



# International convention tourism: A choice modelling experiment of host city competition

Geoffrey I. Crouch<sup>a,\*</sup>, Giacomo Del Chiappa<sup>b,c</sup>, Richard R. Perdue<sup>d</sup>

<sup>a</sup> La Trobe Business School, La Trobe University, Melbourne, Bundoora, Victoria 3086, Australia

<sup>b</sup> Department of Economics and Business, University of Sassari, Via Muroni, 25, 07100 Sassari (SS), Italy

<sup>c</sup> School of Tourism & Hospitality, University of Johannesburg, South Africa

<sup>d</sup> R. B. Pamplin Professor of Hospitality and Tourism Management, Pamplin College of Business, Virginia Tech., Blacksburg, VA 240661, USA



## ARTICLE INFO

### Keywords:

Convention tourism  
Convention site selection  
Best-worst scaling  
Discrete choice modelling  
Choice experiment  
International tourism

## ABSTRACT

Many cities around the world today place considerable emphasis in their tourism strategies on enhancing their competitiveness as potential convention hosts. The objective of this research was to evaluate how site attributes affect the choice of a host city in the international conventions tourism market. The study employed discrete choice modelling using a stated choice approach and analysed data from a survey of international association convention planners. The results demonstrated that the top ten site attributes were (in descending order): the convenience of flight schedules; risk of disruption to the convention; inbound travel barriers or formalities; on-site vs. off-site delegate accommodation; number of available four star hotels; cost of the convention facility; possibility of a subsidy to defray costs; number of available five star hotels; whether or not the association held its convention at the site previously; and domestic air travel costs.

## 1. Introduction

International association convention travel is a significant segment of the travel and tourism market and is of particular importance to many cities that have invested heavily in convention centres and visitor bureaus (Mair & Thompson, 2009). Understanding how international associations choose conference sites is critical both to assessing the feasibility of these investments and to the development of effective marketing strategies (Fenich, 2015; Ramsborg, 2015; Var, Cesario, & Mauser, 1985). While existing research has focused more specifically on domestic convention site choice (e.g., Crouch & Louviere, 2004; Ghazali & Ghani, 2015), there are both theoretical and methodological gaps in our understanding of host city choice for international conferences and events.

Two key factors underlie the industry importance of understanding association convention site choices. First, the association convention market is very large. In its report to the Convention Industry Council, PriceWaterhouseCooper LLP (2014) estimates 273,700 conventions, conferences, and congresses were held in the USA in 2012, attended by nearly 61 million participants, accounting for 15 percent of all travel and tourism spending. Moreover, the U.S. Bureau of Labor Statistics forecasts conventions and events will grow by 44 percent between 2010 and 2020 (Fenich, 2016). Of particular interest to this research, the

International Congress and Convention Association recorded 12,212 rotating international association meetings by its member organizations in 2016, which was 707 more than in 2014, reflecting continuing growth (ICCA, 2017).

Second, many cities around the world today invest considerable financial resources in their tourism marketing strategies to attract major conventions (Fenich, 2016). A better understanding of association convention site choice is needed to both guide and evaluate these promotions (Dioko & Whitfield, 2015). Moreover, in an increasingly competitive business environment, many cities have also invested large sums to the building of bigger and better convention facilities. A recent study critical of these investments (Sanders, 2014) estimates that, between 2002 and 2011, USA cities invested \$13bn in convention centre construction, expansion, and remodelling. Total convention centre meeting space in the USA has expanded from 36.4 million square feet in 1989 to 70.5 million square feet in 2011 (Sanders, 2014). The effectiveness and return on these marketing and facility investments are increasingly being questioned (Baade, Baumann, & Matheson, 2009; Boyle, 1997; Fenich, 1992; Sanders, 2014). Jones and Li (2015) and Rutherford and Kreck (1994) argue these investments should be evaluated against estimates of incremental spending across the various sectors of the city's tourism industry. Similarly, while convention centre facilities are obviously important, other characteristics of a city likely

\* Corresponding author.

E-mail addresses: [Geoffrey.crouch@latrobe.edu.au](mailto:Geoffrey.crouch@latrobe.edu.au) (G.I. Crouch), [gdelchiappa@uniss.it](mailto:gdelchiappa@uniss.it) (G. Del Chiappa), [perduerr@vt.edu](mailto:perduerr@vt.edu) (R.R. Perdue).

influence the selection of a host convention site by an association and should be incorporated into convention site choice modelling research (Zhang, Leung, & Qu, 2007).

More broadly, international association conference site selection provides a unique opportunity to study business to business (B2B) choice processes in the tourism industry. Understanding customer choice has long been a tourism research priority (Crouch & Louviere, 2001; Oppewal, Huybers, & Crouch, 2015). However, much like the more general consumer behaviour literature, most of this research has focused on individual consumers or tourists (Backhaus, Luggner and Koch, 2011). Business to Consumer (B2C) marketing questions and concerns have dominated the tourism choice modelling literature. Comparatively little choice modelling research has focused on Business to Business (B2B) tourism marketing situations. Importantly, there is strong evidence supporting the value of B2B choice modelling, particularly the consistent finding that B2B choices are more rationale and reflect higher level consideration of the various alternatives (Lilien, 2016). However, such research is methodologically challenging, particularly for stated choice modelling procedures. International association convention site choices commonly involve more complex decisions involving more attributes, thereby greatly complicating the stated choice experimental design.

The aim of this study has been to investigate how international associations evaluate the attributes of potential host sites and which attributes exert the greatest influence on the site selection decision. There are two key stages in this decision-making process. The first stage involves an evaluation of the particular attributes and merits of each site being considered. The second stage then involves the board of the association making a decision about which of the sites is to host the convention, after taking other, wider considerations into account. The stage 1 evaluation is usually undertaken by an experienced meeting planner who, from the data and evidence collected, makes a recommendation to the board. By comparison, whereas the stage 1 evaluation is mostly objective, analytical and methodical, the stage 2 assessment by the board tends to be more subjective, strategic and political in nature. Therefore, the board may not necessarily adopt the meeting planner's recommendation. However, for the purpose of this study, it was felt that it made more sense at this time, in the first discrete choice modelling study of international association convention site selection, to focus on the more objective and analytical evaluation and judgments made in the first stage by professional meeting planners. Beyond the contribution to the experimental understanding of association international convention site choice, a second key contribution of this paper is the methodological development and testing of highly complex stated choice modelling of tourism decision making.

## 2. Convention site selection research

Following Lee and Back (2005), MICE research can be broadly categorized into five groupings focusing on (1) the economic impact of conventions (e.g., Jones & Li, 2015; Lee & Back, 2007; Malek & Kim, 2016), (2) the meeting participation decision and process (e.g., Mody, Gordon, Lehto, So, & Li, 2016; Oppermann & Chon, 1997; Yoo & Chon, 2008; Severt, Wang, Chen, & Breiter, 2007), (3) conference and meeting technology (e.g., Cantalalops & Salvi, 2014), (4) Destination Management Organization (DMO) and Convention and Visitor Bureau (CVB) marketing and operations strategy (e.g., Abbey & Link, 1994; DMAI, 2016; Park & Kim, 2017), and (5) convention site selection (e.g., Chen, 2006; Clark & McCleary, 1995; Clark, Price, & Murrmann, 1996; Crouch & Louviere, 2004; Fawzy & Samra, 2008).

Focusing specifically on convention site selection, Crouch and Ritchie (1998) reviewed 64 convention site selection studies identifying 36 attributes categorized into eight factors which were widely used to examine site selection: accessibility, meeting facilities, accommodation facilities, local support, extra-conference opportunities, information and reputation, site environment, and other criteria. Subsequent

convention site selection research has largely built on and supported this categorization, creating an array of measures in each category. For example, several studies have examined various measures of accessibility, focusing particularly on the availability and cost of air travel access (Crouch & Louviere, 2004; Huo, 2014; Lee, Choi, & Breiter, 2016; Para & Kachniewska, 2014) and on the quality of convention city ground transportation (Huo, 2014; Lee, Choi and Brieter, 2016; Lee & Lee, 2017). Jin, Weber, and Bauer (2013) used attitudinal measures of accessibility; “it is easy to get to the city” and “the geographical location of the host city is convenient”. Meeting facility measures have focused primarily on availability (Huo, 2014; Lee & Back, 2005; Lee & Lee, 2017), capacity (Amiri, Zandieh, Vahdani, Yazdani, & Soltani, 2008; Crouch & Louviere, 2004; Jin et al., 2013), and cost (Crouch & Louviere, 2004; Jin et al., 2013). Lee, Park, and Khan (2012) and Kozak, Aksoz, and Özel (2015) also included several measures of technological capabilities. Several measures of accommodation facilities have been tested, particularly cost, capacity, and quality (Crouch & Louviere, 2004; Amiri et al., 2008; Huo, 2014; Lee & Lee, 2017; Para & Kachniewska, 2014). Similarly, most studies include various measures of local support and subsidies, site environment, and other factors, all with varying levels of importance across the various studies.

Perhaps more importantly, the methodologies and study populations of the existing research have been limited. With few exceptions, the convention site selection research has relied on revealed-choice survey methodologies, asking respondents to rate or rank various convention site attributes. As illustrations of this pattern, Lee et al. (2012) involved a survey of meeting planners selected from the mailing lists of three conference centres in the Mid-Atlantic region of the USA, asking respondents to rate the importance of convention centre attributes. Jin et al. (2013) surveyed exhibitors from nine trade fairs in mainland China, again asking the importance of convention site attributes. Huo (2014) reports a survey of certified meeting planners from the USA concerning the attractiveness of six Asian cities as convention destinations. Para and Kachniewska (2014) conducted a survey of Polish event planners asking about the importance of various site attributes to their conference site selection the previous year. Kozak, Aksoz and Özell (2015) conducted a Delphi study of travel agents in Ankara, Turkey identifying and rating the importance of various site attributes. Lee et al. (2016) conducted an importance – performance survey of attendees to three conferences in the USA. Finally, Lee and Lee (2017) surveyed Korean exhibition organizers concerning site attribute importance. Of the convention site selection studies identified, few have involved stated choice modelling. Hu and Hiemstra (1996) conducted a hybrid conjoint model of conference site selection, focusing on USA meeting planners. Crouch and Louviere (2004) conducted a discrete choice experimental study of convention site attributes; this study was limited to Australian meeting planners focusing on domestic meetings. There are two significant gaps in the literature: (1) the need for further discrete choice experimental modelling of convention site attributes and (2) the need for research examining the larger scale of international association meetings.

## 3. Research design

### 3.1. Choice of methodology

In order to analyse which host convention site attributes have the greatest impact on the host site choices of international associations, a technique capable of decomposing the decision making process is required. Most of the previous research has undertaken a survey of convention planners requesting them to rate the perceived impact of each attribute in isolation from a list of attributes believed to play an important role. This method would be a reasonable approach for tackling the task if we had established that convention planners choose a host city based on some type of importance-performance analysis (Lai & Hitchcock, 2015) producing a recommended host city. Although some

associations may assess potential cities on this basis, it was apparent from depth-interviews with planners (see below) that this approach is often not the case. It is therefore prudent to approach the issue by assuming nothing about how the choice process functions and that each association and planner may approach the task differently. It is therefore safer to assume that, by some means, each convention planner identifies a recommended host after having assessed all important, relevant selection attributes.

We need therefore a means of assessing the inputs to a decision (i.e. the values of the various site attributes for alternative host cities) and the resulting decision (i.e. the preferred host site) itself. Discrete choice modelling (DCM) using random utility theory (RUT) (McFadden, 1974; Thurstone, 1927) is a theoretically rigorous and sound method to analysing such information and for disentangling site preferences into an explainable/systematic component as well as an unexplainable/random component (Louviere, Hensher, & Swait, 2000). This revealed, systematic component then represents the approach used by convention planners to select a preferred host city.

Although DCM provides a suitable methodological approach for our analysis, we also require a way of gathering both the attribute input and decision output data. While it may be possible to gather some of this data on actual previous association convention host site decisions, such information is inconsistent, scattered and incomplete. There is no suitable, existing organised data collection repository. Even if it were possible to gather such data *post hoc*, site attribute information is required not just for the chosen site, but also for all other sites which might have been considered at the time. Such a data collection effort is neither feasible nor practical. Fortunately, an alternative approach is available which relies on observations of choices to hypothetical choice options. Many DCM studies face the same problem and have utilised this solution. There are now well-developed techniques for undertaking data-gathering tasks in hypothetical markets producing *stated preference* data (Crouch & Louviere, 2001). We therefore chose to carry out this study using stated preference data gathered through a survey of international convention planners experienced in the assessment of competing host cities and recommending a preferred site.

### 3.2. Selection and refinement of choice attributes

For the purpose of this study we based the initial identification of convention site-selection factors on a combination of the existing research, qualitative interviews and best-worst scaling. The work of Crouch and Ritchie (1998), which covered 64 earlier studies reporting a mix of empirical, conceptual, and experiential/anecdotal analyses, identified eight categories, consisting of 36 attributes with evidence of their possible effect on host-city preferences. In a further study, Crouch and Louviere (2004) employed these factors to examine the determinants of domestic host convention site-selection among competing Australian host cities.

Twenty five depth-interviews were undertaken with association convention planners experienced in the evaluation of potential host cities. The objective was to re-evaluate appropriate and currently relevant site-selection attributes for use in the survey, this time investigating *international* rather than *domestic* host city competition. Attributes that might not be important or might not vary significantly in terms of domestic competition, might become quite significant at an international scale. For example, the possibility of disruption to a conference from industrial disputation or from concerns over safety and security is likely to vary to a greater extent when potential host cities are assessed internationally. Through this process, we expanded the list of potentially important site attributes to 43. The left-hand side of Table 1 lists the resulting attributes.

The complexity and size of discrete choice experiments increases exponentially as the number of attributes and attribute levels increase. A parsimonious selection of attributes and levels is needed to enable a more tractable choice experiment. The attributes and levels also need to

be clearly understood by respondents. It is important that the attributes be described clearly and appropriately to respondents in the choice experiment.

To derive a parsimonious list of attributes for the choice experiment we next carried out a Best-Worst Scaling (BWS) analysis. Finn and Louviere (1992) demonstrated how to apply BWS in polling. They showed that information from typical polls may be quite misleading. Louviere (1984) and Swait and Louviere (1993) extended BWS further to discrete choice experiments and conjoint analysis. McIntosh and Louviere (2002) also applied BWS to the measurement of preferences in the UK for dental treatments. Cohen and Neira (2003) studied the application of BWS to the problem of bias in cross-cultural scaling. The measurement properties of BWS were established by Marley and Louviere (2005), providing the statistical basis for the theory and measurement models associated with the approach.

The BWS task used a balanced incomplete block design (BIBD) consisting of sets of five factors for respondents to evaluate at a time. The task was blocked into 9 versions of the survey since there were too many sets of attributes to expect any one convention planner to be able to evaluate all of them. This was accomplished by assigning randomly different sets using the BIBD to each survey version without replacement. Subsequently, respondents were randomly assigned to a version.

The survey was implemented online by an emailed recruitment request. The resulting data set consisted of 338 best versus worst responses. Respondents were requested to complete the survey with the last convention for which they assessed alternative convention host sites in mind. Table 1 lists the 43 site attributes analysed using this BWS survey.

The results, shown in Table 2, provide weighted and unweighted, best and worst choice frequencies and differences. Based on these results, for the purposes of the main DCM experiment, the ten least-important factors in the lower part of Table 2 were eliminated. However, since the range of three-star and five-star accommodation appeared to be significant, we chose not to drop the four-star accommodation attribute. For reasons of parsimony, we also eliminated exhibition-space as an attribute since this research was focussed on conventions rather than exhibitions. The attribute concerning the cultural and social environment was also dropped as there was another attribute covering opportunities for sightseeing or tours. In this way, the final list of site-selection attributes for the main DCM experiment was reduced from 43 to the 31 attributes (see in Table 1 again).

### 3.3. Stated choice experiment

Having selected the final list of attributes to use in the DCM stated choice survey, the next step was to decide how many levels should be used to model each attribute. The criteria used in these decisions involved a number of considerations. Again, because the number of levels, as with the number of attributes, exponentially affects the size and complexity of the choice experiment, decisions regarding the number of levels to use for each attribute must be a trade-off between precision and complexity, taking into account the likely importance of certain attributes. Additionally, given the nature of each attribute, some attributes logically call for more (fewer) levels. The right-hand columns of Table 1 indicate the levels that were developed for each attribute. In some cases, such as attributes 7 and 8, two levels were considered sufficient. Attribute 8 – *Inbound travel barriers and formalities* – was modelled using one level described in words as ‘no cost, simple and straight-forward’ and a second level described as ‘there is a fee, visa processing can be slow at times’. A number of attributes were modelled using four levels. For example, attribute 1 – *Proximity of the site to convention participants: national v. international* – was modelled in numerical terms indicating, for each of the four levels, the percentage of members who must travel domestically to attend the convention versus the percentage who would be travelling internationally. We also modelled two attributes using eight levels; namely, *Cost of venue against*

**Table 1**  
International convention site-selection attributes.

Attributes		Attribute Levels in Discrete Choice Model								
Category	Sub-category	Attribute								
Accessibility	Proximity of the site to convention participants	1. National v. international <sup>a</sup>	% of members having to travel domestically				% of members having to travel internationally			
			Level 1	10			90			
			Level 2	30			70			
			Level 3	50			50			
		2. Travel by national members <sup>a</sup>	% of national members living locally (i.e. do not need to fly)				% of national members traveling by air domestically			
			Level 1	20			80			
			Level 2	40			60			
			Level 3	60			40			
		3. Travel by international members <sup>b</sup>	% of international members traveling short-haul				% of international members traveling long-haul			
			Level 1	20			80			
Level 2	40				60					
Level 3	60				40					
Available average standard economy return airfares	4. Domestic air travel <sup>a</sup>	Level 1	US\$200	Level 2	US\$300	Level 3	US\$400	Level 4	US\$500	
		Level 4	80			20				
		5. International short-haul <sup>a</sup>	US \$600	US\$800	US\$1,000	US\$1,200				
		6. International long-haul <sup>a</sup>	US \$1,500	US\$2,000	US\$2,500	US\$3,000				
		7. Frequency and convenience of flight schedules and connections <sup>b</sup>	Level 1	frequent, direct flights	Level 2	infrequent and/or indirect flights				
		8. Inbound travel barriers and formalities <sup>b</sup>	Level 1	no cost, simple and straight-forward	Level 2	there is a fee, visa processing can be slow				
Accommodation Facilities	9. Percentage of convention delegates able to be accommodated on-site versus off-site <sup>c</sup>	% of on-site accommodation				% of off-site accommodation				
		Level 1	100			0				
		Level 2	75			25				
		Level 3	25			75				
		Level 4	0			100				
		Range (by class) of available accommodation at or within 15 minutes of the convention facility	10. Three star <sup>b</sup>	Level 1	2 hotels	Level 2	4 hotels	Level 3	6 hotels	Level 4
11. Four star <sup>b</sup>	1 hotel			2 hotels	3 hotels	4+ hotels				
12. Five star <sup>b</sup>	0 hotels			1 hotel	2 hotels	3 hotels				
13. Three star <sup>d</sup>	US\$80			US\$90	US\$100	US\$110				
Representative accommodation rates available to conference delegates by class of accommodation (room only)	14. Four star <sup>d</sup>	= 3-star plus 10%	= 3-star plus 20%	= 3-star plus 30%	= 3-star plus 40%					
	15. Five star <sup>d</sup>	= 3-star plus 50%	= 3-star plus 70%	= 3-star plus 90%	= 3-star plus 110%					
Convention Facilities	16. Cost of venue against international average <sup>f</sup>	Level 1	40% below	Level 2	30% below	Level 3	20% below	Level 4	10% below	
		Level 5	10% above	Level 6	20% above	Level 7	30% above	Level 8	40% above	
		Exhibition space <sup>e</sup>								
		17. Plenary room capacity <sup>g</sup>	Level 1	500	Level 2	1,000	Level 3	1,500	Level 4	2,000
		18. Break-out/session rooms <sup>b</sup>	Level 1	adequate	Level 2	exceptional				
		Ball room/dining venues <sup>c</sup>								
		19. Overall ambience and layout <sup>b</sup>	Level 1	adequate	Level 2	exceptional				
		20. Overall perception of reliability and customer service <sup>b</sup>	Level 1	adequate	Level 2	exceptional				
		21. Range and availability of audio/visual systems and facilities <sup>b</sup>	Level 1	adequate	Level 2	exceptional				
		Site Environment	Perceived quality of food <sup>c</sup>	Opportunities for entertainment <sup>c</sup>				Opportunities for shopping <sup>c</sup>		
22. Opportunities for sightseeing and tours <sup>b</sup>	Level 1			little	Level 2	many				
Opportunities for recreational activities <sup>c</sup>				Opportunities for professional networking <sup>b</sup>						
23. Opportunities for professional networking <sup>b</sup>	Level 1			little	Level 2	many				
A unique physical setting <sup>c</sup>				A unique social and cultural setting <sup>c</sup>						
Typical weather and climate at the time of the convention <sup>e</sup>	24. The quality of the general infrastructure <sup>b</sup>	Level 1	adequate	Level 2	exceptional					
		25. The local hospitality and friendliness <sup>b</sup>	Level 1	adequate	Level 2	exceptional				

(continued on next page)

Table 1 (continued)

Attributes			Attribute Levels in Discrete Choice Model			
Category	Sub-category	Attribute				
Local Support	26. Expected level of assistance from the local chapter of the association <sup>b</sup>		Level 1 adequate		Level 2 exceptional	
	27. Expected level of assistance from the local convention and visitors bureau (CVB) <sup>b</sup>		Level 1 adequate		Level 2 exceptional	
	28. Possibility of a subsidy to defray costs when the convention yields a major economic impact <sup>b</sup>		Level 1 never	Level 2 slight	Level 3 moderate	Level 4 significant
General Features	29. Level of concern over delegate safety and security <sup>b</sup>		Level 1 little		Level 2 there could be risks	
	The nature of your previous experience running a convention at the site <sup>c</sup>					
	Word-of-mouth reputation of the site among convention planners in general <sup>c</sup>					
	30. The association held its convention at this site <sup>b</sup>		Level 1 never	Level 2 many years ago	Level 3 a few years ago	Level 4 quite recently
	31. Potential risk of disruption of the convention (e.g. due to labor strikes, political instability, etc.) <sup>b</sup>		Level 1 little		Level 2 there could be disruptions	

<sup>a</sup> Coded as a linear independent variable using the level number.  
<sup>b</sup> These attributes were effects coded such that the last level was coded -1 and other levels were coded +1.  
<sup>c</sup> Modeled linearly using % of on-site accommodation values.  
<sup>d</sup> Modeled linearly using US\$ values.  
<sup>e</sup> Unnumbered attributes were dropped from the DCM on the basis of the results of the Best-Worst study leaving 31 attributes. As these were not used in the DCM, there was no need to specify attribute levels.  
<sup>f</sup> Modeled linearly using % figures above level 1.  
<sup>g</sup> Modeled linearly using capacity values.

international average and Plenary room capacity. Both of these levels, we felt, seemed to be both important in terms of precision, and capable of being relatively easily represented using a greater number of levels. It is also worth noting that, in the case of the three attributes concerning Representative accommodation rates available to conference delegates by class of accommodation (room only), attributes 14 and 15 used levels that were dependent on the level used in each scenario for attribute 13 (see Table 1). Therefore, although attributes 14 and 15 are shown as appearing to have four levels in Table 1, this dependency on attribute 13 actually required 16 levels each for the four- and five-star accommodation rate attributes.

A schema was then developed and pretested for presenting respondents to the survey with a series of hypothetical convention site choice scenarios. Table 3 illustrates an example of one such scenario. Accompanying each survey, respondents were provided with a detailed explanation of each attribute shown in this schema. These instructions and the schema were pretested on a convenience sample of convention planners prior to implementation of the main survey. In this schema, the 31 attributes are shown and one level of each attribute is indicated for each of two hypothetical convention sites labelled as Site A and Site B. The level that appears in each scenario is determined as a result of an experimental design which is described in the following section. For each scenario, the respondent was asked to indicate which of the two sites they would prefer for their association's convention. Additionally, they were asked also to nominate whether the preferred site would actually be recommended to the Board or Executive of the association for the next convention. From the combination of these two responses, a discrete dependent variable for analysis was derived with three possible outcomes: either Site A was preferred and would be recommended, or Site B was preferred and would be recommended, or neither site would be recommended. The independent variables were represented by the discrete levels taken by each attribute for each of the two hypothetical sites.

In summary, from the above, each choice scenario involves fourteen 2-level attributes, thirteen 4-level attributes, two 8-level attributes, and

two 16-level attributes making up the 31 attributes in total. As there were two hypothetical sites in each scenario, there is therefore a total of 62 independent variables to be governed by the experimental design. If an attempt was made to model a full-factorial experiment involving all of the possible combinations of attributes and levels for the two hypothetical sites, the size of the experiment would have been massive and quite impractical to implement. We therefore selected a fractional-factorial experimental design which enabled us to focus on the estimation of the main effects of each attribute while sacrificing our ability to study any interaction effects. Such an approach is common among discrete choice experimental research of this nature (Crouch & Louviere, 2004).

The fractional factorial experiment that we adopted produced 256 different choice scenarios; this fraction had an experimental efficiency of 92.4% of a complete factorial (Hamada & Wu, 2000; Voelkel, 2004). The experimental design table therefore includes 256 rows (one for each scenario) and 62 columns (one for each attribute for the two sites). The cells of this table contained the 2, 4, 8, or 16 level design codes which govern how the design chooses the attribute levels for each scenario. The experimental design codes were then used to populate the descriptions of each attribute level for each site in each scenario.

It would be clearly unrealistic and impractical to ask each survey respondent to evaluate all 256 choice scenarios. After some pre-testing to evaluate how many scenarios it seemed reasonable to ask each respondent to complete, it was decided to randomly distribute the 256 scenarios into 16 versions of the survey, each containing 16 choice scenarios. Thus each respondent was asked to evaluate 16 scenarios. The pre-testing also enabled us to fine-tune the survey instructions and scenario presentation so that respondents understood the task clearly.

### 3.4. Implementation and data collection

Each of the 16 survey versions began with the same introduction explaining the purpose of the survey. Accompanying the survey we provided a set of instructions which explained, in greater detail, the

**Table 2**  
Best-worst results tabulation.

Attribute	Best Totals	Worst Totals	Weighted Best	Weighted Worst	Weighted Best - Worst
Quality of infrastructure	21	1	20.13	0.96	19.17
Accommodation rate for delegates	18	1	19.53	1.08	18.44
Relative cost of venue compared to international average	18	1	19.53	1.08	18.44
Suitability of break-out rooms	21	3	20.61	2.94	17.67
Assistance provided by local association chapter	20	5	19.17	4.79	14.38
Suitability of flight schedules and connections	15	0	14.05	0	14.05
Availability of a subsidy to reduce costs	14	2	16.03	2.29	13.74
Capacity of plenary room	15	3	15.85	3.17	12.68
Professional networking opportunities	15	3	14.05	2.81	11.24
Range and availability of AV facilities	13	2	12.18	1.87	10.3
Ambience and layout of facility	10	2	10.57	2.11	8.46
Inbound travel formalities and barriers	10	2	9.37	1.87	7.49
Concern over delegate safety and security	11	4	10.8	3.93	6.87
Percent of delegates able to be accommodated on-site	11	5	12.59	5.72	6.87
Assistance provided by local convention and visitors	12	8	12.06	8.04	4.02
Period since last association convention was held at same site	13	11	11.91	10.08	1.83
Range of 3-star accommodation	9	7	8.06	6.27	1.79
Local hospitality and friendliness	3	2	3.09	2.06	1.03
Average regular economy long-haul international return airfares	8	7	7.85	6.87	0.98
Average regular economy short-haul international return airfares	5	5	4.79	4.79	0
Perception of reliability and customer service	5	5	4.58	4.58	0
Percent of delegates who must travel domestically	6	9	5.75	8.63	-2.88
Risk of possible disruption to the convention	7	10	6.87	9.81	-2.94
Unique cultural and social setting	2	6	2.11	6.34	-4.23
Exhibition space	8	12	9.16	13.74	-4.58
Percent of national members living locally	3	8	3.09	8.24	-5.15
Percent of international members having to travel long-haul	5	10	5.28	10.57	-5.28
Sightseeing opportunities and tours	3	9	3.25	9.76	-6.51
Range of 5-star accommodation	5	11	5.72	12.59	-6.87
Average regular economy domestic return airfares	2	9	1.96	8.83	-6.87
Favourability of the word-of-mouth reputation	4	13	3.58	11.65	-8.06
Ball room and dining facilities	5	15	4.04	12.12	-8.08
Uniqueness of the physical setting	5	14	4.79	13.42	-8.63
Range of 4-star accommodation	3	11	3.43	12.59	-9.16
Quality of the previous experience running a convention at the site	5	15	5.15	15.46	-10.3
Perceived food quality	3	14	3.17	14.8	-11.63
Typical weather and climate at the site	2	15	1.92	14.38	-12.46
Proximity of the accommodation to the airport	1	13	1.11	14.48	-13.37
Availability of recreational activities	1	15	1.06	15.85	-14.8
Availability of entertainment	1	20	0.92	18.32	-17.4
Shopping opportunities	0	30	0	29.44	-29.44

meaning and intent of each site attribute. These instructions also included an example of how responses might have been entered for one such scenario. This ensured that respondents comprehended the attributes shown in condensed format in Table 3. After responding to all 16 scenarios, the survey included some additional demographic questions.

As the survey was designed to investigate the selection of convention sites by associations at an international level, we needed to obtain a sample of association convention planners who were experienced in evaluating potential host cities competing beyond national borders. For this purpose we identified international associations that were members of either the American Society of Association Executives or the International Congress and Convention Association which met this criterion and were willing to participate in the research. The ASAE data were collected via a printed survey that was forwarded to each association/meeting planner who agreed to participate. The ASAE participant survey was distributed and collected by the ASAE itself. The ICCA participants completed the survey online in response to a direct email invitation. Data collection was completed in December 2013. A total of 191 international convention planners for these associations participated in the research. The majority (76%) of the meeting planner respondents indicated that they were employees of the particular international association. The remainder were either employed by a separate meeting organizer/consultancy or had some other relationship with the association. In terms of experience as a meeting planner, 10% of

respondents had up to 2 years of experience, 19% had 3–5 years' experience, 25% had 6–10 years' experience, 18% had 11–15 years' experience, and 27% had 16 or more years' experience. As each respondent evaluated 16 scenarios, the data set therefore contained 3056 choice responses.

### 3.5. Analysis

As the dependent variables involved a discrete choice, they were binary in nature (i.e. each alternative – site A, site B, or neither site) was either selected (coded as 1) or not (coded as 0). To undertake the discrete choice modelling of the data we used the conditional logistic regression (clogit) function within the Stata statistical software package (release 13). Conditional logit assumes that the parameters to be estimated for each of the site attributes in the model are fixed – in other words, that the relative importance placed on the site attributes is the same for all respondents. An alternative approach would have been to use a mixed logit model which allows these parameters to vary randomly across respondents on the basis of further parameters that define that probability distribution (McFadden & Train, 2000; Train, 2009). We chose to use a conditional logit approach for two reasons. First, the purpose of the research was to estimate overall, across all respondents, how much weight was placed on each of the 31 site attributes. In other words, we were not interested in understanding how each respondent

**Table 3**  
Example scenario in choice experiment Survey.

CONVENTION SITE SCENARIO: NUMBER 1		
Feature of the Site	Site A	Site B
1. National v. international travel	30% national & 70% international	50% national & 50% international
2. Travel by national members	20% must take domestic air travel	80% must take domestic air travel
3. Travel by international members	40% short-haul & 60% long-haul	60% short-haul & 40% long-haul
4. Domestic air travel cost	US\$200	US\$300
5. International short-haul cost	US\$600	US\$800
6. International long-haul cost	US\$1,500	US\$2,000
7. Convenience of flight schedules	frequent, direct flights	infrequent and/or indirect flights
8. Inbound travel barriers, formalities or equipment fees	no cost, simple and straight forward	there are fees, visa processing is slow
9. On-site vs. off-site accommodation of delegates	75% on-site & 25% off-site	25% on-site & 75% off-site
10. Number of three star hotels	4 hotels	6 hotels
11. Number of four star hotels	3 hotels	4+ hotels
12. Number of five star hotels	1 hotel	2 hotels
13. Three star hotel rates	US\$110	US\$80
14. Four star hotel rates	US\$154	US\$88
15. Five star hotel rates	US\$165	US\$136
16. Cost of venue against international average	40% above	40% below
17. Plenary room capacity	6,000	8,000
18. Break-out/concurrent session rooms	adequate	exceptional
19. Overall ambience and layout	exceptional	adequate
20. Overall reliability and customer service	exceptional	adequate
21. Range and availability of audio/visual facilities	exceptional	adequate
22. Opportunities for sightseeing and tours	adequate	exceptional
23. Opportunities for professional networking	adequate	exceptional
24. The quality of the general infrastructure	exceptional	adequate
25. The local hospitality and friendliness	exceptional	adequate
26. Assistance from association's local chapter/member	adequate	exceptional
27. Assistance from local CVB	exceptional	adequate
28. Possibility of a subsidy to defray costs	moderate	significant
29. Concern over delegate safety and security	there could be risks	little
30. The association held its convention at this site	a few years ago	quite recently
31. Risk of disruption of the convention	there could be disruptions	little
Which site would you prefer?	<input type="checkbox"/> Site A	<input type="checkbox"/> Site B

**Would you actually recommend this preferred site to the Board or Executive of the Association for the next convention?**  
 Yes       No

assessed site attributes per se. Of course a potential host destination may well be interested in knowing how one particular association or meeting planner may choose a host site, but what is more important to a destination is how international associations overall make such decisions and how a destination may best compete, or make itself attractive to the international conventions tourism sector. Hence, a conditional logit approach serves this purpose. The second consideration was that a mixed logit model specification results in a substantial increase in the number of parameters to be estimated. Given the sample size, and that fact that the model specification already included 31 site attributes, we determined that a mixed logit model would have overstretched the ability of the data to estimate the number of parameters required.

In preparation for analysis, the survey data were transformed into suitable variables and a suitable structure. In terms of structure, as each of the 3056 choice responses from the survey contained three possible alternative choices, the data needed three rows to represent each case. The first, second and third rows related to the choice of site A, site B, and neither site respectively. The binary coded dependent variable then indicated which of the three alternatives was chosen for each survey response.

The independent variables (i.e. the level values taken by each of the site attributes) for each of sites A and B were then determined by the fractional factorial experimental design codes. It was possible to code some of the attributes in a linear form. For example, the equal intervals between the four levels of attribute 1 (Table 1) provided for this. In such cases, a single independent linear variable could be used for this attribute in the analysis. A number of the attributes were not, however, linear in nature. For example attributes 10, 11 and 12 in Table 1, concerning the range of available hotel accommodation, and attributes 28 and 30, concerning subsidies and previous use of the site by the association respectively, were not linear. In such cases, effects coding was used for the independent variable. Of course, all two-level attributes used a single effects-coded variable as well.

As both hypothetical sites A and B had different values for each site attribute, there were two groups of attribute variables involved for each choice scenario. However, for the purpose of the conditional logistic regression analysis, the estimated coefficients for each attribute were constrained to be the same, regardless of the site, since we are assuming that an attribute has the same influence on the probability of choice independent of whether they relate to site A or site B.

**Table 4**  
Discrete choice modelling Results.

Independent Variable (Convention Site Attribute)	Main Model		By experience				By origin			
			=<10 years		10+ years		ASAE <sup>3</sup>		ICCA <sup>4</sup>	
	Coefficient	P> z	Coefficient	P> z	Coefficient	P> z	Coefficient	P> z	Coefficient	P> z
Constant	0.3127	0.922	0.9969	0.818	0.4518	0.926	-0.74868	0.126	0.76318	0.080
1. National v. international travel	0.6150	0.025	-0.3868	0.294	0.9228	0.028	2.0655	0.000	-0.3396	0.353
2. Travel by national members	0.2267	0.410	0.2907	0.432	0.0666	0.874	-0.4374	0.306	0.6373	0.083
3. Travel by international members	0.3188	0.247	-0.5029	0.173	0.1039	0.806	0.4114	0.340	0.1689	0.646
4. Domestic air travel cost	-0.6434	0.019	-0.4663	0.203	-0.9592	0.024	-0.6927	0.102	-0.6556	0.076
5. International short-haul cost	-0.2664	0.335	0.1348	0.719	-0.8059	0.054	-0.2779	0.517	-0.3236	0.381
6. International long-haul cost	-0.4263	0.120	-0.5368	0.144	-0.3551	0.399	-0.9763	0.022	-0.0928	0.935
7. Convenience of flight schedules (effects code 1)	29.102	0.000	26.963	0.000	33.458	0.000	45.220	0.000	19.182	0.000
8. Inbound travel barriers, formalities or equipment fees (effects code 1)	-15.393	0.000	-14.521	0.000	-18.002	0.000	-18.782	0.000	-13.819	0.000
9. On-site vs. off-site accommodation of delegates	-0.0287	0.000	-0.0230	0.030	-0.0354	0.003	-0.0475	0.000	-0.0181	0.087
10. Number of three star hotels (effects code 1)	-0.1949	0.711	-0.0495	0.944	-0.4306	0.597	-0.0523	0.949	-0.05035	0.473
10. Number of three star hotels (effects code 2)	-0.04254	0.420	-0.2116	0.767	-0.7081	0.376	-1.5070	0.070	-0.2104	0.763
10. Number of three star hotels (effects code 3)	0.1662	0.752	0.4835	0.492	-0.3498	0.667	0.1723	0.832	0.4560	0.520
11. Number of four star hotels (effects code 1)	-15.801	0.004	-15.308	0.037	-14.697	0.077	-16.477	0.051	-17.258	0.018
11. Number of four star hotels (effects code 2)	-0.0716	0.892	-0.8989	0.213	0.8985	0.260	0.2661	0.747	-0.3769	0.593
11. Number of four star hotels (effects code 3)	0.8990	0.084	1.6520	0.016	-0.1290	0.875	0.2737	0.739	1.3898	0.044
12. Number of five star hotels (effects code 1)	-1.2558	0.020	-0.8590	0.229	-1.7500	0.036	-2.5792	0.003	-0.3861	0.584
12. Number of five star hotels (effects code 2)	0.2861	0.587	0.5437	0.438	0.2224	0.785	1.1681	0.146	-0.4009	0.574
12. Number of five star hotels (effects code 3)	1.1496	0.026	0.5394	0.444	1.8301	0.019	2.0249	0.011	0.5857	0.404
13. Three star hotel rates	-0.0715	0.173	-0.0191	0.781	-0.1397	0.891	-0.1254	0.123	-0.0403	0.567
14. Four star hotel rates	-0.0436	0.132	-0.0776	0.047	-0.0069	0.875	-0.0224	0.614	-0.0656	0.092
15. Five star hotel rates	0.0110	0.450	-0.0004	0.983	0.0255	0.248	0.0322	0.152	-0.0021	0.912
16. Cost of venue against international average	-0.0376	0.002	-0.0155	0.342	-0.0654	0.000	-0.0581	0.002	-0.0247	0.138
17. Plenary room capacity	-0.0002	0.042	-3.73e-06	0.782	0.0005	0.001	0.0007	0.000	-0.0002	0.117
18. Break-out/concurrent session rooms (effects code 1)	-0.2315	0.407	-0.1966	0.598	-0.2470	0.567	-0.1350	0.760	-0.2784	0.450
19. Overall ambience and layout (effects code 1)	0.2201	0.432	0.4432	0.236	0.0066	0.988	-0.0149	0.973	0.3707	0.315
20. Overall reliability and customer service (effects code 1)	-0.2915	0.299	-0.4357	0.245	-0.1352	0.756	-0.8077	0.071	0.0462	0.900
21. Range and availability of audio/visual facilities (effects code 1)	-0.0640	0.820	0.2210	0.556	-0.4459	0.306	-0.3722	0.409	0.0512	0.890
22. Opportunities for sightseeing and tours (effects code 1)	0.0616	0.826	-0.5074	0.175	0.0784	0.071	0.1351	0.760	0.0163	0.965
23. Opportunities for professional networking (effects code 1)	-0.3400	0.224	-0.1192	0.750	-0.0615	0.134	-0.0918	0.039	-0.0298	0.936
24. The quality of the general infrastructure (effects code 1)	-0.5449	0.052	-0.3241	0.386	-0.8108	0.061	-0.3790	0.393	-0.7153	0.053
25. The local hospitality and friendliness (effects code 1)	-0.4465	0.111	-0.2459	0.512	-0.7743	0.074	-0.7116	0.110	-0.2619	0.478
26. Assistance from association's local chapter/member (effects code 1)	-0.5730	0.041	-0.6215	0.097	-0.4523	0.296	0.1859	0.675	-1.1589	0.002
27. Assistance from local CVB (effects code 1)	-0.3111	0.266	-0.4268	0.254	-0.0980	0.821	-0.7398	0.095	-0.0237	0.949
28. Possibility of a subsidy to defray costs (effects code 1)	-0.1652	0.755	-0.3593	0.619	0.1375	0.863	-0.3483	0.674	-0.0772	0.913
28. Possibility of a subsidy to defray costs (effects code 2)	-1.1709	0.029	-0.8589	0.222	-1.6794	0.048	-1.2450	0.131	-1.0918	0.128
28. Possibility of a subsidy to defray costs (effects code 3)	-0.0497	0.925	-0.1744	0.802	-0.0277	0.973	-0.0744	0.927	-0.1794	0.799
29. Concern over delegate safety and security (effects code 1)	-0.3614	0.328	-0.2688	0.590	-0.5379	0.336	-0.9836	0.073	0.0466	0.928
30. The association held its convention at this site (effects code 1)	0.8102	0.119	1.1085	0.108	0.4514	0.578	1.0736	0.182	0.7163	0.307
30. The association held its convention at this site (effects code 2)	0.5547	0.288	0.6326	0.371	0.3075	0.698	0.1224	0.881	0.7465	0.282
30. The association held its convention at this site (effects code 3)	0.0134	0.980	0.6773	0.332	-0.7415	0.363	0.2527	0.755	-0.0768	0.913
31. Risk of disruption of the convention (effects code 1)	1.8635	0.000	1.7183	0.000	1.9447	0.000	2.9489	0.000	1.2378	0.001

- Notes: 1. Dark-shaded P-values indicate coefficients statistically significant at the 5% confidence level.
- 2 Light-shaded P-values indicate coefficients statistically significant at the 10% confidence level.
- 3. American Society of Association Executive respondents.
- 4. International Congress and Convention Association respondents.

**4. Results and discussion**

The DCM results are presented in Table 4. The results for the ‘main model’ indicate how, and to what level of statistical significance, each of the 31 attributes are estimated to influence the choice of host city for the convention. The appropriate statistic in logistic regression to determine if explanatory variables in the model are significant is the Wald chi<sup>2</sup> statistic. For the main model (Wald chi<sup>2</sup> = 690.04, prob. > chi<sup>2</sup> = 0.0000) the results indicate that collectively, the explanatory variables are highly statistically significant. The model was also re-estimated to investigate whether a) the experience of the responding convention planner (i.e., 10 or fewer years' experience (Wald chi<sup>2</sup> = 343.57, prob. > chi<sup>2</sup> = 0.0000) versus more than 10 years' experience (Wald chi<sup>2</sup> = 367.12, prob. > chi<sup>2</sup> = 0.0000)), and b) the affiliation of the meeting planner with either the ASAE (American Society of Association Executives) (Wald chi<sup>2</sup> = 519.13, prob. > chi<sup>2</sup> = 0.0000) or the ICCA (International Congress and Convention Association) (Wald chi<sup>2</sup> = 215.16, prob. > chi<sup>2</sup> = 0.0000), made any difference in the estimated results.

With regard to the main model, 12 of the 31 attributes were found to be statistically significant at or below the 0.05 level. These will be discussed in further detail below. It is worth noting in Table 4 for now, however, that there is some variation in the estimated statistical significance of the various attributes based on the experience of the convention planner as well as the affiliation of the convention planner.

With regard to experience, the results for planners with more than 10 years of experience indicate that there is a slight increase in the overall number of attributes which seem to affect their choice of a preferred convention site. This result seems to be what one might expect. It seems plausible to expect that a less-experienced planner might be more inclined to simplify the task by focusing on a smaller set of attributes. But as planners gain more experience and have personally witnessed how the success of past conventions have been influenced by many of the potentially important characteristics, they may become more inclined, over time, to pay some attention to issues which, earlier in their career, may not have seemed so important. Site attributes which appear to be of greater importance as experience increases includes some attributes which relate generally to the accessibility of a site. Additionally, the cost of the convention facility as well as the capacity of the plenary room seem to become more important with experience, as does opportunities for sightseeing and tours, the quality of the general infrastructure, local hospitality and friendliness, and the possibility of a subsidy to the convention. Less experienced planners seem to be more concerned that the local chapter of the association is likely to provide significant help in organizing and hosting the convention.

With regard to the origin/affiliation of the association convention planner, a few differences can be observed. The American Society of Association Executives (ASAE) is American-based but nevertheless also includes international associations which are based outside the US. Similarly, the International Congress and Convention Association



(ICCA) is European-based but again members of ICCA are not necessarily European-based themselves. However, some continental difference is likely. To the extent that this is the case, it would appear that American associations focus on travel accessibility by national members whereas European associations seem to pay more attention to international travel accessibility, although the cost of international long-haul (defined as travel between rather than within continents), not surprisingly, seems to be more important to American-based associations. The cost of the venue and plenary room capacity also appears to matter more to American-based planners. A few other differences are also evident in Table 4. It is interesting to note that the attributes which seem to be universally important include: *the convenience of flight schedules, inbound travel barriers and formalities*, and *the risk of disruption to the convention* as a result of strikes, political instability, etc.

Table 5 provides an interpretation of the results from Table 4 for each of the convention site attributes. Interpretations concerning the direction of the effect (based on the sign of the attribute coefficient) of each of the statistically significant attributes (shown bolded) are all consistent with what one might expect given the nature of each of these attributes. It is worth noting that the direction of the effect for the other attributes that were not found to be statistically significant were, except in only four cases, consistent with expectations nevertheless. In this regard, the overall results therefore seem to be quite sound.

To evaluate the importance of each of the convention site attributes in the choice process, further estimation models were calculated by removing one of the attributes at a time from the main model and re-estimating the parameters of the model with an emphasis on the change in the fit of the model based on changes in the log likelihood statistic (Greene, 1997; Hensher, Rose, & Greene, 2005; Louviere et al., 2000). From Wilks theorem (Wilks, 1938), twice the difference in the log likelihood statistic between the main model and the model with one of the independent variables removed has a Chi-squared distribution. It is therefore possible, from such an analysis, to estimate the significance of this difference as well as the proportion of the variation explained by the main model that can be attributed to the explanatory power of each variable. The outcomes of this analysis are summarized in Table 6. In this table, the attributes are ordered by their decreasing rank of importance based on the proportion of the variation explained by the main model.

The three most important attributes - *convenience of flight schedules, risk of disruption*, and *inbound travel barriers and formalities* – collectively account for 65% of the explained variance in convention site choice. A further three attributes – *on-site versus off-site accommodation, number of four-star hotels*, and *the cost of the venue against the international average* account for a further 28% of the explained variance. Eight other attributes of diminishing importance are also significant and include: *the possibility of a subsidy to defray costs, number of available five-star hotels, previous or recent use of the site, cost of domestic air travel, national versus international accessibility, assistance from the association's local chapter/members, plenary room capacity*, and *the quality of the general infrastructure*. The remaining 17 attributes add less than 10% to the explained choice variance and therefore appear to be of little consequence under typical circumstances.

With regard to the top three attributes, two of these concern difficulties related to the accessibility of a site and the third attribute concerns the threat of disruption to the convention due potentially to labour strikes, political instability and the like. If there are significant weaknesses or problems with any three of these factors, clearly the consequences for running a successful convention are potentially concerning at best, and catastrophic at worst. This result suggests that associations and convention planners, above all else, pay attention to what makes a site unattractive, resulting possibly in a site being ruled out, before they then try to pick and choose between sites with attention now focusing on the attributes that make a site attractive (Oppermann, 1996).

The attributes ranked for importance 4th and 5th concern issues

relating to accommodation facilities for conference delegates. It would seem that convention planners place a premium on being able to accommodate all, or as many delegates as possible, at the same site as the convention meeting facilities. The number of available four-star hotels ranked as more important than the number of available three and five-star hotels suggesting that, in most cases, associations aim mainly at four-star accommodation for their members.

The cost of the convention facility was also found to be an important attribute but, coming 6th in the rank of significance, is more of a middle-order decision factor.

As this is the only study to date which has empirically evaluated the relative importance of convention site selection factors in the international associations convention market to such a fine-grained degree, it is difficult to compare these findings with the more descriptive studies which have been undertaken in the past. The most comparable earlier study (Crouch & Louviere, 2004) modelled 20 site selection factors in a domestic setting (Australia) and found that a majority of the top ten most important factors concerned attributes that related directly to the convention and accommodation venue itself. In this study, fewer of the most important attributes related to the convention and accommodation venue and concerned a broader range of issues such as accessibility to the host site. It is perhaps not surprising that a wider range of considerations come into play when selecting a preferred host site when locations are being compared across, rather than within nations.

## 5. Conclusions

For many international associations, the success or otherwise of their annual convention is potentially the most important activity the association undertakes (Ardani, 2017; Chacko & Fenich, 2000). While many associations offer a range of services and benefits to members, the annual convention is often the paramount feature upon which an association relies for building and sustaining its membership and for prospering financially. The choice of a very good convention site therefore has the potential to significantly advance the fortunes of an association. Conversely, the choice of a bad or poor site may erode member interest and the selection of a disastrous site may have major negative consequences for the association, or at least for those on the association executive who had primary responsibility for selecting the site. The choice of the convention site therefore carries consequences which are likely to focus the minds of those involved (Baloglu & Love, 2005).

For the successful host destination, as discussed in the introduction, the rewards may also be multi-faceted and considerable, particularly if the convention is going to: a) attract a large number of international and out-of-town delegates; b) result in other significant economic, social, cultural and tourism side-effects; c) promote the image and awareness of the city; and d) lead to wise investments in infrastructure, facilities, and visitor superstructure which benefits residents into the future.

Many major cities around the world have, in recent years, invested heavily in visitor facilities designed to attract major international conventions. While they have seen the international meetings and conventions sector enjoy considerable growth for many years, the decisions taken to enhance their competitiveness appear to have been based on limited reliable research. There has been a clear focus on building bigger and better convention centres in the implied belief that this is what matters most (Sanders, 2014). But it may be that other factors exert a greater influence on the choices that associations make. The purpose of this research, therefore, was to try to experimentally evaluate the degree of influence which the various and wide-ranging characteristics of a city and its situational circumstances, exert on the choice of convention sites.

The results from this research suggests that the features of the convention facilities are not the most paramount considerations. Of the convention facility attributes, the highest ranked attribute concerned

**Table 5**  
Interpretation of Results.

Independent Variable (Convention Site Attribute)	Main Model		Interpretation
	Coefficient	P> z	
Constant	.03127	0.922	
1. National v. international travel	.06150	0.025	<b>Positive coefficient indicates that a site is favoured when more association members are able to travel domestically rather than internationally.</b>
2. Travel by national members	.02267	0.410	Positive coefficient indicates that a site which enables more national members to travel locally rather than having to fly domestically is favoured.
3. Travel by international members	.03188	0.247	Positive coefficient indicates that a site which enables more international members to travel short-haul is preferable to long-haul travel.
4. Domestic air travel cost	-.06434	0.019	<b>Negative coefficient indicates that a site requiring lower domestic air fares is favourable.</b>
5. International short-haul cost	-.02664	0.335	Negative coefficient indicates that a site requiring lower international short-haul fares is favourable.
6. International long-haul cost	-.04263	0.120	Negative coefficient indicates that a site requiring lower international long-haul fares is favourable.
7. Convenience of flight schedules	.29102	0.000	<b>Positive coefficient indicates that a site with frequent, direct flights is preferred over a site with infrequent and/or indirect flights.</b>
8. Inbound travel barriers, formalities or equipment fees	.15393	0.000	<b>Positive coefficient indicates that a site with minimal travel barriers and formalities is preferable to a site that involves more expensive or time-consuming formalities.</b>
9. On-site vs. off-site accommodation of delegates	.00287	0.000	<b>Positive coefficient indicates that a site which is able to accommodate a greater proportion of delegates on-site with the convention facility is preferred.</b>
10. Number of three star hotels (effects code 1)	-.01949	0.711	<b>Overall, these coefficients suggest that a larger number of available hotels in each star-class is preferable. In particular, there is an indication that a minimal available number of 4 and 5-star hotels is a significant deterrent.</b>
10. Number of three star hotels (effects code 2)	-.04254	0.420	
10. Number of three star hotels (effects code 3)	.01662	0.752	
11. Number of four star hotels (effects code 1)	-.15801	0.004	
11. Number of four star hotels (effects code 2)	-.00716	0.892	
11. Number of four star hotels (effects code 3)	.08990	0.084	
12. Number of five star hotels (effects code 1)	-.12558	0.020	
12. Number of five star hotels (effects code 2)	.02861	0.587	
12. Number of five star hotels (effects code 3)	.11496	0.026	
13. Three star hotel rates	-.00715	0.173	
14. Four star hotel rates	-.00436	0.132	Negative coefficient indicates that higher 4-star hotel room rates are unattractive.
15. Five star hotel rates	.00110	0.450	<i>Positive coefficient indicates that lower 5-star hotel room rates are not attractive.</i>
16. Cost of venue against international average	-.00376	0.002	<b>Negative coefficient indicates that a site with higher venue costs compared to the international average is not preferred.</b>
17. Plenary room capacity	.00002	0.042	<b>Positive coefficient indicates that a site with a higher plenary room capacity is preferred over a site with smaller plenary rooms.</b>
18. Break-out/concurrent session rooms	-.02315	0.407	Negative coefficient indicates that a site offering exceptional standards of break-out/sessional rooms is preferred over a site with merely adequate such facilities.
19. Overall ambience and layout	.02201	0.432	<i>Positive coefficient indicates that a site offering exceptional standards of ambience and layout is not preferred over a site that is merely adequate in this regard.</i>
20. Overall reliability and customer service	-.02915	0.299	Negative coefficient indicates that a site offering exceptional standards of reliability and customer service is preferred over a site offering merely adequate service.
21. Range and availability of audio/visual facilities	-.00640	0.820	Negative coefficient indicates that a site offering exceptional standards of break-out/sessional rooms is preferred over a site with merely adequate such facilities.
22. Opportunities for sightseeing and tours	.00616	0.826	<i>Positive coefficient indicates that a site offering many opportunities for sightseeing and tours is not preferred over a site offering few such opportunities.</i>
23. Opportunities for professional networking	-.03400	0.224	Negative coefficient indicates that a site offering many opportunities for professional networking is preferred over a site with little such opportunity.
24. The quality of the general infrastructure	-.05449	0.052	Negative coefficient indicates that a site with exceptional infrastructure is preferred over a site with merely adequate infrastructure.
25. The local hospitality and friendliness	-.04465	0.111	Negative coefficient indicates that a site offering exceptional levels of hospitality and friendliness is preferred over a site with merely adequate hospitality.
26. Assistance from association's local chapter/member	-.05730	0.041	<b>Negative coefficient indicates that a site offering exceptional levels of assistance from the local chapter is preferred over a site offering merely adequate assistance.</b>
27. Assistance from local CVB	-.03111	0.266	Negative coefficient indicates that a site offering exceptional levels of assistance from the local CVB is preferred over a site offering merely adequate assistance.
28. Possibility of a subsidy to defray costs (effects code 1)	-.01652	0.755	<b>Overall these coefficients indicate that a site that is more likely to offer to provide a subsidy is seen to be more attractive.</b>
28. Possibility of a subsidy to defray costs (effects code 2)	-.11709	0.029	
28. Possibility of a subsidy to defray costs (effects code 3)	.00497	0.925	
29. Concern over delegate safety and security	-.03614	0.328	<i>Negative sign indicates that a site offering little concern over safety and security is not preferred over a site with greater concerns.</i>
30. The association held its convention at this site (effects code 1)	.08102	0.119	Overall, these results indicate that if the association held its convention at a site quite recently, its chances of selection are reduced.
30. The association held its convention at this site (effects code 2)	.05547	0.288	
30. The association held its convention at this site (effects code 3)	.00134	0.980	
31. Risk of disruption of the convention	.18635	0.000	<b>Positive coefficient indicates that a site with little potential risk to the convention of disruption is preferred over a site where the risks are higher.</b>

**Note:** 1. Interpretations for statistically significant attributes are bolded.

2. Interpretations which run counter to expectations are shown in italics. Note that in no case were these associated with any statistically significant attributes.

the cost of the facility (ranked 6th of 31 attributes). The capacity of the plenary room was further down the list in importance at 13th. Other convention facility attributes; namely, the suitability of the break-out rooms, the overall ambience and layout, the perceived reliability and customer service and the range and availability of audio-visual systems and facilities were found not to be significant choice attributes.

The attributes which were estimated to affect the choice of host city to the greatest extent were those which impacted the accessibility of the

city and the potential for a disrupted event due to local concerns regarding the ability of the hosts to ensure a convention free of trouble and external threats. The quality and range of accommodation, particularly in relation to its proximity to, or association with, the convention facility itself, also represented important considerations.

In an increasingly competitive market, some destinations use subsidies or financial incentives designed to tip the odds of choice in their direction. This research suggests that such behaviour can have a

**Table 6**  
Importance of convention site selection attributes.

Independent variable removed from main model	Log likelihood	Twice difference in log likelihood <sup>1</sup>	% of cumulative difference	Attribute importance rank
Main model with all attributes	–2920.51			
7. Convenience of flight schedules	–2974.37	107.72***	38.47	1
31. Risk of disruption of the convention	–2942.60	44.19***	15.78	2
8. Inbound travel barriers, formalities or equipment fees	–2935.60	30.19***	10.78	3
9. On-site vs. off-site accommodation of delegates	–2927.13	13.24***	4.73	4
11. Number of four star hotels	–2925.38	9.73**	3.48	5
16. Cost of venue against international average	–2925.31	9.59***	3.43	6
28. Possibility of a subsidy to defray costs	–2924.39	7.77*	2.77	7
12. Number of five star hotels	–2924.28	7.54*	2.69	8
30. The association held its convention at this site	–2942.24	7.47*	2.67	9
4. Domestic air travel cost	–2923.26	5.51**	1.97	10
1. National v. international travel	–2923.04	5.06**	1.81	11
26. Assistance from association's local chapter/member	–2922.60	4.18**	1.49	12
17. Plenary room capacity	–2922.56	4.11**	1.47	13
24. The quality of the general infrastructure	–2922.40	3.79*	1.35	14
25. The local hospitality and friendliness	–2921.78	2.54	0.91	15
6. International long-haul cost	–2921.72	2.42	0.86	16
14. Four star hotel rates	–2921.65	2.28	0.81	17
13. Three star hotel rates	–2921.44	1.86	0.66	18
23. Opportunities for professional networking	–2921.25	1.48	0.53	19
3. Travel by international members	–2921.18	1.34	0.48	20
27. Assistance from local CVB	–2921.13	1.24	0.44	21
10. Number of three star hotels	–2921.08	1.15	0.41	22
20. Overall reliability and customer service	–2921.05	1.08	0.38	23
29. Concern over delegate safety and security	–2920.99	0.96	0.34	24
5. International short-haul cost	–2920.98	0.93	0.33	25
18. Break-out/concurrent session rooms	–2920.85	0.69	0.25	26
2. Travel by national members	–2920.85	0.68	0.24	27
19. Overall ambience and layout	–2920.82	0.62	0.22	28
15. Five star hotel rates	–2920.79	0.57	0.20	29
21. Range and availability of audio/visual facilities	–2920.54	0.05	0.02	30
22. Opportunities for sightseeing and tours	–2920.53	0.05	0.02	31

**Notes:** 1. By Wilk's Theorem, twice the difference in log likelihoods between the main model and the model which excludes an independent variable is Chi-square distributed. Statistically significant differences are shown as follows: \* 10%, \*\*5%, \*\*\*1%. Note that there was 1 degree of freedom for each of the above tests (since each involved a difference of a single independent variable) except for variables 10, 11, 12, 28 and 30 as these involved removing 3 effects-coded variables.

significant impact on site choice, but is not, in itself, enough to make up for major weaknesses on other more important factors. There is also evidence to suggest that a strong local chapter of the association that is willing to provide considerable support to the organization of the convention and related activities may significantly influence how a potential host site is viewed by the association and convention planner.

Discrete choice modelling has provided this research with a rigorous methodology for estimating the strength and significance of the various site selection attributes. Of particular importance, this research also demonstrates the use of Best-Worst Scaling to identify and select attributes. Additionally, the blocked research design helped model an extraordinarily complex decision process involving 31 attributes, some with up to 16 levels. Although discrete choice modelling involves the design of hypothetical scenarios, this approach overcomes many of the weaknesses and limitations posed by other potential methods involving the analysis of actual market data, if such data were even to exist. Nevertheless, there are some limitations in our modelling approach. First, it is always possible that convention planners may respond differently when faced with hypothetical alternatives. But by asking respondents merely to identify their preferred site from the two choices available, rather than asking them to indicate how they judge each attribute, is more representative of the way such choices are made in reality. Indeed, by not forcing a particular choice algorithm on each respondent, the respondent is free to use whatever intrinsic approach they feel is appropriate and that suits their decision style. The great advantage of DCM is that the analysis then *reveals* the underlying choice heuristics without imposing an approach which may not match the respondent's normal decision process (Crouch & Louviere, 2001).

This research focussed on international conventions held by associations. As such, the findings are not applicable to other types of

meetings or exhibitions, to corporate organised conventions, or to conventions that are domestic rather than international in nature. Different factors may play a role in these circumstances and the relative importance of the site attributes may vary in these circumstances. As noted in the introduction, the aim of the choice modelling analysis was to focus on the site selection work and recommendations of the meeting planner. The subsequent influence and judgments made by the board of the association in arriving at their final decision were outside the scope of this present study. But the strategic, subjective and political considerations by the board are no doubt potentially very important and therefore deserving of further, future research focussed on the role they play. For example, there may be a key influencer on the board, perhaps the current chairperson, who has a bias toward a particular site. Or the board might feel that a somewhat lower-rated site might stimulate a growth in membership over the long term in that location to the association's strategic advantage. Clearly, the factors and issues which influence the stage 2 decision are very important and are deserving of further research.

Changing global political, financial, terrorism and communicable disease developments may also shift the relative importance of the convention site attributes. Such changes could result in rapid adjustments to the way international convention sites are selected, or changes could occur more slowly over the longer term.

The growing significance of accommodation options available through the sharing economy, such as Airbnb, will likely also have a more important impact on convention tourism in the future. Although the effect of such accommodation on the international association conventions sector is likely to lag the impact it has had on other tourism market segments, future research on convention site selection factors will need to take this development into account.

## Author contribution

Each author contributed equally to the research and manuscript.

## Conflicts of interest

There are no competing interests.

## Acknowledgments

We would like gratefully to thank Professor Jordan Louviere, who assisted with the design of the choice experiment, and Professor Harmen Oppewal who provided some guidance on the data analysis.

## Appendix A. Supplementary data

Supplementary data related to this article can be found at <https://doi.org/10.1016/j.tourman.2018.10.002>.

## References

- Abbey, J., & Link, C. (1994). The convention and meetings sector: Its operation and research needs. In J. R. Brent Ritchie, & C. R. Goeldner (Eds.). *Travel, tourism and hospitality research: A handbook for managers and researchers* (2nd ed.). New York: John Wiley.
- Amiri, M., Zandieh, M., Vahdani, B., Yazdani, M., & Soltani, R. (2008). A hybrid MCDM model with interval weights and data for convention site selection. *Journal of Applied Sciences*, 8, 2678–2686.
- Ardani, E. (2017). The importance of the venue selection in an event organization case study: Special event organization rencontre alumni entreprise 1 & 2. *E-Journal of Tourism*, 4(1), 46–54.
- Baade, R., Baumann, R., & Matheson, V. (2009). Rejecting “conventional” wisdom: Estimating the economic impact of national political conventions. *Eastern Economic Journal*, 35(4), 520–530.
- Backhaus, K., Lügger, K., & Koch, M. (2011). The structure and evolution of business-to-business marketing: A citation and co-citation analysis. *Industrial Marketing Management*, 40(6), 940–951.
- Baloglu, S., & Love, C. (2005). Association meeting planners' perceptions of five major convention cities: The structured and unstructured images. *Tourism Management*, 26(5), 743–752.
- Boyle, M. (1997). Civic boosterism in the politics of local economic development: ‘Institutional positions’ and ‘strategic orientations’ in the consumption of landmark events. *Environment & Planning A*, 29, 1995–1997.
- Cantalops, A., & Salvi, F. (2014). New consumer behavior: A review of research on eWOM and hotels. *International Journal of Hospitality Management*, 36, 41–51.
- Chacko, H., & Fenich, G. (2000). Determining the importance of US convention destination attributes. *Journal of Vacation Marketing*, 6(3), 211–220.
- Chen, C. (2006). Applying the analytical hierarchy process (AHP) approach to convention site selection. *Journal of Travel Research*, 45(2), 167–174.
- Clark, J., & McCleary, K. (1995). Influencing associations' site-selection process. *Cornell Hotel and Restaurant Administration Quarterly*, 36(2), 61–68.
- Clark, J., Price, C., & Murrmann, S. (1996). Buying center: Who chooses convention sites? *Cornell Hotel and Restaurant Administration Quarterly*, 37(4), 72–76.
- Cohen, S., & Neira, L. (2003). *Measuring preference for product benefits across countries: Overcoming scale usage bias with maximum difference scaling*. 2003 ESOMAR conference.
- Crouch, G., & Louviere, J. (2001). A review of choice modelling research in tourism, hospitality and leisure. In J. Mazanec, G. Crouch, J. Ritchie, & A. Woodside (Eds.). *Consumer psychology of tourism, hospitality and leisure, volume 2* (pp. 67–86). Wallingford, UK: CABI.
- Crouch, G., & Louviere, J. (2004). The determinants of convention site selection: A logistic choice model from experimental data. *Journal of Travel Research*, 43(2), 118–130.
- Crouch, G., & Ritchie, J. (1998). Convention site selection research: A review, conceptual model, and propositional framework. *Journal of Convention & Exhibition Management*, 1(1), 49–69.
- Dioko, L., & Whitfield, J. (2015). Price competitiveness and government incentives for simulating the meetings industry: A critical look at the case of Macau. *International Journal of Event and Festival Management*, 6(1), 39–53.
- DMAI. (2016). *Meetings and group markets*. Destination management association international. Available here: <https://destinationsinternational.org/>.
- Fawzy, A., & Samra, Y. (2008). A conceptual model for understanding associations' site selection processes: An organizational buyer behavior perspective. *Journal of Convention & Event Tourism*, 9(2), 119–136.
- Fenich, G. (1992). Convention centre development: Pros, cons and unanswered questions. *International Journal of Hospitality Management*, 11(3), 183–196.
- Fenich, G. (2015). *Planning and management of meetings, expositions, events and conventions*. New York: Pearson.
- Fenich, G. (2016). *Meetings, expositions, events and conventions: An introduction to the industry* (4th ed.). New York: Pearson.
- Finn, A., & Louviere, J. (1992). Determining the appropriate response to evidence of public concern: The case of food safety. *Journal of Public Policy and Marketing*, 11(2), 12–25.
- Ghazali, M., & Ghani, M. (2015). A theoretical framework of organization senior management's choice of convention venue. *International Conference on Trends in Economics, Humanities and Management (ICTEHM'15)* (pp. 27–28).
- Greene, W. (1997). *Econometric analysis* (3rd ed.). New Jersey: Prentice-Hall International, Inc.
- Hamada, M., & Wu, C. (2000). *Experiments: Planning, analysis, and parameter design optimization*. New York: Wiley.
- Hensher, D. A., Rose, J., & Greene, W. (2005). *Applied choice analysis: A primer*. Cambridge, UK: Cambridge University Press.
- Hu, C., & Hiemstra, S. J. (1996). Hybrid conjoint analysis as a research technique to measure meeting planners' preferences in hotel selection. *Journal of Travel Research*, 35(2), 62–69.
- Huo, Y. (2014). Meeting planners' perception on convention destination attributes: Empirical evidence from six major Asian convention cities. *Journal of Business Inquiry: Research, Education & Application*, 13(2), 70–80.
- ICCA. (2017). *ICCA statistics report 2016*. International congress and conventions association. Available here: <https://www.iccaworld.org/knowledge/benefit.cfm?benefitid=4036>.
- Jin, X., Weber, K., & Bauer, T. (2013). Dimensions and perceptual differences of exhibition destination attractiveness: The case of China. *Journal of Hospitality & Tourism Research*, 37(4), 447–469.
- Jones, C., & Li, S. (2015). The economic importance of meetings and conferences: A satellite account approach. *Annals of Tourism Research*, 52, 117–133.
- Kozak, M., Aksoz, E., & Özal, Ç. (2015). An analytical hierarchy process (AHP) model for understanding convention planners' prior factors of convention hotel selection. *International Journal of the Analytic Hierarchy Process*, 7(2), 256–272.
- Lai, I., & Hitchcock, M. (2015). Importance–performance analysis in tourism: A framework for researchers. *Tourism Management*, 48, 242–267.
- Lee, M., & Back, K. (2005). A review of the economic value drivers in convention and meeting management research. *International Journal of Contemporary Hospitality Management*, 17(5), 409–420.
- Lee, M., & Back, K. (2007). Effects of destination image on meeting participation intentions: Empirical findings from a professional association and its annual convention. *Service Industries Journal*, 27(1), 59–73.
- Lee, J., Choi, Y., & Breiter, D. (2016). An exploratory study of convention destination competitiveness from the attendees' perspective: Importance-performance analysis and repeated measures of manova. *Journal of Hospitality & Tourism Research*, 40(5), 589–610.
- Lee, H., & Lee, J. S. (2017). An exploratory study of factors that exhibition organizers look for when selecting convention and exhibition centers. *Journal of Travel & Tourism Marketing*, 34(8), 1001–1017.
- Lee, S., Park, K., & Khan, M. (2012). Perceived importance of ICT-based feature and services on conference center selection and differences among meeting planners. *Journal of Hospitality and Tourism Technology*, 3(1), 32–46.
- Lilien, G. (2016). The B2B knowledge gap. *International Journal of Research in Marketing*, 33(3), 543–556.
- Louviere, J. (1984). Using discrete choice experiments and multinomial logit choice models to forecast trial in a competitive retail environment: A fast food restaurant illustration. *Journal of Retailing*, 60, 81–107.
- Louviere, J., Hensher, D., & Swait, J. D. (2000). *Stated choice methods: Analysis and application*. Cambridge, UK: Cambridge University Press.
- Mair, J., & Thompson, K. (2009). The UK association conference attendance decision-making process. *Tourism Management*, 30(3), 400–409.
- Malek, K., & Kim, J. (2016). Convention attendance and gaming volume in South Korean casinos. *International Journal of Event and Festival Management*, 7(1), 66–80.
- Marley, A., & Louviere, J. (2005). Some probabilistic models of best, worst, and best-worst choices. *Journal of Mathematical Psychology*, 49(6), 464–480.
- McFadden, D. (1974). Conditional logit analysis of qualitative choice behaviour. In P. Zarembka (Ed.). *Frontiers in econometrics*. New York: Academic Press.
- McFadden, D., & Train, K. (2000). Mixed MNL models for discrete response. *Journal of Applied Econometrics*, 15, 447–470.
- McIntosh, E., & Louviere, J. (2002). *Separating weight and scale value: An exploration of best-attribute scaling in health economics* (unpublished paper presented at the Health Economics Study Group, Odense, Dinamarca).
- Mody, M., Gordon, S., Lehto, X., So, S., & Li, M. (2016). The Augmented convention offering: The impact of destination and product images on attendees' perceived benefits. *Tourism Analysis*, 21(1), 1–15.
- Oppermann, M. (1996). Convention destination images: Analysis of association meeting planners' perceptions. *Tourism Management*, 17(3), 75–182.
- Oppermann, M., & Chon, K. (1997). Convention participation decision-making process.

- Annals of Tourism Research*, 24(1), 178–191.
- Oppewal, H., Huybers, T., & Crouch, G. (2015). Tourist destination and experience choice: A choice experimental analysis of decision sequence effects. *Tourism Management*, 48, 467–476.
- Para, A., & Kachniewska, M. (2014). Determinants of convention and conference site selection: The Polish event planner perspective. *New Trends in Tourism Research-A Polish Perspective*, 1, 150–162.
- Park, H., & Kim, D. (2017). In pursuit of an environmentally friendly convention industry: A sustainability framework and guidelines for a green convention. *International Journal of Contemporary Hospitality Management*, 29(3), 1028–1051.
- PriceWaterhouseCooper (2014). *The economic significance of meetings to the U.S. Economy*. Tampa, FL: PWC LLP.
- Ramsborg, G. (2015). *Professional meeting management: A guide to meetings, conventions and events* (6<sup>th</sup> ed.). Chicago: Professional Convention Management Association.
- Rutherford, D., & Kreck, L. (1994). Conventions and tourism: Financial add-on or myth? Report of a study in one state. *Journal of Travel & Tourism Marketing*, 3(1), 49–64.
- Sanders, H. (2014). *Convention center follies: Politics, power, and public investments in american cities*.
- Severt, D., Wang, Y., Chen, P.-J., & Breiter, D. (2007). Examining the motivation, perceived performance and behavioral intentions of convention attendees: evidence from a regional conference. *Tourism Manag.* 28(2), 399–408.
- Swait, J., & Louviere, J. (1993). The role of the scale parameter in the estimation and comparison of multinomial logit models. *Journal of Marketing Research*, 30(3), 305–314.
- Thurstone, L. (1927). A law of comparative judgment. *Psychological Review*, 34, 273–286.
- Train, K. (2009). *Discrete choice methods with simulation*. New York: NY: Cambridge University Press.
- Var, T., Cesario, F., & Mauser, G. (1985). Convention tourism modelling. *Tourism Management*, 6(3), 194–204.
- Voelkel, J. (2004). *The efficiencies of fractional factorial designs* Technical Report 2004-1, Center for Quality and Applied Statistics. Rochester, NY: Rochester Institute of Technology.
- Wilks, S. (1938). Large sample distribution of the likelihood ratio for testing composite hypotheses. *The Annals of Mathematical Statistics*, 9, 60–62.
- Yoo, J., & Chon, K. (2008). Factors affecting convention participation decision-making: Developing a measurement scale. *Journal of Travel Research*, 47(1), 113–122.
- Zhang, H. Q., Leung, V., & Qu, H. (2007). A refined model of factors affecting convention participation decision-making. *Tourism Management*, 28(4), 1123–1127.



**Geoffrey I. Crouch** (PhD) is Professor of Tourism Policy and Marketing in the La Trobe Business School, La Trobe University, Australia. He is a Fellow of the International Academy for the Study of Tourism. His research interests include destination competitiveness, destination marketing and management, and tourism psychology and consumer behaviour.



**Giacomo Del Chiappa** (PhD) is Associate Professor of Marketing at the Department of Economics and Business, University of Sassari (Italy) and Senior Research Fellow at the School of Tourism & Hospitality, University of Johannesburg (South Africa). His research is related to destination governance and branding, consumer behaviour, and digital marketing.



**Richard R. Perdue** (PhD) is the R.B. Pamplin Professor of Hospitality and Tourism Management in the Virginia Tech Pamplin College of Business. He is a Fellow of the International Academy for the Study of Tourism. His research focuses on destination strategy, revenue management, pricing, and destination marketing.