



## Discussion paper

## Valuing shipscape influence to maximise cruise experience using a choice experiment

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## ARTICLE INFO

## Keywords:

Cruise  
Choice experiment  
Marginal willingness to pay

## ABSTRACT

While many studies have identified the important aspects on the ship to cruisers, none has evaluated these attributes to determine cruisers' willingness to pay for each attribute. This paper is the first to use a choice experiment to unbundle the overarching cruise price to explore the preferences of cruisers. The absence of a status quo effect suggests that cruise passengers are novelty lovers who welcome innovative offerings apart from those who cruise specifically to "get away". Overall, males, Gen X-ers and first timers were willing to pay the most for a cabin with a view while the desire to be pampered influenced preferences for cabin comfort and shore excursion choice. Concern over value for money explained whether a respondent would be more prone to choosing the new options presented instead of remaining with the status quo.

## 1. Introduction

Cruising has grown phenomenally from 1.4 million cruisers in 1980–15 million in 2006 and in 2016, it is expected to hit 24 million (CLIA, 2015). Although the cruise industry has registered strong growth and is a significant part of the tourism industry (Wang et al., 2014), the boom in this industry has been susceptible to global economic events and financial crisis (Vogel et al., 2012); and with global tourism exposed to an arena of fierce competition, the cruising industry is no exception. In an era of economic volatility, it is imperative for any organization or industry to remain competitive by understanding consumer needs and wants, and having an appropriate strategy to capture the market. Another reason for the interest in the cruise industry is that cruise tourism is understudied (Chen et al., 2016; Mahadevan, 2016).

The cruise industry is similar to other tourism products in that price remains the priority for mainstream cruisers, with 62% of customers in the United Kingdom naming price as their top reason for choosing their last cruise in 2012 (PSA, 2013). After cruise destination, price was the second most important factor influencing the North American cruise market in 2005 and 2012 (CLIA, 2006, 2013). While price of the cruise trip as a whole is important, this paper goes a step further to identify how cruisers value selected aspects of cruising and how much they were willing to pay for each of these aspects. To date, no customer valuation on the cruise industry has been undertaken to explicitly compare features of the ship and services offered onboard, and monetize the preferences for these dimensions. This information on how much more a

passenger is willing to pay for an attribute on the ship compared to another attribute (rather than a single cruise price) is crucial for marketers; it allows the latter to improve their competitiveness by incorporating those preferred attributes to enhance their offering.

Studies such as Weaver (2005), Garin (2005), Ward (2005), Quatemaine and Peter (2003), and Cartwright and Baird (1999) have highlighted specific features that cruisers would prefer to have on the ship. More recently, drawing on the Attribute Knowledge Theory (see Hutchinson and Eisenstein, 2008), Chen et al. (2016) examined Asian cruisers at the ports of Taiwan while Xie et al. (2012) focused on the North American market. Both studies identified a range of attributes that influence cruisers and explained how important each attribute was in tourists' decision-making. Chua et al. (2016) undertakes a similar examination also on the North American market using the importance-performance analysis technique. This study, however, adopts a choice experiment (CE) approach. The key advantage of a CE is that respondents are asked to make tradeoffs between different cruise attributes, and this more closely reflects how purchase decisions are made by consumers. In addition, compared to the importance-performance analysis approach, including a price factor as an attribute in a package allows the computation of the economic values of the other attributes. A third benefit of CEs is that the results can be used to develop market simulation models. For instance, new product or changes to existing products can be incorporated into the simulation model to obtain predictions of how buyers will respond to the changes without the need for a new survey. Market segmentation can also be conducted using the

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conjoint utilities. Finally, valuation calculated for individuals or groups of individuals or those based on various attribute levels can be used for cluster analysis.

Another way of identifying specific aspects of cruising to consider for valuation is to draw on the concept of ‘shipscape’. Kwortnik (2008) explains that shipscape is a type of servicescape that includes both the man-made physical and social environment in which the cruise service is delivered (the ship) as well as the natural environment (the ocean) that provides a broader experiential context. For example, the use of shipscape elements such as art collections, architectural design or casinos inside the ship, focus passengers’ attention inwards while balconied cabins or public spaces such as deck space for passengers to enjoy the sky and sea motion provide the feeling of being at sea, directing attention outwards from the ship to the sea. Regardless of whether attention is directed towards or away from the ship, a well-designed shipscape is crucial to establish the context in which the cruise experience is delivered (Bitner, 1992; Pullman and Gross, 2004).

Using the experiential environment of a cruise ship, Kwortnik (2008) explored a variety of stimuli in relation to shipscape and consumer responses unique to leisure cruising but his study admits its inability to infer the relationship between the stimuli and consumer responses. This was identified as a key area for future research, a gap that this paper fills by using CE to estimate consumers’ valuation in terms of their willingness to pay (WTP) for various stimuli on the ship.

The CE method is widely accepted and used in the tourism literature (see Castellani et al., 2015; Oppewal et al., 2015; Crouch et al., 2007) but this is the first attempt to use this method in the cruise industry. In addition to establishing the marginal willingness to pay for the different cruise attributes, the valuation exercise in this paper is repeated for various market segments. This is useful for cruise companies as the results can provide the basis for adopting a targeted marketing approach based on gender, first-time and repeat cruisers (given the finding of Mahadevan, 2016), as well as generational cohorts (see Elliot and Choi, 2011) since differences exist for these groups in the cruising industry. Our results based on marginal WTP for the various cruise attributes suggest that, these cohorts can be broadly categorized into high MWTP (known as splurgers) and low MWTP (savers). The lack of a status quo effect further suggests that there is also a group of novelty lovers who are open to choosing alternative cruise packages over what they have been used to.

## 2. Using choice experiment to examine shipscape influences

The satisfaction with, and the perception of one’s leisure cruise experience varies across different people depending on their motivations and goals for going on a holiday cruise. The reasons for cruising are well-documented in the literature and these range from cruises being a hassle-free vacation, a romantic experience, an escape from reality, something different from land holidays, a floating resort, the feeling of being pampered, the joy of being at sea etc. Hosany and Witham (2010) explore various dimensions of cruisers’ experiences and investigate the relationships among cruisers’ experiences, satisfaction, and intention to recommend. The type of emotions, enjoyment or disappointment that a cruise provides to its passengers, affects their overall impression of the cruise and the satisfaction from the cruise experience (Chen et al., 2016).

In economic theory, the satisfaction from the consumption of a good or service is measured by the concept of utility. Thus maximizing satisfaction from one’s cruise experience is equivalent to maximizing utility. In fact, the demand curve is based on the utility theory of consumer behaviour whereby the WTP for an extra unit of the good declines as the extra utility (marginal utility) obtained for a unit of the good declines when consumption of the good increases (Pindyk and Rubinfeld, 2013). Hence consumer valuation is measured by their WTP with the objective of maximizing utility (Dharmaratne and Brathwaite, 1998; Dixon et al., 2012). A CE which aims to capture consumers’

valuation of specific product features (i.e. the marginal WTP) is thus used to measure the impact of shipscape influences.

Secondly, CE is widely used to estimate non-market value (Louviere et al., 2000). This type of valuation takes into account the ‘experience’ or emotions evoked when considering a particular good or service. Within the literature of the ‘experience’ economy (see Hirschman and Holbrook, 1982; Dhar and Wertenbroch, 2000), Hosany and Witham (2010) explain that cruise experience in tourism has a hedonic function which captures the aesthetic, intangible, and subjective aspects of consumption. Vogel et al. (2012) agree with this notion and explain that cruises’ perceived value is expressed in experiential categories. Choice experiment belongs to the family of stated preference models which is an appropriate tool to consider such perceived use values (Bateman et al., 2002) in the particular context of cruise experience from shipscape influence.

According to Kwortnik (2008), the concept of shipscape is not new as the term ‘shipscape’ is based on Bitner’s (1992) broader concept of servicescape which comprises the environmental dimensions of ambient conditions, space/facilities, signs, symbols and artifacts. In fact, Bitner (1992) specifically identified the use of experimental methods and surveys as being appropriate for assessing the impact on consumers by varying several dimensions of the ship simultaneously to achieve an overall perception that will significantly influence behaviour. This is the type of framework underlying CE, and is hence an appropriate method for the analysis of this study.

To identify the relevant aspects of shipscape for valuation by cruisers, the existing literature is used as a guide. Table 1 shows the compilation of five aspects/attributes for valuation, from which various combinations of the aspects were generated and provided to respondents to choose from.

The first is leisure activities that passengers may enjoy on board and here, we focus on the need for space. Research in both retailing (Eroglu and Machleit, 1990) and leisure (Wakefield and Blodgett, 1994) contexts show that consumer’s perceptions of crowding negatively influences consumption emotions, perceptions of the servicescape, and satisfaction with the experience. Because cruise ships are bounded spaces where consumers expect to relax in comfort, the negative effects of crowding are amplified. Kwortnik (2008) reports that cruisers complained about crowded pools and pool decks with deck chairs crammed together but on the other hand, some cruisers found it easy to adapt to these social factors. In this context, we identify two levels for the space attribute – one, space to enjoy the swimming pool (see Chen et al., 2016) and two, space for relaxing on the deck.

As part of the entertainment program (see Xie et al., 2012), cruise ships often organise social activities (such as bingo, bridge or other card playing) for fun onboard or have educational classes such as cooking, photography, dancing, wine tasting, computer/ipad/tablet use, or expert instructional talks about sea-life or the places or culture passengers would be visiting at various ports of call. Thus we consider two levels under the entertainment attribute – one, the need for variety in these programs; and the other, the number of times these are offered so as to cater to all those who may be interested to attend. Obviously, cruise

**Table 1**  
Features of the Choice Experiment.

Attributes	Levels			
Leisure Activities	Less crowded swimming areas	More space to relax on deck		
Onboard Organised Activities/Classes	Increase in the number of times activities are offered	Increase in the types of activities		
Onshore Excursions	Self-organised	Cruise liner-organised		
Cabin Comfort	Bigger cabin space	Have an Ocean view (window/balcony)		
Price of combined package per day	A\$50	A\$100	A\$150	A\$200

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