How port aesthetics affect destination image, tourist satisfaction and tourist loyalty?

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Abstract

Purpose – This study aims to examine the linkages between port aesthetics, destination image, tourist satisfaction and tourist loyalty in Hong Kong.

Design/methodology/approach – To achieve this objective, the authors surveyed 247 tourists in Hong Kong. Using factor analysis and structural equation model (SEM) to identify the constructs of port aesthetics and analyze its relationship with destination image, tourist satisfaction and tourist loyalty.

Findings – Five-port aesthetics constructs were identified, namely, leisure and culture, design and cognition, atmosphere, recreational facilities and memory. The results of SEM revealed the following: port aesthetics positively influenced destination image; destination image positively influenced tourist satisfaction; and tourist satisfaction had a positive influence on tourist loyalty. This research also found that the indirect effect of port aesthetics on tourist loyalty via destination image and tourist satisfaction.

Originality/value – While the environmental qualities of a port could potentially affect destination image, tourist satisfaction and loyalty, this study developed and validated a measurement instrument of perceived port aesthetics from a tourist’s perspective. Specifically, this research proposed a structural model to explain the relationships between port aesthetics, destination image, tourist satisfaction and loyalty.

Keywords Tourist satisfaction, Destination image, Tourist loyalty, Port aesthetics

Paper type Research paper

1. Introduction
1.1 Research background
Tourism is one of the important drivers of the economy in Hong Kong. It contributed to around 5 per cent of Hong Kong’s GDP in 2014 (Hong Kong Tourism Board, 2016). Visitor arrivals increased by 3.2 per cent to 56.6 million in 2017 (Hong Kong Tourism Board, 2018). The development of tourism fosters destination’s employment, income, tourism firms and government revenues (Chen and Tsai, 2007). How to attract tourists to revisit destination is
crucial for the development of tourism services. There has been a growing body of previous studies focusing on the interactions between quality, destination image, tourist satisfaction and loyalty (Baker and Crompton, 2000; Baloglu and McCleary, 1999; Chen and Tsai, 2007; Chi and Qu, 2008; Lee et al., 2011; Zhang et al., 2014). In particular, tourists’ experiences with a destination’s environment and their experience of what they see and sense could affect their overall trip satisfaction, destination image and willing to revisit. When people plan a trip for pleasure, they choose destinations that, in their perceptions, maximize the possibility to receive an enjoyable experience. The aesthetics qualities of the destination is one of the important sources of such an enjoyable experience and perceived as image measures used in tourism research (Kirillova et al., 2014).

Traditionally, the notion of aesthetics has been explored in the literature of product design on consumer behavior choice (Bloch, 1995) and websites of human-computer interaction (Lavie and Tractinsky, 2004). Extant researchers on tourism have paid increasing attention to destination aesthetics and exerting efforts in both conceptual constructs and empirical validations (Kirillova et al., 2014). Destination aesthetics have been previously demonstrated conceptually in environmental psychology (Kaplan et al., 1989), environmental aesthetics (Carlson and Lintott, 2008) and urban planning (Daniel, 2001). A physical environment affects tourists’ delight and satisfaction. Destination aesthetics could possess its own characteristics and traits in that travel experience involves the full enjoyment of a tourist into an environment that may be distinct from general surroundings (Volo, 2009). However, how and why tourists perceive the environmental qualities of destination aesthetics could potentially be related to the destination image, tourist satisfaction and loyalty. Nevertheless, until now, these areas have been rarely examined in tourism management literature. Thus, the objective of this study is to fill this gap by revealing how to port aesthetics influence destination image, tourist satisfaction and loyalty.

This research provides several contributions to the existing literature on harbor tourism and tourist behavior research. First, this study takes an interdisciplinary approach to integrate aesthetics and destination marketing into the tourist behavior literature, responding to recent interests and the need for more relational strategies-related research in the context of harbor cruise tourism. In particular, this study addresses the influence of tourists’ aesthetic perceptions on their loyalty and clarifies, which factors are crucial in terms of their relationship to tourist satisfaction and loyalty. Second, our research contributes to the literature on tourist behavior by highlighting the effects of aesthetics and destination image in explaining customer satisfaction and the loyalty of tourists in harbor tourism. Although previous studies have recommended the importance of destination image and tourist satisfaction, few studies have empirically developed a model intended to measure port aesthetics and distinctly interpret its effects on tourist satisfaction and loyalty. To the best of our knowledge, this research is the first to examine the link between port aesthetics and tourist loyalty, which extends the destination marketing and tourist behavior research specifically in the harbor tourism context. Finally, we examine the mediating roles of destination image and tourist satisfaction in the relationship between port aesthetics and customer loyalty from a tourist’s perspective. Examining customer satisfaction appears to be particularly relevant in the specific social exchange context, as destination image and customer satisfaction are regarded as the key factors influencing customer loyalty. Notwithstanding, there is a lack of sufficient research providing evidence as to whether the destination image and customer satisfaction mediate the effect of port aesthetics on tourist loyalty.

There are five sections in this study. Section 1 addresses the research motivation and those concepts central to the study. Section 2 provides conceptual background and discusses
2. Literature review and research hypotheses

The destination marketing literature examined the determinants of customer and loyalty. Several studies demonstrated that customer satisfaction can be influenced by the service quality (Baker and Crompton, 2000; Lee et al., 2011), destination image (Chi and Qu, 2008; Rajesh, 2013), tourist perception (Rajesh, 2013) and word of mouth (Satta et al., 2014). Other studies showed that tourist loyalty may be enhanced by tourist satisfaction (Chi and Qu, 2008), quality (Lee et al., 2011), destination image (Chi and Qu, 2008), motivation (Yoon and Uysal, 2005) and positive word of mouth recommendation (Satta et al., 2014). While the antecedents of tourist satisfaction and loyalty have been widely discussed in the tourism literature, an understanding of the perceptions of aesthetics and its relationships with destination image, satisfaction and loyalty at harbor or port tourism are lacking. Therefore, port tourism authorities should acknowledge the effects of aesthetics on destination image, customer satisfaction and loyalty of tourists.

2.1 Aesthetics and destination image

The term “aesthetics” has studied over the past few years and there are a variety of meanings presented in the textbooks, articles, journals and conferences (Lavie and Tractinsky, 2004). Aesthetics refer to the science of expression being itself so defined as to be identical with every form of appreciation, intuition or imaginative synthesis (Santayana, 1904, p. 320). It includes an attentive perception with any kind of preference, pleasing nature and attracts appreciation (Santayana, 1904, p. 320). A common meaning of aesthetics is a pleasing and beautiful appearance (Lavie and Tractinsky, 2004).

Aesthetics toward a destination is a subjective recognition, and people’s judgment toward beauty is a cognitive process (Kaplan, 1985), it is the matter of how people feel about a destination. Besides, natural landscapes are different from artworks, as an environment could not be framed or separated from the viewer. Oppositely, all the senses of the observer are contributing to the process of aesthetics judgment (Hepburn, 1966). For aesthetics judgment for the preferences of the urban landscape, it have been environmentally discussed in terms of urban planning, while aesthetics value itself is minimized to its functionality only (Maitland and Smith, 2009).

Image toward a destination is an interactive composition of thoughts, opinions, feelings, visualizations, and intentions toward a place (Tasci, 2007). Furthermore, there are two components inducing the formation of the destination image, which are organic images and induced images (Rajesh, 2013). Organic images are images that closely related to individuals’ past experiences toward destinations. Induce images is generated through information acknowledged from an external source such as promotion, destination advertising or even descriptions from someone who have been there. Similar to aesthetics judgment, destination image can be influenced by major dimensions including perceptions, psychological characters, social experiences, media, motivations, education level and tourism marketing (Lopes, 2011). To a certain extent, the image of destinations is the most important element when tourists choosing a place to visit (Govers and Go, 2003).

As destination image is affected by personal feelings, perception and visual elements, it is believed that aesthetics of destination brings out a favorable image.
Tourist’s appreciation of beauties and atmospheric comforting environment directly contributes to a positive destination image as well. Therefore, the following hypothesis was postulated:

\[ H1. \quad \text{Port aesthetics positively influence destination image.} \]

### 2.2 Aesthetics and tourist satisfaction

Within the tourism literature, it has been well-acknowledged that the aesthetics characteristics of a destination often been used to act as a scale of measuring tourist satisfaction. Alegre and Garau (2010) revealed that destination attributes including cleanliness and hygiene, peace and quiet, as well as a balance between commercial development and environmental preservation (i.e. aesthetics judgment by tourists) have been used to measure the level of tourist satisfaction. According to Chi and Qu (2008), some aesthetics characteristics of a destination are underlying dimensions of attribute satisfaction. For instance, a variety of cuisine, natural attractions, a variety of shops and the surrounding atmosphere and hygiene conditions. Meanwhile, a number of researchers addressed that attribute satisfaction positively interrelates with overall satisfaction (Bolton and Drew, 1991; Chi and Qu, 2008; Oliver, 1993; Spreng et al., 1996). Accordingly, the following research hypothesis was proposed:

\[ H2. \quad \text{Port aesthetics positively influence tourist satisfaction.} \]

### 2.3 Destination image and tourist loyalty

Loyalty is recognized as someone’s willingness to devote himself to a particular thing thoroughly and practically (Royce, 1995). It is an important strategy for almost every industry, which helps achieving business success. According to Reichheld and Sasser (1990), loyalty customers are able to bring economic benefits to the firm and improve earnings. For every 5 per cent increment in retention of customers, it leads to a profit increase within 25-85 per cent. Thus, loyalty is a concept that worth to be investigated thoroughly.

Specifically, a number of extant studies demonstrated that destination image plays an important role in facilitating the formation of loyalty visitors, as well as their likelihood of revisiting (Baloglu and McCleary, 1999; Chen and Tsai, 2007; Chi and Qu, 2008; Chon, 1990). For a destination having favorable image, tourists are more likely to have an intention of returning to that place in the future. Therefore, destination image is perceived as one of the criteria for tourists to decide whether to make a subsequent travel. The causal relationship between destination image and tourist loyalty can be illustrated through the concept of destination image gap as well. Based on the study of Martin-Santana et al. (2017), destination image gap refers to the difference in image before and after tourists visiting the destination. A positive destination image gap reveals that tourists have a high degree of satisfaction and loyalty toward the destination. Therefore, destination image acts as an influential factor of whether a destination can maintain loyalty visitors. The more positive the destination image is, the greater the possibility that tourists will return to the same destination in the future. Accordingly, a research hypothesis was posited:

\[ H3. \quad \text{Destination image positively influences tourist loyalty.} \]
2.4 Destination image and tourist satisfaction
The effect of destination image on tourist satisfaction has been examined by previous studies (Chen and Tsai, 2007; Chi and Qu, 2008; Tan and Kuo, 2013). It is believed that more favorable and positive image of destination will more likely to be considered in the choice of trip decision-making and lead to higher tourist satisfaction. The image of destination affects the behavioral intentions of tourists (Court and Lupton, 1997). Chen and Tsai (2007) proposed a behavioral intention model from tourists of National Kengtin Park in Taiwan and found that destination image had both direct and indirect influences on behavioral intentions of tourists. Chi and Qu (2008) also found that destination image positively affected tourists’ overall satisfaction from the respondents of Arkansas – Eureka Springs. Tourists’ satisfaction, therefore, can be intensified if their expectations toward the destination image is reached (Vogt et al., 2008). According, the following hypothesis was proposed:

H4. Destination image positively influences tourist satisfaction.

2.5 Tourist satisfaction and tourist loyalty
A number of previous studies in the marketing literature have been confirmed a positive relationship between customer satisfaction and loyalty of retention (Anderson and Sullivan, 1993; LaBarbera and Mazursky, 1983). If customers are satisfied with the suppliers’ products or services, they will be more likely to repurchase and will be more willing to spread the high qualities of products or services. In the tourism sector, there are several empirical studies pointed out that tourists’ satisfaction is one of the determinants of their behaviors to revisit and recommend the destination to their family members and friends (Backman and Crompton, 1991; Chi and Qu, 2008; Petrick et al., 2001). A higher level of tourists’ satisfaction will lead to revisiting the destination and spread positive recommendations (Yoon and Uysal, 2005). To understand the behavior of tourist loyalty is particularly important in tourism marketing because they are major sources of profit. Thus, the following hypothesis was posited:

H5. Tourist satisfaction positively influences tourist loyalty.

2.6 Aesthetics and tourist loyalty
As mentioned earlier, port aesthetics has been recognized as the antecedents of destination image and tourist satisfaction (Kirillova et al., 2014). However, the link between port aesthetics and tourist loyalty is seldom discussed in previous studies. Lee et al. (2011) addressed the causal relationship between tour quality, tourist satisfaction and tourist loyalty. The beauty of a destination is a measuring indicator in the aspect of tour quality. For instance, if a destination can offer attractive scenery and surround with historical and cultural legacy, it will facilitate the formation of tourists’ perceptions of high quality (Lee et al., 2011) and more likely to revisit the destination. Therefore, the qualities of a destination aesthetics may significantly influence tourist loyalty. Accordingly, the following hypothesis was proposed:

H6. Port aesthetics positively influence tourist loyalty.
3. Methodology

3.1 Measures
The measures of port aesthetics from the perception of tourists have been adopted from previous research studies (Chon, 2004; Satta et al., 2014; Okech, 2011; Mora, 2012; Bernick and Boo, 2013; Kirillova et al., 2014; Whybrow, 2015; Björk and Kauppinen-Raisänen, 2016). In total, 17 attributes of port aesthetics were selected for examining customers’ satisfaction and loyalty. Respondents were asked to demonstrate the critical factors affecting port aesthetics based on a mark ranging from 1 = strongly disagree to 5 = strongly agree on each item. Measures of tourists’ satisfaction are drawn from previous research studies by Baker and Crompton (2000), Lee et al. (2011), Matias et al. (2013) and Martín-Santana et al. (2017). The measures of tourist loyalty have been adopted from the studies of Zhang et al. (2014) and Shoemaker and Lewis (1999).

3.2 Sample
We conducted a convenience sampling because the respondents were occasionally encountered by the interviewers. Respondents were approached within Star Ferry Pier located in Tsim Sha Tsui in Hong Kong. The data collection was accomplished between 14th January 2017 and 5th February 2017. A total of 247 questionnaires were successfully collected.

Table I shows a profile of the questionnaire respondents. There were 52.6 per cent of them were women and 47.4 per cent were men. When asking the frequency of travelling to

| Demographics                        | No. of respondents | (%) |
|-------------------------------------|--------------------|-----|
| **Gender**                          |                    |     |
| Male                                | 130                | 52.6|
| Female                              | 117                | 47.4|
| **Frequency of visiting Star Ferry Port** |                |     |
| Once                                | 95                 | 38.5|
| Twice                               | 65                 | 26.3|
| Three times                         | 49                 | 19.8|
| Four times and more                 | 38                 | 15.4|
| **Age**                             |                    |     |
| 18 years or less                    | 37                 | 15.0|
| 19-30 years                         | 104                | 42.1|
| 31-40 years                         | 53                 | 21.5|
| 41 years or more                    | 53                 | 21.5|
| **Education**                       |                    |     |
| Secondary or elementary education   | 73                 | 29.6|
| Tertiary education                  | 76                 | 30.8|
| Undergraduate education             | 67                 | 27.1|
| Postgraduate education              | 31                 | 12.6|
| **Income (HK$)**                    |                    |     |
| Less than $5,000                    | 74                 | 30.0|
| $5,001-$10,000                      | 34                 | 13.8|
| $10,001-$20,000                     | 46                 | 18.6|
| $20,001-$30,000                     | 64                 | 25.9|
| Greater than $30,000                | 29                 | 11.7|

Table I
Star Ferry Pier, almost of all them (87.9 per cent) said five-time or less, and only 12.1 per cent stated six times and over. As about their ages, 37 per cent of respondents were 18 years or less years of age, 42.1 per cent were between 18 and 30, and 21.5 per cent were 31 and 40 years of age, and 21.5 per cent were 41 years old or more. Only 12.6 per cent have received postgraduate education, in contrast to 29.6, 30.8 and 27.1 per cent who have received secondary or elementary education, tertiary education and undergraduate education, respectively. In total, 30 per cent of respondents stated that their monthly income is HK $5,000 or less, 13.8 per cent are between HK$5,001-HK$10,000, 18.6 per cent are between HK$10,001-HK$20,000, 25.9 per cent are between HK$20,001-HK$30,000 and 11.7 per cent are greater than HK$30,000. As regards to the occupation, nearly a third (31.2 per cent) of respondents work in the service sector, 23.9 per cent are in business sector and 18.2 per cent are in the manufacturing sector. Students and respondents working in other sectors are accounted for 13.4 per cent, respectively. When asking the nationality of respondents, most of them (38.5 per cent) are come from China, 19, 14.2, 14.6 and 13.8 per cent are come from Asia (excluding China), Europe, the USA and others, respectively.

4. Results of empirical analyses

4.1 Agreement level with port aesthetics, destination image, tourist satisfaction and loyalty

In the questionnaire survey, respondents were required to express their views on port aesthetics, destination image, tourist loyalty and tourist satisfaction relating to Hong Kong port. A five-point Likert scale ranging from strongly disagree to strongly agree (1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; and 5 = strongly agree) was used to measures the items. Based on the survey results, respondents’ agreement level with the 17 attributes of aesthetics judgment mostly ranged from neutral to agree. Their mean scores were between 3.55 and 3.93. In Table II below, the five items that respondents rated as most important in aesthetics judgment include:

1. decorations and night scenery of the city can be enjoyed throughout the opposite shore of the port;
2. the port has an endless field of vision;
3. the environment of the harbors are spacious;
4. there are recreational areas next to the harbors (e.g. Tsim Sha Tsui Promenade); and
5. festive activities are held nearby the harbor.

Conversely, five attributes that have been distinguished as least important toward aesthetics in accordance with respondents’ agreement:

1. there are social media check-in places or photo shooting area in the harbors;
2. there are classic local snacks nearby the harbors;
3. the hotels surrounding the harbors are stylish;
4. there are coffee shop and tea house nearby the harbors; and
5. there are street artists performing around the port.

For destination image, tourist satisfaction and behavioral intention, the attributes that respondents most agreed are “overall, I am impressed by the Hong Kong recreational harbors” (mean = 3.84), “I felt enjoyed and satisfied after visiting the Hong Kong recreational harbors” (mean = 3.9) and “I would like to revisit Hong Kong recreational harbors in the future” (mean = 3.81), respectively.
4.2 Factor analysis results

Through an exploratory factor analysis using principal component analysis, the 17 aesthetics judgment attributes are categorized into several sets of underlying factors, which show the pattern of relationships among them. With a Kaiser–Meyer–Olkin measure of sampling adequacy of 0.825, the data should be considered as meritorious for factor analysis (Hair et al., 2010). The Bartlett’s test of sphericity shows an outstanding result, with $\chi^2 = 1,229.014$ and $p < 0.001$. This proves there are correlations between some of the variables. In Table III, the results indicate that the cumulative variance explained is 62.02 per cent.

A detailed description of the five factors are shown as follows:

1. **Factor 1**, leisure and cultural dimension, consisting of four attributes. The item of “there are coffee shop and tea house nearby the harbors” has the highest factor loading. This factor contributes 29.345 per cent of the total variance. This dimension has been discussed in previous studies (Björk and Kauppinen-Räisänen, 2016; Satta et al., 2014).

| Measures | Mean | SD |
|----------|------|----|
| Port aesthetics | | |
| The decorations and night scenery at the harbor (e.g. a symphony of lights) | 3.93 | 0.66 |
| An endless field of vision at the harbor | 3.90 | 0.74 |
| A spacious environment at the harbor | 3.83 | 0.71 |
| Festive activities are held near the harbor | 3.77 | 0.64 |
| Historic buildings in the harbor area | 3.71 | 0.75 |
| Shopping districts near the harbor | 3.70 | 0.75 |
| No disturbing noise within the harbor area | 3.70 | 0.82 |
| Recreational areas next to the harbors (e.g. Tsim Sha Tsui Promenade) | 3.74 | 0.72 |
| Relaxing and literary space within the harbor area | 3.70 | 0.75 |
| Recreational facilities near the harbors (e.g. Hong Kong Cultural Center) | 3.69 | 0.67 |
| Street artists performing around the harbor | 3.66 | 0.76 |
| Coffee shops and tea houses near the harbor | 3.64 | 0.77 |
| Hydrophilic trails near the harbor (e.g. avenue of stars) | 3.61 | 0.74 |
| Festive activities are held near the harbor | 3.61 | 0.74 |
| Social media check-in places or photoshoot areas in the harbor | 3.57 | 0.80 |

| Destination image | | |
| Overall, I am impressed by the Hong Kong recreational harbors (D5) | 3.84 | 0.67 |
| Hong Kong recreational harbors have sightseeing value and high attractiveness (D4) | 3.82 | 0.70 |
| I think that the port has well-developed facilities (D1) | 3.80 | 0.54 |
| I think the surrounding environment of the port is glamorous (D2) | 3.79 | 0.65 |
| Through the travel experience to the Hong Kong recreational harbors, my impression of Hong Kong has been reinforced (D3) | 3.77 | 0.71 |

| Tourist satisfaction | | |
| I felt joy and satisfaction after visiting the Hong Kong recreational harbors (S1) | 3.90 | 0.60 |
| The travel experience to the Hong Kong recreational harbors has fulfilled my expectation (S2) | 3.81 | 0.61 |
| I think that visiting the Hong Kong recreational harbors was a wise choice (S3) | 3.75 | 0.68 |
| Overall, the trip to the Hong Kong recreational harbors was well worth my time and money (S4) | 3.70 | 0.69 |

| Tourist Loyalty | | |
| I would like to revisit Hong Kong recreational harbors in the future (L1) | 3.81 | 0.67 |
| I am willing to recommend Hong Kong recreational harbors to family and friends (L2) | 3.79 | 0.67 |
| Even if the time and cost required for visiting the Hong Kong recreational harbors are higher than for other places, I still prefer to visit Hong Kong (L3) | 3.55 | 0.76 |
(2) **Factor 2**, design and cognition dimension, consisting of five attributes. The item of “the port has an endless field of vision” has the highest factor loading. This factor accounts for 9.901 per cent of the total variance, which is far less than Factor 1. This factor has been highlighted in previous studies (Kirillova *et al.*, 2014).

(3) **Factor 3**, atmosphere dimension, consisting of four attributes. The item of “festive activities are held nearby the harbor” has the highest factor loading. This factor accounts for 8.710 per cent of the total variance. This dimension has been identified in previous studies (Bernick and Boo, 2013; Okech, 2011; Whybrow, 2015; Kirillova *et al.*, 2014).

(4) **Factor 4**, recreational facilities dimension, consisting of three attributes. The item of “there are recreational areas next to the harbors (e.g. Tsim Sha Tsui Promenade)” has the highest factor loading. This factor contributes 7.897 per cent of the total variance. This dimension has been clarified in previous studies (Chon, 2004; Whybrow, 2015).

(5) **Factor 5**, memories dimension, consisting of one attribute: there are social media check-in places or photo shooting area in the harbors. This factor accounts for 6.171 per cent of the total variance. This dimension has been mentioned in the study of Mora (2012).
4.3 Structural equation model analysis results

Confirmatory factor analysis (CFA) is used to estimate hypothesized models of different factor structure, which account for covariance of observed variables through analysis a suit of hidden variables factors. Figure 1 indicates a measurement model, which consists of four latent variables factor with each relevant multiple indicators. According to the analysis of AMOS, four hidden variables factors, which are port aesthetics, destination design, tourist satisfaction and tourist loyalty are analyzed in this study. For instance, port aesthetics has five observed variables (A1-A5); destination design has five observed variables (D1-D5), tourist satisfaction has four observed variables (S1-S4) and tourist loyalty has three observed variables (I1-I3).

**Notes:** $\chi^2 = 199.178$, df = 113, $\chi^2$/df = 1.763; CFI = 0.950; NFI = 0.893; GFI = 0.909; AGFI = 0.877; RMR = 0.02; RMSEA = 0.056
This research used the AMOS program to assess the fit and unidimensional model. Table IV shows that the value of the chi-square/degree of freedom ($\chi^2 = 199.178$, df = 113) was 1.763 at 113 degrees of freedom, and the $p$-value was statistically significant below the level of 0.05. The results were not surprising because the chi-square value is sensitive to sample size (Koufteros, 1999; Shah and Goldstein, 2006). This result shows some support for believing that differences in the predicted and actual matrices are nonsignificant, indicative of acceptable fit. Moreover, the goodness-of-fit index (GFI) and the adjusted goodness-of-fit (AGFI) were 0.909, fit of the recommended level of 0.09; thus, marginal acceptance can be given to this measurement. The Tucker–Lewis index (TLI) was 0.941 and the comparative fit index (CFI) was 0.950, which exceeded the recommended level of 0.9, further supporting acceptance of the model. Table IV also shows the root mean square residual (RMSR) indicates that the average residual correlation was 0.05, deemed acceptable given the rather high correlations in the original correlation matrix. The root-mean-square error of approximation (RMSEA) was 0.056. This falls well within the recommended range for conditional support to be given for model parsimony.

Table V presents means, standard deviation, correlation, squared correlations, composite reliability and average variance extracted (AVE) among the variables. Port aesthetics was positively correlated to tourist satisfaction, destination image and tourist loyalty. The square root of AVE value is a complementary measure for the construct reliability (Koufteros, 1999). When the indicators are truly representative of the latent construct, variance extracted values are high. All the square root of AVE value was greater than 0.58, indicating that at least 58 per cent of the variance in the specified indicators was accounted for by the latent construct and greater than the recommended level of 50 per cent (Fornell and Larcker, 1981). All items correlated most strongly with their intended construct/
dimension, and the square root of the AVE for the constructs was larger than any respective inter-construct correlations. These results provide evidence of discriminant validity. In addition, the composite reliability of the constructs of port aesthetics, tourist satisfaction, destination image and tourist loyalty scales were 0.717, 0.813, 0.840 and 0.821, respectively. All constructs exceeded the recommended level of 0.60 (Bagozzi and Yi, 1988; Hair et al., 2010; Sanchez-Rodriguez et al., 2005).

A complementary measure to composite reliability is the average variance extracted and these statistics measure the amount of variance in the specified indicators accounted for by the latent construct. Higher variance extracted values occur when the indicators are truly representative of the latent construct. Typically, recommendations suggest that the variance extracted value should exceed 0.50 for a construct (Fornell and Larcker, 1981; Bagozzi and Yi, 1988; Hair et al., 2010).

A structural equation model (SEM) approach was conducted after CFA enhanced the proposed model. SEM analysis aims to indicate the inter-relationships between every pair of hypothesized constructs that we developed at the beginning of the study. Chi-square per degrees of freedom, GFI, AGFI, CFI, RMR and RMSEA were used to determine the fit of the model to the data. In Figure 2, the model was acceptable ($\chi^2 = 202.456$, degree of freedom = 116, CFI = 0.950, NFI = 0.893, GFI = 0.909, AGFI = 0.877, RMR = 0.020 and RMSEA = 0.056). These figures provide validity for the model because the value of figures are beyond acceptable standards statistically (Hair et al., 2010). The results show that only three of the proposed hypotheses regarding port aesthetics positively related to the destination image, destination image positively related to tourist satisfaction and tourist satisfaction positively related to tourist loyalty were supported.

Table VI shows the summary of SEM results. A positive significant relationship was found between port aesthetics and destination image ($\beta = 0.69, p < 0.01$). Thus, H1 was supported. This finding suggests that the enhancement of recreational facilities, hydrophilic trails and artistic design at the port, will increase foster the tourist’s image of the destination. The results also indicate that a statistical significance of a positive relationship between destination image and tourist satisfaction ($\beta = 0.93, p < 0.01$). Thus, H4 was also supported in this study. The findings are consistent with previous studies (Chen and Tsai, 2007; Chi and Qu, 2008; Vogt et al., 2008). Specifically, the impact of tourist satisfaction on tourist loyalty was significant ($\beta = 0.72, p < 0.01$). Thus, H5 was supported.

In Table VI, the critical ratio (CR) refers to $t$-values and $t$-values greater than 1.96 or lower than –1.96 indicate a level of significance of 0.05. It implies that larger $t$-values represents stronger proof and validity for the relationships between latent variables (Bollen, 1989; Koufteros, 1999). Therefore, H4 had the strongest evidence for its reliability, as H4 obtained

| Constructs | Mean | SD | Construct reliability | 1 | 2 | 3 | 4 |
|------------|------|----|----------------------|---|---|---|---|
| 1. Port aesthetics | 3.67 | 0.39 | 0.717 | 0.584 | 0.564 | 0.429 | 0.411 |
| 2. Destination image | 3.80 | 0.49 | 0.813 | 0.564 | 0.715 | 0.754 | 0.589 |
| 3. Tourist satisfaction | 3.79 | 0.54 | 0.840 | 0.429 | 0.715 | 0.754 | 0.660 |
| 4. Tourist loyalty | 3.71 | 0.60 | 0.821 | 0.411 | 0.715 | 0.754 | 0.778 |

Notes: **Correlation is significant at the 0.01 level; aThe mean scores of tourist loyalty, tourist satisfaction, destination image and port aesthetics; bSD = standard deviation; cInternal consistency of the reflective constructs; dThe square root of the AVE value between the constructs is provided in bold type eSquared correlation
the largest t-values (CR = 6.282) among all six hypotheses. This followed by H1 with the second-highest t-values obtained (CR = 5.286). Also, t-values for H5 (CR = 3.906) showed evidence for tourist satisfaction affecting tourist loyalty. However, Table VI shows non-significant results when testing port aesthetics positively related to tourist satisfaction, destination image positively related to tourist loyalty and port aesthetics positively related to tourist loyalty. Therefore, H2, H3 and H6 were not supported in this study. Nevertheless, this study found that the impact of port aesthetics on tourist loyalty could be through by destination image and tourist satisfaction.

5. Conclusions and implications
This research attempted to explore the relationships between port aesthetics, destination image, tourist satisfaction and tourist loyalty in the case of Hong Kong. Following recent
developments in destination aesthetics studies (Kaplan, 1985; Kirillova et al., 2014), port aesthetics in this study was conceptualized as a five-dimensional construct, comprising of leisure and culture, design and cognition, atmosphere, recreational facility and memory. This study developed and validated a measurement instrument of perceived port aesthetics. Consistent with expectations, we found positive relationships between port aesthetics and destination image ($H1$), destination image and tourist satisfaction ($H4$) and tourist satisfaction and tourist loyalty ($H5$). Specifically, this study found the impact of port aesthetics on tourist loyalty was mediated by destination image and tourist satisfaction. However, this research did not support the relationships between port aesthetics and satisfaction, destination image and tourist loyalty and port aesthetics and tourist loyalty.

5.1 Managerial implications

Destination tourism is facing fiercely competitions and the challenges are getting higher in the years to come. Therefore, it is essential to understand why tourists are satisfactory to a destination and what drives the loyalty from a destination aesthetics perspective. The major findings of this research have several managerial implications for tourism policymakers and destination marketers.

First, the exploratory and confirmatory factor analyses revealed that 17 port aesthetics measures derived from the literature review were constructed to five underlying dimensions, namely, leisure and culture, design and cognition, atmosphere, recreational facility and memory. These results could help port tourism marketers better acknowledge the dimensions contributing to destination image, tourist satisfaction and loyalty so that they are able to provide appropriate investment and services that meet tourists’ expectation and needs. Hence, this study suggest that port tourism marketer and managers consider the practical implications of these crucial dimensions, which could be important factors in increasing tourists’ destination image, satisfaction and loyalty.

Third, the SEM results showed that port aesthetics positively influenced destination image and indirectly influenced tourist loyalty via destination image and tourist satisfaction. This reflects that aesthetics is an important driving factor in fostering destination tourism (Kirillova and Lehto, 2015). The findings provide a variety of implications for destination marketers and managers. Because the dimensions of port aesthetics is critical in providing tourist pleasure and delivering an enjoyable travel experience, a destination marketer should strive to create a sense of surrounding into the destination environment to facilitate tourists to experience the destination in its plenteous scene and view. While some ports already have a number of specific features in their destinations (e.g. the Oriental Pearl Tower in Shanghai, China or the Gardens by the Bay in Singapore), others may lack the features easily identifiable with the local attributes, and, in this case, such attributes should be emphasized. A destination marketers or managers could consider building an exclusively historic building or monument with which it could be uniquely associated. In addition to rich of unique features, tourists tend to view the destination aesthetics as complex bundles of features that satisfy their needs. In addition, destination marketers or managers should ensure that these features are impressive and diverse enough to enhance tourists’ image and sustain their satisfactions during a trip.

Fourth, this study also found that destination image was one of important variables in the hands of destination markers. Destination image is a direct antecedent of tourist satisfaction and indirectly influenced tourist loyalty via tourist satisfaction. Therefore, port tourism marketers should strive to improve the tourist’s image of destination. While destination image significantly influenced tourists’ satisfaction with their travel
experiences, this study suggests that port marketers could participate in several marketing activities such as advertising and promoting in tourism exhibition, organizing a cultural and music event, advocating higher service quality through stakeholders include travel agencies, cruise companies, airlines, hotels, restaurants, news, publication, magazine, etc.

Finally, this study found that tourist satisfaction played a key factor in fostering tourist loyalty. If tourists are satisfied with their travel experiences, they will be more likely to revisit a destination. This research provided empirical evidence supporting this hypothesis: tourist satisfaction was found to positively influence tourist loyalty. Higher degree of tourist satisfaction will lead to higher tourist loyalty, which increases tourists to visit Hong Kong again and recommend the destination to their family members and friends. Therefore, destination markers should devote to foster a high level of tourist satisfaction via destination image so as to increase tourists’ revisit behaviors and the development of port tourism market.

5.2 Limitations and future research
Despite this study contributes to the importance of aesthetics in destination tourism, however, several limitations are provided for the future research. First, having focused on the relationships between port aesthetics, destination image, tourist satisfaction and tourist loyalty, this study neither considered tourists’ perceived values (Chen and Tsai, 2007; Zeithaml, 1987) and motivations (Kirillova and Lehto, 2015) beyond a travel purpose nor accounted for a specific type of trips undertaken by respondents. Because a particular type of travel experiences (e.g. cultural tourism) would reflect greater attention to destination aesthetics than others, this factor could be a crucial information of variation in responses. Tourists’ motivations and perceived values could be considered in the future research to explain tourist behavior.

Second, this research did not evidence the direct effects of port aesthetics on tourist satisfaction and loyalty, as well as the relationship between destination image and tourist loyalty. The subjective nature of aesthetic judgment at port could be differed from other destination aesthetics. Future research studies could adopt the proposed model from this study to examine the influence of destination aesthetics on tourist loyalty in national parks, cuisine, museum, hotel or restaurant.

Third, the research scope of the study was limited to the port aesthetics in Hong Kong, that is, respondents were focused on Star Ferry Pier located in Tsim Sha Tsui in Hong Kong. A similar study could be conducted in Singapore and Shanghai to justify the dimensions of port aesthetics. Fourth, another worthwhile direction for future research could apply the crucial dimensions of destination aesthetics identified in this study to other sectors, such as airport, national park, traditional railroad station, museum and so on. Despite its constraints, the study was confirmatory to identify port aesthetics measures and dimensions. It also provides the fundamental for future study in other sector fields and other countries.

Fifth, the investigation used in this research was static, i.e. the survey of respondents’ perceptions was conducted at one point in time. Longitudinal research could be considered to examine how the change of tourists’ perceptions of destination aesthetics, image, satisfaction and loyalty over time. Finally, methodologically, a structural equation modeling analysis and confirmatory factor study were adequate to identify the relationships between variables and crucial dimensions of destination aesthetics. Possibly, other methods to assess the aesthetics, such as hieratical regression analysis to examine the mediating and moderating effects of other factors could helpfully provide some features to explain tourist behavior.
References
Alegre, J. and Garau, J. (2010), “Tourist satisfaction and dissatisfaction”, Annals of Tourism Research, Vol. 37 No. 1, pp. 52-73.
Anderson, E.W. and Sullivan, M.W. (1993), “The antecedents and consequences of customer satisfaction for firms”, Marketing Science, Vol. 12 No. 2, pp. 125-143.
Backman, S.J. and Crompton, J.L. (1991), “The usefulness of selected variables for predicting activity loyalty”, Leisure Sciences, Vol. 13 No. 3, pp. 205-220.
Bagozzi, R.P. and Yi, Y. (1988), “On the evaluation of structural equation models”, Journal of the Academy of Marketing Science, Vol. 16 No. 1, pp. 74-94.
Baker, D.A. and Crompton, J.L. (2000), “Quality, satisfaction and behavioral intentions”, Annals of Tourism Research, Vol. 27 No. 3, pp. 785-804.
Baloglu, S. and McCleary, K.W. (1999), “A model of destination image formation”, Annals of Tourism Research, Vol. 26 No. 4, pp. 868-897.
Bernick, L.N. and Boo, S. (2013), “Festival tourism and the entertainment age: interdisciplinary thought on an international travel phenomenon”, International Journal of Culture, Tourism and Hospitality Research, Vol. 7, pp. 169-174.
Björk, P. and Kauppinen-Räisänen, H. (2016), “Local food: a source for destination attraction”, International Journal of Contemporary Hospitality Management, Vol. 28 No. 1, pp. 177-194.
Bloch, P. (1995), “Seeking the ideal form: product design and consumer choice”, Journal of Marketing, Vol. 59 No. 3, pp. 19-29.
Bollen, K.A. (1989), Structural Equations with Latent Variables, Wiley, New York, NY.
Bolton, R.N. and Drew, J.H. (1991), “A multistage model of customers’ assessments of service quality and value”, Journal of Consumer Research, Vol. 17 No. 4, pp. 375-384.
Carlson, A. and Lintott, S. (2008), Nature, Aesthetics, and Environmentalism, Columbia University Press, New York, NY.
Chen, C.F. and Tsai, D. (2007), “How destination image and evaluative factors affect behavioral intentions”, Tourism Management, Vol. 28 No. 4, pp. 1115-1122.
Chi, G.Q. and Qu, H. (2008), “Examining the structural relationships of destination image, tourist satisfaction and destination loyalty: an integrated approach”, Tourism Management, Vol. 29 No. 4, pp. 624-636.
Chon, J.H. (2004), “Aesthetics responses to urban greenway trail corridors: implications for sustainable development in tourism and recreation setting”, Doctoral Dissertation, A&M University, TX.
Chon, K.S. (1990), “The role of destination image in tourism: a review and discussion”, The Tourist Review, Vol. 45 No. 2, pp. 29.
Court, B.C. and Lupton, R.A. (1997), “Customer portfolio development: modeling destination adopters, inactives, and rejecters”, Journal of Travel Research, Vol. 36 No. 1, pp. 35-43.
Daniel, T. (2001), “Whither scenic beauty? Visual landscape quality assessment in the 21st century”, Landscape and Urban Planning, Vol. 54 Nos 1/4, pp. 267-281.
Fornell, C. and Larcker, D.F. (1981), “Evaluating structural equation models with unobservable variables and measurement error”, Journal of Marketing Research, Vol. 18 No. 1, pp. 39-50.
Govers, R. and Go, F. (2003), “Deconstructing destination image in the information age”, Information Technology and Tourism, Vol. 6 No. 1, pp. 13-29.
Hair, J.F., Jr, Black, W.C., Babin, B.J. and Anderson, R.E. (2010), Multivariate Data Analysis: A Global Perspective, 7th ed., Pearson Education, Upper Saddle River.
Hepburn, R. (1966), “Contemporary aesthetics and the neglect of natural beauty”, in British (Ed.), Analytical Philosophy, Routledge and Kegan Paul, London, pp. 285-310.
Hong Kong Tourism Board (2016), “Hong Kong: the facts – tourism”, available at: www.gov.hk/en/about/abouthk/factsheets/docs/tourism.pdf

Hong Kong Tourism Board (2018), “Monthly Report – Visitor Arrivals Statistics: Dec 2017”, available at: www.discoverhongkong.com/common/images/about-hktb/pdf/tourism_stat_12_2017.pdf

Kaplan, R. (1985), “The analysis of perception via preference: a strategy for studying how the environment is experienced”, Landscape Planning, Vol. 12 No. 2, pp. 161-176.

Kaplan, R., Kaplan, S. and Brown, T. (1989), “Environmental preference: a comparison of four domains of predictors”, Environment and Behavior, Vol. 21 No. 5, pp. 509-530.

Kirillova, K. and Lehto, X. (2015), “Destination aesthetics and aesthetic distance in tourism experience”, Journal of Travel and Tourism Marketing, Vol. 32 No. 8, pp. 1051-1068.

Kirillova, K., Fu, X., Lehto, X. and Cai, L. (2014), “What makes a destination beautiful? Dimensions of tourist aesthetic judgment”, Tourism Management, Vol. 42, pp. 282-293.

Koufteros, X.A. (1999), “Testing a model of pull production: a paradigm for manufacturing research using structural equation modeling”, Journal of Operations Management, Vol. 17 No. 4, pp. 467-488.

LaBarbera, P.A. and Mazursky, D. (1983), “A longitudinal assessment of consumer satisfaction/dissatisfaction: the dynamic aspect of the cognitive process”, Journal of Marketing Research, Vol. 20 No. 4, pp. 393-404.

Lavie, T. and Tractinsky, N. (2004), “Assessing dimensions of perceived visual aesthetics of web sites”, International Journal of Human-Computer Studies, Vol. 60 No. 3, pp. 269-298.

Lee, S., Jeon, S. and Kim, D. (2011), “The impact of tour quality and tourist satisfaction on tourist loyalty: the case of Chinese tourists in Korea”, Tourism Management, Vol. 32 No. 5, pp. 1115-1124.

Lopes, S.D.F. (2011), “Destination image: origins, developments and implications”, Pasos. Revista de Turismo y Patrimonio Cultural, Vol. 9 No. 2, pp. 305-315.

Maitland, R. and Smith, A. (2009), “Tourism and the aesthetics of the built environment”, in Tribe, J. (Ed.), Philosophical Issues in Tourism, Channel View Publishing, Bristol, UK, pp. 171-190.

Martin-Santana, J.D., Beerli-Palacio, A. and Nazzareno, P. (2017), “Antecedents and consequences of destination image gap”, Annals of Tourism Research, Vol. 62, pp. 13-25.

Matias, A., Nijkamp, P. and Sarmento, M. (2013), Quantitative Methods in Tourism Economics, Physica-Verlag, Heidelberg.

Mora, J. (2012), “The analysis of interactive media and digital culture”, Hypermedia Literacy in Peru and Bolivia, Comunicar, Vol. 20 No. 39, pp. 139-149.

Okech, R.N. (2011), “Promoting sustainable festival events tourism: a case study of Lamu Kenya”, Worldwide Hospitality and Tourism Themes, Vol. 3 No. 3, pp. 193-202.

Oliver, R.L. (1993), “Cognitive, affective, and attribute bases of the satisfaction response”, Journal of Consumer Research, Vol. 20 No. 3, pp. 418-430.

Petrick, J.F., Morais, D. and Norman, W. (2001), “An examination of the determinants of entertainment vacationers’ intentions to revisit”, Journal of Travel Research, Vol. 40 No. 1, pp. 41-48.

Rajesh, R. (2013), “Impact of tourist perceptions, destination image and tourist satisfaction on destination loyalty: a conceptual model”, Pasos. Revista de Turismo y Patrimonio Cultural, Vol. 11 No. 3, pp. 67-78. No

Reichheld, F. and Sasser, W. (1990), “Zero defections: quality comes to services”, Harvard Business Review, Vol. 68, pp. 105-111.

Royce, J. (1995), The Philosophy of Loyalty, Vanderbilt University Press, London.

Sanchez-Rodriguez, C., Hemsworth, D. and Martinez-Lorente, A.R. (2005), “The effect of supplier development initiatives on purchasing performance: a structural model”, Supply Chain Management: An International Journal, Vol. 10 No. 4, pp. 289-301.
Santayana, G. (1904), “What is aesthetics?”, The Philosophical Review, Vol. 13 No. 3, pp. 320-327.
Satta, G., Parola, F., Penco, L. and Persico, L. (2014), “Word of mouth and satisfaction in cruise port destinations”, Tourism Geographies, Vol. 17 No. 1, pp. 54-75.
Shah, R. and Goldstein, S.M. (2006), “Use of structural equation modeling in operations management research: looking back and forward”, Journal of Operations Management, Vol. 24 No. 2, pp. 148-169.
Shoemaker, S. and Lewis, R.C. (1999), “Customer loyalty: the future of hospitality marketing”, International Journal of Hospitality Management, Vol. 18 No. 4, pp. 345-370.
Spreng, R., MacKenzie, S. and Olshavsky, R. (1996), “A re-examination of the determinants of consumer satisfaction”, Journal of Marketing, Vol. 60 No. 3, pp. 15-32.
Tan, W.K. and Kuo, C.Y. (2013), “The effect of aesthetics-image value of travel expert blogs on the intention to travel: an exploratory study”, Current Issues in Tourism, Vol. 17 No. 8, pp. 657-665.
Tasci, A.D.A. (2007), “Assessment of factors influencing destination image using a multiple regression model”, Tourism Review, Vol. 62 No. 2, pp. 23-30.
Vogt, C.A., Fesenmaier, D.R. and MacKay, K. (2008), “Functional and aesthetics information needs underlying the pleasure travel experience”, Journal of Travel and Tourism Marketing, Vol. 2 Nos 2/3, pp. 133-146.
Volo, S. (2009), “Conceptualizing experience: a tourist-based approach”, Journal of Hospitality Marketing and Management, Vol. 18 Nos 2/3, pp. 111-126.
Whybrow, N. (2015), “The city of the eye: urban aesthetics and surveillance in the city of Venice”, New Theatre Quarterly, Vol. 31 No. 2, pp. 164-178.
Yoon, Y. and Uysal, M. (2005), “An examination of the effects of motivation and satisfaction on destination loyalty: a structural model”, Tourism Management, Vol. 26 No. 1, pp. 45-56.
Zeithaml, V.A. (1987), “Defining and relating price, perceived quality, and perceived value”, Working Paper No. 87-101, Marketing Science Institute, Cambridge, MA, p. 2138.
Zhang, H., Fu, X., Cai, L.A. and Lu, L. (2014), “Destination image and tourist loyalty: a meta-analysis”, Tourism Management, Vol. 40, pp. 213-223.

Further reading
Chou, J.S. and Kim, C. (2009), “A structural equation analysis of the QSL relationship with passenger riding experience on high speed rail: an empirical study of Taiwan and Korea”, Expert Systems with Applications, Vol. 36 No. 3, pp. 6945-6955.
Chou, P.F., Lu, C.S. and Chang, Y.H. (2014), “Effects of service quality and customer satisfaction on customer loyalty in high-speed rail services in Taiwan”, Transportmetrica A: Transport Science, Vol. 10 No. 10, pp. 917-945.
Koufteros, X.A., Vonderembse, M. and Doll, W. (2001), “Concurrent engineering and its consequences”, Journal of Operations Management, Vol. 19 No. 1, pp. 97-115.
MacKay, K.J. and Couldwell, C.M. (2004), “Using visitor-employed photography to investigate destination image”, Journal of Travel Research, Vol. 42 No. 4, pp. 390-396.
Oliver, R.L. (1999), “Whence consumer loyalty?”, Journal of Marketing, Vol. 63 No. 4_suppl, pp. 33-44.

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