



# Can stopovers be induced to revisit transit hubs as stayovers? A new perspective on the relationship between air transportation and tourism



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## ARTICLE INFO

### Article history:

Received 24 November 2016

Received in revised form

14 February 2017

Accepted 28 February 2017

### Keywords:

Tourism transportation

Hub airport

Airlines

Quasi-destination

Transit region

Tourism system

Singapore

## ABSTRACT

This research examines the potential of transit hubs and affiliated airlines to stimulate future stayover visits by stopover passengers, thereby securing new market opportunities for the host destination and a new relationship between the transportation and tourism sectors. Data were obtained from 694 stopovers who transited with Singapore Airlines through Singapore Changi International Airport but had no prior stayover visit. 'High influence', 'low influence' and 'selected influence' clusters indicated how nine selected services and facilities differentially stimulated their interest to revisit Singapore. Especially influential are generic services such as the Singapore Girl service style, and specific facilities such as the airport Butterfly Garden. These therefore no longer situate as simple facilities that only provide utilitarian transport services for passengers; occupying the blurred boundaries between the transit and destination regions, they frame Singapore's hub airport and national carrier as a type of 'quasi-destination'. Appropriate strategic considerations are recommended to maximise their conversion potential.

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## 1. Introduction

Little is known about the transit component of tourism systems, including the transit hub, despite its indispensable role in connecting origin regions with destinations. In part this is because it does not generate or receive substantial revenue, and is usually regarded by tourists as a necessary inconvenience (Weaver and Lawton, 2014). Because they would usually prefer to spend as little time as possible in transit, the potential of staying longer and obtaining a positive image of such locations is not being realised. Some features and facilities in the transit region, nevertheless, are now marketed to transit passengers as tourism attractions in their own right. As the functional distinctions between 'transit' and 'destination' become increasingly blurred, more attention should be paid to the potential of transit regions to fulfil non-traditional roles that better support other components of the tourism

system. In the contemporary 'open skies' era of air travel, a temporary stay as a 'stopover' in a transfer hub or gateway city is an increasingly necessary and normal experience (Page, 2005), and the purpose of this exploratory research is to examine the potential of hub airports and affiliated airlines to function as 'quasi-destinations' that interest some stopovers into becoming future stayover tourists, thereby securing new market opportunities for the host destination and a new perspective on the relationship between transportation and tourism. Specifically, this research aims to:

1. Assess and classify the features (i.e. facilities, services and activities) of the hub airport and affiliated airlines according to their stopover-to-stayover conversion potential;
2. Examine how stopover passengers differ by conversion potential;
3. Identify the factors that associate with this differentiation, and
4. Explore subsequent avenues for the implementation of attendant conversion strategies.

This novel and innovative research invites a reassessment of conventional tourism system models by demonstrating the hub's

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potential and aspirational role as a transit/destination hybrid that influences other dynamics in the system. A new model of cooperation between the tourism and air transport industries can be established accordingly, allowing hub and gateway cities to achieve long-term benefits and obtain new market segments for their tourism industry. The exemplary characteristics of Singapore, through the combined efforts of Singapore Changi International Airport and the national carrier Singapore Airlines, position that country as an exemplary case study to examine this issue. Following a review of the relevant literature, successive sections introduce the case study, outline the methods, present the results, and consider their practical and theoretical implications.

## 2. Literature review

Graham et al. (2008) emphasise the reciprocity between the tourism and passenger transport industries. Airlines are especially close to tourism, providing vital links particularly for long-haul travel. Tourism, in return, is a significant driving factor that enables many developments in air transport (Bieger and Wittmer, 2006). To conceptualise tourism's basic spatial dynamics, Leiper (2004) developed a simple whole tourism system model which minimally requires at least (1) one tourist, (2) one tourist-generating region, (3) one transit route region, (4) one tourist destination, and (5) a travel and tourism industry (Weaver and Lawton, 2010). External technological, political and legal systems additionally influence this tourism system. This model recognises fluidity between destination and transit by framing the transit route region as physical space that can include attractions and places where required stops and changes can be made. A specific place for such pauses or changes is the hub, which we add to the model to emphasise its importance and distinctiveness within the transit process (see Fig. 1).

The simplicity of the whole tourism system model does not extend to the unstandardised terminology variably used to describe tourists when they are physically in the hub. The UNWTO (2017) provides no formal definition for the latter but makes passing reference to 'transit visitors' as a tourist subset. 'Transit passengers' and 'transfer passengers' are also commonly used in this context, while 'layovers' usually refer to those staying overnight in the hub (Beaver, 2005). For simplicity, we adopt the nomenclature of Weaver and Lawton (2010, p. 31), who define 'stopover visitors' (or 'stopovers') as 'travellers who stop in a location in transit to another destination'. 'Stayovers', in contrast, spend at least one night in the intended destination. Unlike the latter, stopovers (sometimes with the exception of layovers) are not normally included in tourist arrival statistics from the transit location's perspective and are not normally subject to usual arrival and departure border formalities.

Air transport has become an essential element in the transit

component, and commercial airports are arguably the most critical and complex setting for the interaction between the tourism and transport industries (Page, 2005). It is argued that the arrival airport is the first place for the tourists to evaluate the service quality of the destination, and thus significantly influences their image (Martincejas, 2006; Barros, 2014). Currently, over 70% of international tourists access their destinations by air (Air Transport Action Group, 2017). The rapid development of the air transport network significantly promotes global tourism and positively influences the inbound and outbound tourism of a destination (Khan et al., 2017). Although advances in aviation technology are enabling airlines to launch more long-haul flights, airline-related hubs will continue to be significant due to the failure of long-haul flights fail to achieve consistent cost efficiencies (Wensveen, 2007). Most major airlines apply the operationally efficient hub-and-spoke network model, which increases stopover traffic in suitable hub locations (Duval, 2007; Page, 2007). These networks involve a central hub, to and from which flights are directed. Airlines based in small countries such as Singapore, Qatar and Hong Kong have innate competitive advantages for establishing hub-and-spoke networks because flights to and from all other destinations must eventually be hubbed through the home airport.

### 2.1. Satisfaction and image

Despite the increasingly critical facilitating role of transit regions and hubs, few studies have emphasised their importance within tourism systems or potential for influencing the overall tourist experience. For example, the service quality offered during transit will significantly influence overall tourist satisfaction (Freyer, 1993 in Grob and Schroder, 2007), and competitive business strategies therefore aspire to improve transit experience quality. Some facilities and services in the transit region are now being marketed as tourism attractions in their own right. For example, Hong Kong International Airport is also a shopping and entertainment precinct, and the new Airbus 380 is intended to be not just an aircraft but a memorable flight experience. This blurred transit/destination distinction has been captured in the concept of 'transit tourism', which McKercher and Tang (2004) define as a short-stay visit by transit tourists (i.e. stopover visitors) in the transit point while en route to their final destination. It is also captured by Lohmann and Pearce (2010), who argue that a place can have simultaneous nodal functions as transit point and destination based on the number of passenger nights and the primary reason for visiting.

Passenger satisfaction, in turn, is strongly related to service quality (Wells and Richey, 1996) and associates further with beneficial consumer behaviour such as repeat purchase intentions and positive word-of-mouth communication that indicates a

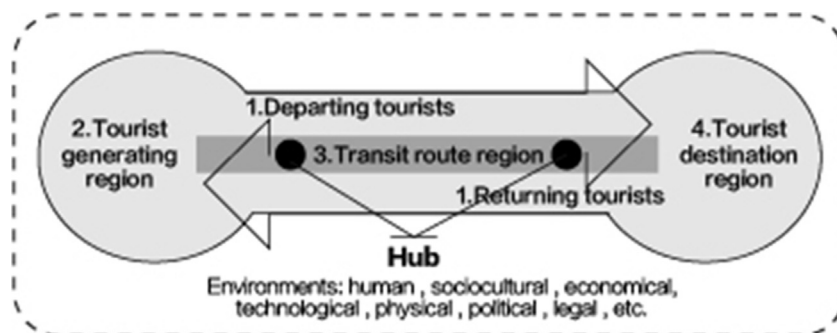


Fig. 1. Multiple locations of the 'Hub' in the transit route region (adopted from Weaver and Lawton, 2010).

broader construct of customer loyalty (Soderlund, 1998). In our research, passenger satisfaction with the carrier and hub airport is deemed crucial for converting stopovers into stayovers, with dissatisfied passengers likely being less receptive to marketing efforts designed for this purpose. Because passengers have legally binding contracts with airlines, airports have traditionally perceived them as part of the airline's business parameters rather than their own, and have done very little to proactively generate revenue from passengers and offer better service. However, since the mid-1990s, airports have paid more attention to the potential of non-aeronautical revenue sources. The relationship between airports and airline passengers has adapted accordingly (Francis et al., 2004), with passengers now being recognised as new and lucrative airport clients (Sulzmaier, 2001). An important consideration is that the first impressions of a destination received at a hub airport, in terms of efficiency, design, services and friendliness, significantly influence subsequent destination image (Gunn, 1988), and hence, potentially, interest in returning to the destination in future as a stayover.

Destination marketers try to establish positive destination images (Bramwell and Rawding, 1996), but projected or induced images may not be received as such due to intervening external and internal factors, including personal experience (Bramwell and Rawding, 1996; Court and Lupton, 1997). To capture these multiple dimensions, Gunn (1988) developed a whole travel experience model which includes (1) accumulation of mental images about vacation experiences, (2) modification of those images by further information, (3) decision to take a vacation trip, (4) travel to the destination, (5) participation at the destination, (6) return home and (7) modification of images based on the vacation experience. We modify this to account for potential stopover conversion effects. Stopover passengers may already have an organic image of their transit points through variable secondary resources and may choose their transit points based on resultant incipient images. After receiving additional stimulus from the airline and the transit airport as well as experiencing their service, they may adjust their perceived image of the hub, hopefully even to the point where stayover re-visitation interest emerges if the image is sufficiently positive.

Intention to re-visit, regarded as a consequence of visit satisfaction, is an anticipated behaviour that follows from revisitation interest generated by positive experiences (Swan, 1981). Intention represents expectations about a particular behaviour in a given condition and can be operationalised as the likelihood to act. Where there is an opportunity to act, intention results in behaviour. If measured accurately, intention provides the best predictor of behaviour, according to Fishbein and Ajzen (1975). However, intention does not always lead to actual behaviour (Ajzen, 1991) just as interest does not lead necessarily to intention. This is a basic but unavoidable conundrum in any social science research that solicits intentions rather than actual outcomes.

## 2.2. Marketing mix and marketing sequence

Destination image is related to tourism marketing, and the attributes that influence the perceived image of a destination image can be accommodated within the tourism 'marketing mix', framed as an 8P configuration (product, price, place, promotion, people, packaging, programming, partnership) by Morrisson (2009). The 8P model contains the critical components that determine the demand for a business or destination product, including transit services and facilities, and which must therefore be implicated in strategies to convert stopover passengers into future stayover visitors. The idea of 'partnerships' in the tourism marketing mix also implicates the concept of "co-creation", whereby consumers

interact with organisations to add product value and develop stronger ties and loyalty with those entities (Pralhad and Ramaswamy, 2004). This could occur, for example, through social media product endorsements or participation in 'improve the product'-type competitions. The actual 'consumption', however, is captured in the widely applied AIDA (Attention, Interest, Desire and Action) marketing communication model (Kotler, 2002). Based again on the theory of reasoned action (Ajzen and Fishbein, 1980), AIDA requires definition of the desired target market, and then development of an effective message (advertisement and promotion) in conjunction with mediating allied agencies such as national airlines and hub airports. Ideally, the message should gain the attention of the desired customers, hold their interest, arouse their desire and elicit their final action (i.e. a stayover visit to Singapore) (Lin and Huang, 2005).

APSI is a specialised AIDA variant devised for this study. Phases 1 and 2 of the modified transit passenger image formation model are related to 'awareness' of the transit point. Awareness, critically, is an ability to perceive, feel, or be conscious of events, objectives, thoughts or sensory patterns (Milman and Pizam, 1995). Phases 4 and 5 relate to 'participation', or the actual experience with the airlines and the transit point and their affiliated facilities and services. According to Gunn (1988), participation is essential for image formation to mature, as the image perceived is more realistic and visceral. The modification of the image of the transit point (Phase 6) is closely related to 'satisfaction'. After experiencing the activities or services provided by the airlines and the transit point, people will compare their actual experience with their original perceived image (Laws, 2001). Phase 8, finally, considers how positive reassessments of the transit point experience can generate 'interest' in revisitation as a stayover. If strong enough, this interest can be converted into re-visit intentions and then actual visits.

The literature has not previously considered the potential role of transit hubs and affiliated activity to directly support the stayover tourism industry in those locations by conveying positive experiences to stopovers that induce interest to revisit as stayover tourists. The conceptual map to explore this issue is summarised in Fig. 2. Part A, the status quo, depicts Leiper's conventional tourism system with our added hub. Part B indicates a significant modification to the status quo by adding the desired conversion of this transit point to a destination for stopover passengers who are positively exposed to the hub destination through the strategic manipulation of airline and airport services and facilities. Following a sequential process of awareness, participation and satisfaction, they are influenced to build up re-visit interest as stayovers (Part C).

## 3. Case study selection

The research will focus on a comprehensive case study of Singapore that involves Singapore Changi International Airport, Singapore Airlines and, more tangentially, the Singapore Tourism Board. Singapore is suitable for examining whether these three types of entity individually or collectively help to generate interest among stopovers to become future stayover tourists in the hub city, thereby providing economic benefits for the three organisations as well as for Singapore more generally. The status of Singapore Airlines and Changi International Airport, respectively, as the sole major airline and airport of Singapore further simplifies the research context. Economic factors also justify the selection. Tourism is a major and growing industry in Singapore, generating around 3% of GDP and long supported by government as part of efforts to capitalise on its strategic location and cultural assets, and foster a more resilient and diversified economy (STB, 2010). In 2015, 15.2 million international stayovers were reported, compared with 8.9 million in 2005 (STB, 2016; Singapore Department of Statistics,

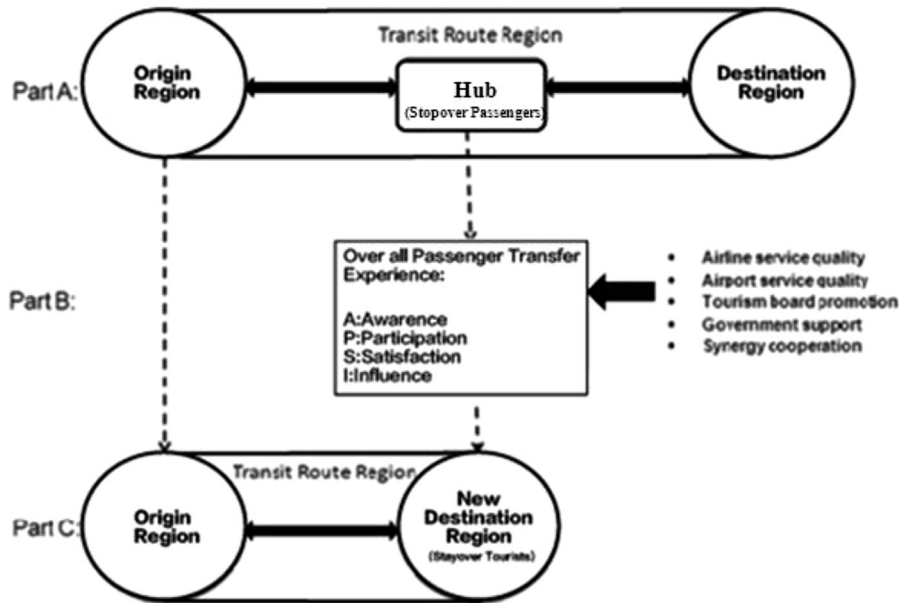


Fig. 2. Research conceptual map.

2016). In concert with its prosperity and stability, Singapore has long been associated with a family-orientated, safe, and modern destination brand cultivated since 1964 by a well-funded destination marketing organisation (Hui and Wan, 2003).

However, notwithstanding this robust performance, continuing economic development in Southeast Asia and the current world economic downturn has generated strong competition for tourists within the region. With increasing marketing efforts by Hong Kong, Thailand and Malaysia in particular, Singapore is losing market share. Therefore, using Singapore as the case study can provide very practical solutions for this country to survive strong regional competition in a way that entails innovative new opportunities for its tourism and air transportation sectors. Attesting to Singapore's strategic location and the concomitant potential for stopover-to-stayover conversion, Singapore Changi International Airport (IATA code: SIN) is the world's sixth busiest international airport and a major aviation transit hub exemplifying classic hub-and-spoke dynamics (Singapore Airport, 2014). Facilitated by the liberalisation of air policies, Changi Airport strategically links Europe, Far East, Middle East and the Americas with Southeast Asia and Oceania. Currently, the airport serves more than 100 airlines flying to 380 cities in over 90 countries. In 2016, its total passenger volume was 58.7 million and the number of transfer passengers about 13.3 million (Singapore Airport, 2017a), thereby indicating significant stopover-to-stayover conversion potential. Changi Airport provides numerous services including business lounges, free WIFI, nursing rooms, entertainment centres and airport hotels. Over 230 retail and service outlets and over 100 food and beverage establishments are available (Singapore Airport, 2017b). Some facilities, such as the butterfly garden, rainforest lounge and free city tour are featured to explicitly promote Singapore. Singapore Airlines (IATA code: SQ), the national carrier, is internationally recognised as one of the world's best carriers with a large and advanced fleet. Having served the industry for over 60 years, it has been consistently one of the most profitable airlines in the world and complements the success of Changi Airport (Wirtz and Johnston, 2003). Singapore Airlines has vigorously promoted the country as an attractive destination

through its iconic and durable 'Singapore girl' image, which was introduced in 1973.

#### 4. Methodology

To reiterate, this paper examines the potential of hub airports and affiliated airlines to induce interest in future stayover visits from stopover passengers. Specifically, the extent to which they exhibit interest in becoming future stayover tourists in Singapore due to their transit experience with Singapore Airlines and stopover experience with Changi Airport is identified, and related to key facilities and services as well as travel and demographic characteristics. How this interest relates to precursive *awareness* of, *participation* in and *satisfaction* with these facilities and services is also investigated. Participant observation (i.e. multiple visits to Changi Airport) and secondary sources (i.e. relevant corporate and trade magazine web sites) were initially used to identify tentative relationships and clarify the research topic, and this was followed by surveying involving, respectively, a questionnaire and semi-structured interviews that sought more details about the quantitative responses. The mostly Likert-scaled questions, which followed the APSI framework, were directed to adults (18 and older) who stated that they had had a stopover experience of Changi Airport through Singapore Airlines during the two year period prior to the survey, but no prior stayover experience. A three-point Likert-scale was sufficient to evaluate the awareness of the respondents towards the relevant services and facilities ('not aware', 'somewhat aware', 'very aware'), while a five-point Likert-scale was applied to examine their satisfaction level and influence. Five-point Likert-scales are frequently used in the social science research due to their demonstrated reliability and validity (Dawes, 2012; Bigerna et al., 2016; Peng and Finn, 2016).

The frame of reference was selected generic and specific services and facilities of the airline and airport, based on the premise that people more easily perceive an image of a place and evaluate satisfaction based on individual elements (Beerli and Martin, 2004). Thirteen services and activities from Changi Airport, and nine from

Singapore Airlines (i.e. 22 in total), were selected for the survey and defined according to the extent to which the conversion functions were deliberate and explicit at the time of the data collection (Table 1). One main factor influencing this selection is the degree to which these services and activities provide stopover passengers with opportunities to participate in their consumption during their flight or transfer. Second, these services and activities should convey a positive image of Singapore through the projection of representative Singaporean culture and hospitality. While economic and other factors may also influence revisitation intention beyond the transit experience itself, these factors are not directly related to the objectives of this research and were therefore omitted from the study.

#### 4.1. Data collection

The questionnaire was composed and pilot-tested to require less than 15 min to complete (Neuman, 2006). It was originally intended to conduct the survey on site at Changi Airport, but permission was denied for security and privacy reasons. Accordingly, the instrument was administered through the Qualtrics online survey tool. Initially, the survey link was promoted between October 2011 and January 2012 through the international personal social networks of the researchers, including Facebook, Twitter and Microblog. Among these connections, who were also asked to further disseminate the survey through their own social networks, there is a high portion of followers with prior transfers at Changi Airport through Singapore Airlines. Subsequently, to augment this snowball sampling procedure, the survey link was promoted on the websites of Flyertea, CARNOC, Flyertalk, and Australian Business Traveller, the most popular international travel blogs for global frequent flyers. These methods are not necessarily conducive to obtaining a representative sample of the target population, but this is unnecessary in the selected technique of cluster analysis (see below), wherein a sufficiently large non-probability sample is effective and reliable enough to identify distinct types of stopovers based on their stayover intentions (Anderberg, 1973; Chen, 2011).

#### 4.2. Data analysis

To fulfil the first research objective, the APSI responses on the questionnaire were analysed visually to divide the 22 selected

services and facilities into relatively uniform segments. Since only the respondents who experienced these services and facilities answered the questions related to satisfaction, it was not possible to apply cluster analysis to obtain these segments due to the high level of 'satisfaction' non-response. However, hierarchical cluster analysis was suitable to attain the second objective of segmenting the target population by revisitation influence using an appropriate service/facility sub-sample (Bryman and Bell, 2011). Such analysis, frequently applied in exploratory social science research, provides effective data reduction and population segmentation that maximises intra-group homogeneity and inter-group heterogeneity, thereby identifying distinct groups whose members can be targeted in similar ways (Fredline, 2012; Kaufman and Rousseeuw, 2005). Our intent was that only those items which revealed sufficient levels of participation and response heterogeneity would be used for clustering purposes, although all of the original 22 services and activities would be subsequently included in the analysis of cluster differences. Respondents who claimed that they did not access the activities/services were assigned a value of zero for influence rate. Ward's method is used, as it is widely regarded as the most appropriate method for clustering quantitative variables when the desired group proportions are approximately equal (Hands and Everitt, 1987). Most other measures have a tendency to produce one large and numerous much smaller clusters, which is less conducive to market segmentation and further statistical analysis (Hair et al., 1998). Comparison-of-means and chi-squared tests, as warranted, were subsequently used after each clustering option to see how the clusters significantly differ, and similarly sized clusters were therefore preferred to achieve research reliability. The third objective was achieved by comparing the clusters against respondent demographics and patterns of airport and airline engagement. Follow-up semi-structured interviews were also conducted with selected survey respondents by email or Skype to attain data enrichment, using representatives from each of the resultant clusters.

## 5. Results

Of 1159 responses received, 694 were complete and valid. Fifteen semi-structured interviews with selected participants in the questionnaire were subsequently conducted from 8 to 28 July 2013. The profile of questionnaire respondents is 52% male, mean age of

**Table 1**  
The classification of the services and activities of Changi Airport and Singapore Airlines.

Changi Airport	Explicitly deliberate group	Free city tour provided by Singapore Tourism Board Special themed exhibition or display in the terminal
	Implicitly deliberate group	The souvenir shop The local interest section of a bookstore Butterfly garden Cactus Garden Fern Garden and Koi Pond Orchid Garden and Koi Pond Sunflower and Light Garden Fragrant Garden Bamboo strip
		Non-deliberate group
Singapore Airlines	Implicitly deliberate group	Onboard Singapore promotion video SilverKris Magazine –TouchDown category Personal communication about Singapore with cabin crew Singapore stopover holiday package Hop-on bus Boarding pass privileges Cabin food Cabin beverage Singapore Girl service style

28.8, 48% from China (including Hong Kong, Macao and Taiwan), and 91% with university qualifications. On average, they transferred twice through Changi Airport during the previous 24 months and most commonly reported a transfer time of two to three hours. It was not possible to determine whether this profile reflects the overall Singapore Airlines stopover population at Changi, given that the latter are not subjected to experience immigration formalities and hence do not have their personal data collected by airport authorities.

### 5.1. Objective 1: assess and classify the features of the hub airport and affiliated airlines according to their conversion potential

Based on their APSI responses, seven distinct service/facility categories were identified. In Table 2, the satisfaction rate is based on those participating in that feature, while influence (interest) is based on all respondents, thus indicating overall rather than selective (i.e., based on actual participation) effectiveness.

### 5.2. Objective 2: examine how stopover passengers differ by conversion potential

Since the overall purpose of the research is to identify the influence of the activities/services of Changi Airport and Singapore Airlines on building up the re-visit interest of stopovers as stayovers in the future, the variables used for clustering were based on the 'influence' values. The frequency of the variables chosen should not be higher than 80% or lower than 20%, as outside these parameters there is little latitude for differentiating the sample. More particularly for this research, the 'participation rate' of the chosen variables should ideally also not be higher than 80% or lower than 20%. The nine services and activities that satisfied these criteria and were thus selected as items for the cluster analysis were the free city tour organised by the Singapore Tourism Board, Butterfly Garden, Sunflower and Light Garden, specialised souvenir shop, book store, special themed terminal exhibition/display, on-board Singapore promotion video, personal conversations about Singapore with cabin crew, and TouchDown Category of SilverKris magazine.

Concurrently, these nine selected activity/service variables broadly represent the attributes influencing destination image formation, which include nature resources and nature environment, culture, art and history, social environment and atmosphere of the place. The ratio of 75 respondents per item comfortably exceeds the threshold of 70 recommended by Dolnicar et al. (2014) for achieving validity. To ascertain the most effective cluster solution, five rounds of testing were conducted, from a two-cluster solution to a six-cluster solution, using Ward's method. A three-cluster solution most effectively differentiated the sample. Cluster 1 ( $n = 331$ , 47.7%) is described as the 'Selected Influence' segment because members were only influenced by the specialised souvenir shop, the special theme terminal exhibition or display, the Butterfly Garden and the on-board Singapore promotion video. Cluster 2 ( $n = 203$ , 29.3%) is the 'Low Influence' group as it displayed hardly any influence at all. Cluster 3 ( $n = 160$ , 23.0%), in contrast, showed substantial influence from all the clustered elements and is therefore labelled as the 'High Influence' group (Table 3). The outcomes for the non-clustered services and facilities validate the original patterns of response.

### 5.3. Objective 3: identify the factors that associate with this differentiation

Regarding significant selected independent variables (Table 4), the High Influence cluster displays much greater transfer frequency

and time, and is much more likely to have post-graduate qualifications and to reside in 'Grand China'. There was no gender influence. Fifteen semi-structured interviews with selected respondents were subsequently conducted from 8 to 28 July 2013. Outcomes are addressed in the Discussion section since they provide insight into the patterns and strategies, as per Objective 4.

## 6. Discussion

### 6.1. Service/facilities management implications

Our results demonstrate that hub airports and associated carriers are not just simple utilitarian elements of transit that merit scant attention from researchers and destination managers. Concurrently, however, neither satisfies the definitions normally associated with 'tourist attractions'. Occupying the blurred boundaries between transit region and destination region, both Changi Airport and Singapore Airlines together with their embedded facilities and services therefore may be described as a type of 'quasi-destination'. These are essentially transit locations or services such as a flight path, aircraft or hub airport that also possess some characteristics of a destination. The most important criterion that qualifies these elements as quasi-destinations is the presence of services and facilities that have potential effects of attracting interest from stopovers to revisit the hub city as a future *stayover* visitor. This potential, however, is not uniform, given the identification of three distinct passenger clusters wherein transfer frequency and time, not unexpectedly, are correlated strongly with re-visitation interest.

Some of these services and facilities explicitly perform these conversion effects while for others the apparent effect is incidental and the quasi-destination function therefore less articulated. To maintain focus, only the major specifics and generics with high converting effectiveness or strong converting potential (i.e. with high awareness and satisfaction levels) will be discussed. Based on the similarity of APSI patterns (see Table 1), these include (1) High Effect Generics, (2) High Effect Specifics with Growth Potential, (3) High Awareness and Satisfaction but Low Influence Generics, and (4) High Awareness and Satisfaction but Very Low Influence Generics.

### 6.2. High Effect Generics

The High Effect Generics are intriguing because they display the highest levels of attention, participation, satisfaction and re-visitation interest, yet have only implicitly deliberate or non-deliberate conversion functions. As noted, the 'Singapore Girl' service style is a longstanding and effective business strategy. Along with cabin food and beverage, such 'unavoidable' services exceed international service quality standards but also emphasise unique Singaporean culinary styles which have a major influence on destination image construction and identity (Beerli and Martin, 2004; Govers and Go, 2004). The free internet serves as a goodwill gesture demonstrating willingness to provide high service quality and convenience to passengers without distinguishing between stopovers and stayovers. The 10 of 15 interviewees who were positively influenced by this service all mentioned that it 'shows the consideration of the airport to the passengers' and demonstrates exemplary 'Singaporean hospitality'. They also believe that they can experience 'similar high quality service if they visit the city'. The specialised souvenir shops provide opportunities to obtain a quick understanding about Singapore, featuring as they do local traditions such as the Sarong, curry sauces and orchid-themed items. The airport promises that all products sold at the terminals have the same price and quality as those in the city,

**Table 2**

Category table for the selected activities/services based on respondents' interaction.

Activities/Services	Awareness (out of 3)	Participation %	Satisfaction (out of 5)	Influence (out of 5)
<b>Very High A-P-S-I - High Effect Generics</b>				
<i>SA – Singapore Girl service style</i>	<b>2.82</b>	<b>100.0</b>	<b>4.79</b>	<b>4.77</b>
<i>SA – Cabin food</i>	<b>2.94</b>	<b>100.0</b>	<b>4.76</b>	<b>4.76</b>
<i>SA – Cabin beverage</i>	<b>2.92</b>	<b>100.0</b>	<b>4.73</b>	<b>4.60</b>
<i>C - Visiting a specialised souvenir shop</i>	<b>2.76</b>	<b>91.1</b>	<b>4.59</b>	4.15
<i>C - Accessing internet</i>	<b>2.89</b>	<b>98.1</b>	<b>4.79</b>	4.42
<b>High A-P-I</b>				
<b>Very High S - High Effect Specifics with Growth Potential</b>				
<i>C - Visiting Butterfly Garden</i>	2.50	74.9	<b>4.80</b>	3.59
<i>C - Visiting a special themed exhibition or display in the terminal</i>	2.59	83.3	<b>4.77</b>	3.96
<i>SA – Singapore promotion video on board</i>	2.44	75.5	<b>4.66</b>	3.53
<b>Very Low A-P-I</b>				
<b>Lower (but still positive) S - Low Effect Generics and Specifics</b>				
<i>SA – SIA boarding pass privileges</i>	<b>1.39</b>	<b>13.5</b>	3.92	<b>0.58</b>
<i>C - Visiting Orchid Garden and Koi Pond</i>	<b>1.28</b>	<b>15.9</b>	3.93	<b>0.67</b>
<i>C - Visiting Fragrant Garden</i>	<b>1.20</b>	<b>14.8</b>	3.84	<b>0.62</b>
<i>SA – SIA Singapore stopover holiday package</i>	<b>1.30</b>	<b>13.0</b>	3.89	<b>0.52</b>
<i>C - Visiting Cactus Garden</i>	<b>1.27</b>	<b>15.1</b>	3.81	<b>0.59</b>
<i>C - Visiting Fern Garden and Koi Pond</i>	<b>1.21</b>	<b>15.1</b>	3.44	<b>0.59</b>
<i>SA – SIA hop-on bus</i>	<b>1.30</b>	<b>13.0</b>	3.81	<b>0.50</b>
<i>C - Visiting Bamboo Stripe</i>	<b>1.29</b>	<b>17.1</b>	3.78	<b>0.63</b>
<b>Very Low A-P-I</b>				
<b>High S - Variable Effect Generic</b>				
<i>C - Collecting local stamps at a postal kiosk</i>	<b>1.44</b>	<b>18.0</b>	4.27	<b>0.74</b>
<b>High A</b>				
<b>Low P-I</b>				
<b>Very High S - High Awareness and Satisfaction but Low Influence Generic</b>				
<i>SA – Personal conversation with cabin crew about Singapore</i>	2.34	49.0	<b>4.79</b>	2.39
<b>High A</b>				
<b>Very Low P-I</b>				
<b>Very High S - High Awareness and Satisfaction but Very Low Influence Generic</b>				
<i>C - Joining the free city tour organised by the Singapore Tourism Board</i>	2.30	<b>16.9</b>	<b>4.54</b>	<b>0.79</b>
<b>Low /Very Low A-P</b>				
<b>High S</b>				
<b>Low/Very Low I - High Satisfaction but Low Effect Generics and Specifics</b>				
<i>C - Visiting the local interest section of a book store</i>	2.08	45.8	<b>4.40</b>	2.00
<i>SA – SilverKris Magazine – TouchDown section</i>	1.86	37.0	4.31	1.64
<i>C - Visiting Sunflower and Light Garden</i>	<b>1.40</b>	<b>22.9</b>	<b>4.51</b>	<b>0.99</b>

Note:

Items	<b>Very High Value</b>	<i>High Value</i>	Medium Value	<i>Low Value</i>	<b>Very Low Value</b>
Awareness (mean on a 3-point scale)	<b>3.00-2.60</b>	2.59-2.00	1.99-1.70	1.69-1.40	<b>1.39-0.00</b>
Participation (percentage)	<b>100-90.0</b>	89.9-70.0	69.9-50.0	49.9-30.0	<b>29.9-0</b>
Satisfaction (mean on a 5-point scale)	<b>5.00-4.50</b>	4.49-4.00	3.99-3.00	2.99-2.50	<b>2.49-0.00</b>
Influence (mean on a 5-point scale)	<b>5.00-4.50</b>	4.49-4.00	3.99-3.00	2.99-2.50	<b>2.49-0.00</b>

**Table 3**

The influence mean of the activities/services by clusters.

Activity/Service	Overall mean (N = 694)	Selected Influence cluster (n = 331)	Low Influence cluster (n = 203)	High Influence cluster (n = 160)
<b>Services &amp; facilities included in the cluster analysis</b>				
Visiting a specialised souvenir shop	4.15	<b>4.46</b>	<u>3.33</u>	4.17
Visiting a special themed exhibition/display at the terminal	3.96	<b>4.95</b>	<u>2.05</u>	4.33
Visiting Butterfly Garden	3.59	<b>5.00</b>	<u>0.64</u>	4.40
Singapore promotion video	3.53	4.23	<u>1.86</u>	4.20
Personal conversations with Cabin Crew about Singapore	2.39	2.60	<u>0.89</u>	<b>3.86</b>
Visiting the local interest section of a book store	2.00	2.09	<u>0.57</u>	<b>3.63</b>
SilverKris Magazine – Touch Down Category	1.64	1.33	<u>0.74</u>	<b>3.43</b>
Visiting Sunflower and Light Garden	0.99	0.01	<u>0.08</u>	<b>4.18</b>
Joining the free city tour organised by the Singapore Tourism Board	0.79	0.00	<u>0.00</u>	<b>3.42</b>
<b>Services and facilities NOT included in the cluster analysis</b>				
'Singapore Girl' service style	4.77	<b>4.96</b>	4.56	4.63
Cabin food	4.76	<b>4.93</b>	4.55	4.66
Cabin beverage	4.60	<b>4.75</b>	4.39	4.55
Accessing internet	4.42	<b>4.73</b>	<u>3.87</u>	4.49
Collecting local stamps at a postal kiosk	0.74	0.18	<u>0.14</u>	<b>2.67</b>
Visiting Orchid Garden and Koi Pond	0.67	0.01	<u>0.16</u>	<b>2.68</b>
Visiting Bamboo Strip	0.63	0.01	<u>0.04</u>	<b>2.68</b>
Visiting Fragrant Garden	0.62	0.01	<u>0.00</u>	<b>2.69</b>
Visiting Cactus Garden	0.59	0.01	<u>0.08</u>	<b>2.44</b>
Visiting Fern Garden and Koi Pond	0.59	0.01	<u>0.10</u>	<b>2.42</b>
SIA boarding pass privileges	0.58	0.00	<u>0.09</u>	<b>2.40</b>
SIA Singapore stopover holiday package	0.52	0.00	<u>0.11</u>	<b>2.10</b>
SIA hop-on bus	0.50	0.00	<u>0.09</u>	<b>2.40</b>

Note 1: The Influence uses a five-point scale.

Note 2: ANOVA Sig for all activities/services is &lt; 0.001.

Note 3: The number in bold indicates that the influence degree is significantly higher than the other two groups. The number with the underline indicates that the influence degree is significantly lower than the other two groups.

**Table 4**

Cluster comparisons: Independent variables.

Item	Overall N = 694	ANOVA Sig.	Selected Influence cluster (n = 331)	Low Influence cluster (n = 203)	High Influence cluster (n = 160)
Times transferred through Changi Airport during the past 24 months (Singapore Airlines only)	1.99	<0.001	1.98	<u>1.39</u>	<b>2.74</b>
Average transfer time 3 h or more			8.5%	14.8%	50.0%
Age	28.84	<0.001	28.6	29.7	28.2
Postgraduate education (Count 185/26.7%)			13.9%	33.5%	44.4%
Student (214/30.8%)			26.9%	41.9%	25.0%
'Grand China'			47.1%	41.9%	58.1%

Note: The number in bold indicates that the transfer/travel frequency is significantly higher than the other two groups. The number with the underline indicates that the transfer/travel frequency is significantly lower than the other two groups.

which provides a positive indication of what might be expected during a future stayover experience. Several interviewees mentioned that souvenir prices were 'reasonable' and 'worth the money' and indicate that 'Singapore is therefore not an expensive city to visit'.

Such results suggest that the status quo quality of the Singapore Girl service style, cabin food, cabin beverage, free internet service and the specialised souvenir shops is optimal from a stopover conversion perspective. They are 'core' elements of the hub airport and airline that build up people's re-visit interest and are especially important from a proactive quasi-destination management perspective. Pending further investigation, it may well be that these select services and facilities can sustain the desired conversion objectives on their own, even if other activities lack similar articulation or efficiency. However, to capitalise on their potential to stand as the highest level of quasi-destination articulation, synergistic cooperation between providers should be encouraged. For example, when the passengers first launch the website browser using the free internet service, Changi Airport could sponsor

promotion related to the cabin food, cabin beverage and Singapore Girl service style of Singapore Airlines. Concurrent exposure to multiple destination icons serves to reinforce the powerful message of comprehensive positive branding. This implicates the 'packaging' component of the marketing mix.

### 6.3. High Effect Specifics with Growth Potential

The High Effect Specifics with Growth Potential group, containing the Butterfly Garden, special themed exhibition or display, and on-board Singapore promotion video, denote specific or unique named products widely experienced but less effective in generating revisitation interest. The programming of the exhibition or display usually includes passenger participation (co-creation) such as handicraft making and painting, which can significantly increase their attractiveness, especially if they produce tangible souvenirs. The heavily promoted Butterfly Garden, an explicitly deliberate feature, attracts reduced participation because of its peripheral location. Eleven of the 15 interviewees, however, agreed that it is



the 'icon' or 'must see attraction' at Changi Airport, and is 'special' and 'unique'. The Singapore promotion video is viewed by most passengers because it allows people to better understand Singapore in a short time and positively promotes its icons and features. All three features in this group are notable in yielding very high interest in revisitation from the Selected Influence cluster members, but low interest from the Low Influence members. For the Butterfly Gardens, interviewees cited insufficient time to access its remote location. The same may pertain to some special exhibitions which require substantial queuing and participation time. Possibilities to increase their conversion potential include the provision of electric carts to access the Gardens, and greater consideration to reducing exhibit waiting times. Meanwhile, given the high levels of visitation and strong links with revisit interest, the Butterfly Gardens would be a good subject for exploratory co-creation strategies that ask visitors to identify the butterfly species and write about their experience in social media describing how it affects their image of Singapore and their revisit intentions.

#### 6.4. High awareness and satisfaction but Low Influence Generics

The High Awareness and Satisfaction but Low Influence Generic category also has a single member - the personal conversation with cabin crew about Singapore. Awareness is high but participation is low. Four interviewees who did not participate were 'afraid to disturb their work' or did not know that they can communicate with the cabin crew about Singapore. Other non-participating interviewees 'did not like to talk to strangers'. However, the five interviewees who did communicate with the cabin crew about Singapore felt privileged to do so, all agreeing that a cabin crew member is 'the right person to talk about Singapore' because they are 'Singapore Girls'. Also, some indicated that it is a good way to overcome boredom during the flight. Substantially higher revisitation interest in the High Influence cluster may result from a high comfort level due to conversations held on prior flights. Cabin crew (or specially designated and trained crew) could perform an enhanced ambassadorial role by actively promoting Singapore during the flight rather than waiting for passengers to take the initiative, especially during medium- and long-haul flights. This would also enhance service consistency and quality by disseminating common messages, while retaining a personal touch.

#### 6.5. High awareness and satisfaction but Very Low Influence Generics

Finally, the High Awareness and Satisfaction but Very Low Influence Generic category describes the free city tour organised by the Singapore Tourism Board. This explicitly deliberate service is well known and satisfying, but caters only to those with over five hours of transfer time; hence the overall influence is very low except from the High Influence cluster, which displays such long transfer times. Surrogate 'visits' should therefore be developed. For example, the airport can use 3D and other virtual technology to make the icons of Singapore into a promotion video suitable for viewing in the terminal or movie theatre. People can then feel they are really conducting a city tour in Singapore and visiting the attractions inside the city. During this experience, the participants could also be served authentic Singaporean food. Against conventional wisdom, it may also be possible to encourage passengers to allow for extra transit time to facilitate actual tour participation.

By way of summary, it is notable that the awareness and satisfaction levels are consistently high in all groups. Any subsequent quasi-destination articulation strategy must focus on differences in participation and influence. The High Effect Generics and High Effect Specifics with Growth Potential are strong in all three of these

other dimensions though can be strengthened further. The Butterfly Garden, for example, has the highest satisfaction of all (4.80) but yields a mediocre influence mean (3.59). The High Awareness and Satisfaction but Low or Very Low Influence Generics display weakness in the participation and conversion rates, indicating room for promotion and product development.

#### 6.6. Theoretical contributions

These empirical outcomes corroborate the view that hubs, while acknowledged by Leiper (2004), should be physically added to his model's transit region to emphasise their important, distinctive and diverse role within the transit process. Recognition of such locations as quasi-destinations will change conventional perceptions of the transit route region in the tourism system and encourage less compartmentalised thinking. Beyond Singapore, this re-thinking is meaningful for major hub or gateway cities such as Dubai, Hong Kong, and Frankfurt, as the quasi-destination concept provides a framework for further highlighting and articulating their important position and multiple functions in the tourism system. Additionally, through awareness of this concept, airport transit facilities will no longer be simply considered as basic transportation infrastructure, since their potential to function as a quasi-destination can now be recognised and pursued. It may be argued that privately owned airports do not fit into this model given their revenue-focused operation strategy. However, most of the major airports that can represent the identity of a country or a destination are controlled or operated by the government, so that their operation should not only focus on revenue generation but also take into account a social responsibility to promote the country or destination they represent. Even though the airport is fully commercialised or corporatised, innovative operation is vital for the airport management company to contend with strong competition from other hubs. The concept of quasi-destination can provide such innovation.

Theoretical implications for the service component of the transit literature are also evident. Traditionally, research on airport/airline services has only considered internal operational benefits. For example, Wells and Richey (1996) believe that there is a significant relationship between passenger satisfaction and airline service quality, which is therefore positioned as a significant precursor of passenger loyalty. Similarly, Yeh and Kuo (2003) argue that airport service quality and passenger satisfaction levels are the most important performance indicators for airport operation. The facilities and services provided by the airport can significantly influence the passenger's choice of transfer airport. The current research extends this focus by demonstrating that the services and facilities provided by the airlines and airport will no longer only influence their own operation but can be also be considered as quasi-destination articulations contributing to tourism development in the home destination. Through experiencing these articulations, stopover passengers can perceive a positive image and thus build up their re-visit interest as stayover tourists, allowing the implicated airlines and airports to also accrue further financial benefits in accommodating this extra traffic.

The majority of tourism research that investigates place image formation mainly focuses on the destination perspective, and thus links the destination image with destination marketing. As a result of this research, the transit route region will attract more attention from the tourism scholars as an object of focused marketing efforts. This requires the classical theories and models discussing the destination image formation to be adjusted to better suit the expanded functions of the transit route region. A relevant example is illustrated in the literature review, where the classical destination image formation model of Gunn (1988) was modified to incorporate the image formation process of stopover passengers in

transit locations.

All strategies suggested in relation to Singapore Airlines and Changi International Airport to maximise the effectiveness of the quasi-destination articulations can be contextualised within and structured using classic tourism marketing mix theory. For example, the 3D city tour inside the terminal implicates the 'product' component. It can be argued from our research, however, that another P – 'projection' – should be added to the tourism market mix in quasi-destinations. Changi International Airport and Singapore Airlines are microcosms or reflections of Singapore that can only partially demonstrate or capture the comprehensive characteristics and features of its represented destination (i.e. Singapore). However, through effective quasi-destination articulations, they can *project* these characteristics in compelling ways that induce stopovers to revisit as stayovers. For example, the Butterfly Garden is not a real rainforest but a representation that projects the essence of a rainforest so that people can 'pseudo-experience' Singapore's tropical climate and lush vegetation. From the tourism marketing mix perspective, it is the 'place', 'people' and 'product' elements specifically that are projected. Regarding the people component, the staff from Changi International Airport and Singapore Airlines, for example, cannot represent Singapore's entire population. However, they can be trained to project the hospitality style of Singapore through their high quality service delivery.

This research also devised and applied an innovative method, the APSI (Awareness – Participation – Satisfaction – Influence) framework, based on the established AIDA method. The APSI framework is proposed as a demand-side method that facilitates the analysis of the quasi-destination in terms of evaluating its potential effectiveness in influencing the travel decision and behaviour of the tourists. While a causal sequence is not intended, statistical and subsequent analysis indicates that the APSI framework effectively assesses the degree to which designated services and activities attract awareness, participation, satisfaction and influence (revisitation interest), allowing the degree of sequential engagement and articulation to be quantified. This subsequently serves to enhance that level of articulation for the mutual benefit of the attendant destination, airport and airline.

## 7. Conclusion

A possible limitation of this research is the interrogation of revisit *interest*. Numerous studies demonstrate that interest or intentions are not necessarily predictive of actual behaviour (Terry et al., 1999). Declarations of interest to re-visit Singapore as a result of exposure to certain facilities and services in Changi Airport or Singapore Airlines therefore do not mean that such visits will necessarily occur. Longitudinal research therefore needs to be undertaken to ascertain the extent to which 'high interest' first-time stopover visitors to Singapore actually do re-visit as stayovers and what these visits reveal in terms of timing, duration, and activities pursued. Considering the research scale, this research uses Singapore as a case study place, but further clarity as to the robustness of the model now requires its testing in other major hub cities such as Dubai, Hong Kong and Frankfurt.

Limitations notwithstanding, this innovative research has the potential to provide substantial benefits for Singapore, Singapore Changi Airport and Singapore Airlines in demonstrating that stopover-to-stayover conversion strategies are feasible, especially for certain market segments. Through the quasi-destination model, hub and gateway cities around the world can achieve long-term benefits and cultivate a new market segment for their stayover tourism industry. This is the first research to reconfigure conventional tourism system models through the identification of an

innovative and potentially lucrative stopover-to-stayover tourism conversion function that strongly implicates the air transport industry. As such, it has substantial theoretical and practical implications in the areas of tourism systems, transit regions, airlines and airport service, tourism marketing mix and the empirical research and analysis method. Hopefully, this research will attract more attention from researchers into the complexities of transit route regions in order to contribute to a more holistic and integrated theory of the tourism system that better reflects emerging contemporary tourism dynamics.

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