per distance; the opportunity cost of the time consumed to travel per distance; the disutility from travel means per distance divided by the utility gained from the transportation means per distance which is then transferred into costs. The reason why opportunity costs of time consumption are included in this research is because there are many studies that found that the behaviour of tourists are significantly affected by travel time (Collings, 1974; Khadaroo and Seetanah, 2007). The use of utility/disutility of transportation facilities were also identified in previous studies (Koo, et.al, 2010; Raymundo and Mendes dos Reis, 2016). The satisfaction of safety, physical comfort and services are included in the utility/disutility. As a result of the analysis, if a tourist destination identifies further opportunity to grow its market by reducing the travel related burden for tourists, policies and plans could be implemented to support this. For

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example, the Odakyu Electric Railway targeted the Tokyo market to increase visitors to the hot springs in Hakone. They invested in introducing special train vehicles aimed to enhance the train journey experience, such as three-dimensional glass windows and removing window frames to improve the view. Noise reduction of motors and air conditioning, special seasonal 'bento boxes' (meals), as well as multi-featured toilet seats were incorporated to improve the utility of travel (Odakyu Electric Railway Company, 2017). Travel related cost reduction for tourists can be seen throughout Japan by Japan Railways that encourages tourism through discounts for local travel when connecting from a bullet train journey (West Japan Railway Company, 2017). Cooperation between the private and public sector could also enhance the tourists' utility by reducing travel cost, improving congestion, sanitation, safety, comfort, and other transportation services. Japan Construction, Transport and Technology Agency provides subsidies to increase railway tracks and improve curves of tracks to assist the increase in speed of the bullet trains (Japan Construction, Transport and Technology Agency, 2017). It also supports the investment of safety of railway tracks and train vehicles (Ministry of Land, Infrastructure and Transport, 2017). As in these examples, there is a wide range of means to reduce the disutility as well as increase the utility of travel. The impact of destination branding on the shape of the boundary line of the markets is the third factor examined in this analysis. According to Pike and Mason (2011), branding is considered to be an important tool to increase the competitiveness of a tourist destination and there are studies which support the position that effective destination branding leads to greater destination competitiveness. Echtner and Ritchie (2003) explain that a destination needs to be favourably differentiated from its competition, or positively positioned in the minds of the consumers (Echtner and Ritchie, 2003 p. 37). This is because as identified by Bign and Sánchez (2001), the destination image will have a direct impact on perceived quality, satisfaction and intention to return and likelihood of recommending the destinations to others. This is explored by Prayag (2008, 2009) in the study on the satisfaction and visitors' loyalty for Cape Town and Mauritius and by Faullant, Matzler and Fuller (2008) for Alpine ski resorts. Destination branding is also regarded to reduce the tourists' search costs and perceived risk (Blain et al., 2005).

Taking these factors, which are the costs incurred at the tourist destinations, travel related burden and the strength of destination branding into consideration, this research modifies the classical market area model and analyses the shape of the boundary line of the market gained by tourist destinations and the relationship between the shape of the boundary line of the market and these factors. One condition of the analysis is that it assumes that complete information concerning the markets and utility are available.

THREE CASES OF THE MARKET AREAS OF COMPETING TOURIST DESTINATIONS

1. Case where the burdens to the tourists to experience the tourist destination and the travel related burdens per distance is symmetric between the competing destinations

This section examines the case of two tourist destinations that are symmetric concerning the burdens to experience the tourist destinations and the travel related burdens per distance. Since the burdens of the tourist destinations are symmetric, the relationship of the costs can be represented as follows.

$$I^{A}(E^{A} + z_{s}^{A}(X^{A}/Y^{A})) = I^{B}(E^{B} + z_{s}^{B}(X^{B}/Y^{B}))$$
(1)

Here, *E* represents the average expenditure by tourists at the tourist destination. For example, admission fees for tourist attractions and cost of food in cafes and restaurants are included in the costs. *X* represents the average disutility received at a tourist destination and *Y* represents the average utility gained at the tourist destination. z_s denotes the coefficient which translates the disutility relative to the utility into cost. *I* denotes the destination brand coefficient and is represented by a value of 0 to 1. The stronger the destination branding, so the closer to 0, the burdens at the tourist destinations will be reduced. This considers that if a destination has strong branding, there will be a reduction in price sensitivity and willingness to pay more for the brand.

As it is assumed that the travel related burden per distance are equal between each tourist destination, the following equation is obtained.

$$f^{A} + z_{t}^{A} \frac{1}{v^{A}} + z_{u}^{A} \frac{1}{v^{A}} (R^{A}/W^{A}) = f^{B} + z_{t}^{B} \frac{1}{v^{B}} + z_{u}^{B} \frac{1}{v^{B}} (R^{B}/W^{B}) = F$$
(2)

f denotes the average transportation fee per distance between a departure point and a tourist destination. *v* is the average speed of travel between a departure point and a tourist destination. *z_t* refers to the opportunity cost per hour. *R* represents the cost corresponding to the average disutility for transportation facilities per hour between a departure point and a tourist destination. *W* represents the average utility of the transportation per hour. *z_u* refers to the coefficient to translate the disutility per hour relative to the utility per hour into cost. \overline{AC} denotes the distance between point *C* and tourist destination *B*.

The total burden to tourists visiting the tourist destination is the sum of the burden of the tourist destination and the travel related burden. Therefore, the total burden to tourists when making a round trip to tourist destination A from point C is as follows.

$$I^{A}(E^{A} + z_{s}^{A}(X^{A}/Y^{A})) + 2(f^{A}\overline{AC} + z_{t}^{A}\frac{\overline{AC}}{v^{A}} + \frac{\overline{AC}}{v^{A}}z_{u}^{A}(R^{A}/W^{A}))$$
(3)

On the other hand, the total burden to tourists when making a round trip to tourist destination B from point C is as follows.

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$$I^{B}(E^{B} + z_{s}^{B}(X^{B}/Y^{B})) + 2(f^{B}\overline{BC} + z_{t}^{B}\frac{\overline{BC}}{v^{B}} + \frac{\overline{BC}}{v^{B}}z_{u}^{B}(R^{B}/W^{B}))$$

$$\tag{4}$$

The point where the above costs (3) is equal to the above costs (4), in other words, where the sum of the burden at the tourist destination A to tourists and the transportation related burden when making a round trip to tourist destination A equals the sum of the burden at tourist destination B and the transportation related burden when making a round trip to tourist destination B, becomes the border point of these tourist destinations. Therefore, the following equation is derived.

$$I^{A}(E^{A} + z_{s}^{A}(X^{A}/Y^{A})) + 2(f^{A}\overline{AC} + z_{t}^{A}\frac{\overline{AC}}{v^{A}} + \frac{\overline{AC}}{v^{A}}z_{u}^{A}(R^{A}/W^{A})) = I^{B}(E^{B} + z_{s}^{B}(X^{B}/Y^{B})) + 2(f^{B}\overline{BC} + z_{t}^{B}\frac{\overline{BC}}{v^{B}} + \frac{\overline{BC}}{v^{B}}z_{u}^{B}(R^{B}/W^{B}))$$

$$(5)$$

By substituting (1) and (2) into the above equation (5) and rewriting it, the following equation is derived.

$$\overline{AC} = \overline{BC} \tag{6}$$

From the result of equation (6), we can confirm as in Figure 1, that the perpendicular bisector between tourist destination A and tourist destination B is the locus of point C, and that the locus forms the border l between tourist destination A and tourist destination B.

Figure 1: The shape of the boundary line between markets: Case where the burdens to the tourists to experience the tourist destination and the travel related burdens per distance is symmetric between the competing destinations



2. Case where there is asymmetry between the competing destinations concerning the burdens to tourists to experience the tourist destination but symmetry between the travel related burdens per distance

This section examines the case of asymmetry in the burdens to tourists to experience tourist destination A and tourist destination B, but symmetry between the travel related burdens per distance to travel to each tourist destination A and tourist destination B. Therefore, the relation between the burden to experience tourist destination A and the

burden to experience tourist destination B are as follows. Here we will only examine the case where the burden at tourist destination A is larger than the burden at tourist destination B, since the opposite case will have a symmetrical result.

$$I^{A}(E^{A} + z_{s}^{A}(X^{A}/Y^{A})) > I^{B}(E^{B} + z_{s}^{B}(\frac{X^{B}}{Y^{B}}))$$
(7)

Next, concerning the travel related burden, since we assume that the travel related burden per distance between point C and tourist destination A is the same as the travel related burden per distance between point C and tourist destination B, these costs are the same as equation (2).

As in the case of section 1, the border points of these tourist destinations are where the total burden for tourists for each tourist destination, which is the sum of the burden to experience the tourist destination and the travel related burden when making a round trip to the tourist destination, are equal. Therefore, by substituting (2) into equation (5) and reorganizing it, the following equation is derived.

$$\overline{BC} - \overline{AC} = (I^A (E^A + z_s^A (X^A / Y^A))) - I^B (E^B + z_s^B (X^B / Y^B)))/2F$$
(8)

From equation (8), we can confirm that the boundary line m between the markets of tourist destination A and tourist destination B is the locus of hyperbola where tourist destination A is the focus. As indicated in Figure 2, when the burden to experience tourist destination B and the larger the difference is, ceteris paribus, the locus of hyperbola (m moves to m), which is closer to tourist destination A is the boundary line of the market between tourist destination A and tourist destination B.

Figure 2: The shape of the boundary line of market A: Case where there is asymmetry between the competing destinations concerning the burdens to tourists to experience the tourist destination but symmetry between the travel related burdens per distance



3. Case where there is symmetry between the competing destinations concerning the burdens to experience the tourist destination but asymmetry between the travel related burdens per distance

This section analyses the case of symmetry between the burden to experience each tourist destination but asymmetry in the travel related burden per distance to travel to each tourist destination.

As this section assumes that the burden to experience tourist destination A is the same as the burden to experience tourist destination B, by substituting (1) into equation (5) and rewriting it, the following equation is derived.

$$\frac{\overline{AC}}{\overline{BC}} = \frac{\left(f^B + \frac{z_t^B + z_u^B(\frac{R^B}{W^B})}{v^B}\right)}{\left(f^A + \frac{z_t^A + z_u^A(\frac{R^A}{W^A})}{v^A}\right)}.$$
(9)

On the other hand, with regards to arbitrary point D, the following equation is derived.

$$I^{A}(E^{A} + z_{s}^{A}(\frac{X^{A}}{Y^{A}})) + 2(f^{A}\overline{AD} + z_{t}^{A}\frac{\overline{AD}}{v^{A}} + z_{u}^{A}\frac{\overline{AD}}{v^{A}}(R^{A}/W^{A}) = I^{B}(E^{B} + z_{s}^{B}(X^{B}/Y^{B})) + 2(f^{B}\overline{BD} + z_{t}^{B}\frac{\overline{BD}}{v^{B}} + z_{u}^{B}\frac{\overline{BD}}{v^{B}}(R^{B}/W^{B}).$$

$$(10)$$

By substituting (1) into the above equation (10) and rewriting it, the following equation is introduced.

$$\frac{\overline{AD}}{\overline{BD}} = \frac{\left(f^B + \frac{z_t^B + z_u^B \left(\frac{R^B}{W^B}\right)}{v^B}\right)}{\left(f^A + \frac{z_t^A + z_u^A \left(\frac{R^A}{W^A}\right)}{v^A}\right)}.$$
(11)

From results (9) and (11), the following equation is obtained.

$$\frac{\overline{AC}}{\overline{BC}} = \frac{\overline{AD}}{\overline{BD}}$$
(12)

From equation (12), we find that the internal ratio is equal to the external ratio. In this case, it confirms that the locus of Apollonius circumference located around tourist destination A, is the boundary line n between tourist destination A and tourist destination B. Moreover, as indicated in Figure 3, we can find that the locus of this Apollonius circumference is smaller (when n becomes n') if the travel related burden per distance to tourist destination A is larger than the travel related burden to tourist destination B and the larger the difference.

Figure 3: The shape of the boundary line of market A: Case where there is symmetry between competing destinations concerning the burdens to experience the tourist destination but asymmetry between the travel related burdens per distance



CONCLUSION

Tourism is expected to play a further important role in our lives, affected by social trends such as the development of information technologies, improvement of infrastructures, and the increase in leisure time. As a result, the competitive landscape between tourist destinations are expected to become severe. This research aims to support further analysis on tourist destinations to develop plans to achieve sustainable growth by shedding light on the cause-effect relationship of addressing areas of both strong and weak competitive performance against direct competition. This may assist tourist destinations to establish necessary strategies and operating procedures to maintain competitiveness.

The shape of the boundary between the market area of competing tourist destinations and the influencing factors are examined. The classical market area model is applied and the burden to tourists to experience the tourist destinations and the travel related burden per distance is added to the framework.

The main result in the case where there is asymmetry between the competing destinations concerning the burdens to experience the tourist destinations but symmetry concerning the travel related burdens per distance, found that when the burden to tourists to experience tourist destination A is larger than the burden for tourists to experience tourist destination B, the hyperbola with destination A as the focus will be the boundary between the market areas of tourist destination A and tourist destination B. Furthermore, the larger the difference between these burdens to experience the tourist destination is, ceteris paribus, the locus of hyperbola, the boundary line of the market between tourist destination A and tourist destination A. Accordingly, it would require tourist destination A to reduce the total burden to tourists in order to remain competitive and expand its market. If the opportunity of the market is clear, then the local government could support endeavours to reduce the disutility such as congestion and low sanitation. Understanding the market opportunity with enable destinations to work on a strategic marketing framework to improve its competitive positioning and brand. This research is intended to support the understanding of factors

that influence the market shape and scale of the market of the tourist destination to assist effective investment to capture potential markets and to further improve its competitiveness.

Next, in the case where there is symmetry between the competing destinations concerning the burdens to experience the tourist destinations but asymmetry in the travel related burdens per distance, the Apollonius circumference is the locus of the boundary line between both tourist destinations. For example, in the case that the locus is the Apollonius circumference located around tourist destination A, the size of the market area represented by the circle for tourist destination A is smaller when the travel related burden per distance to tourists to travel to destination A is larger than the travel related burden per distance to travel to destination B and the difference is greater. Thus, in this case, further market could be gained if destination A is able to reduce the travel related burden for tourists. This may be achieved by transportation firms if they are able to confirm this market opportunity and policies could be made to encourage this. As in the previous case, there is a wide range of investment areas to improve travel and develop tourism. Understanding the potential of the market of the tourist destination by analysing the impacting factors that influence the competitiveness of a tourist destination could improve the effectiveness of such investments.

In this way, the results achieved from the above model may provide a basic framework to support future improvements to manage a competitive tourist destination.

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