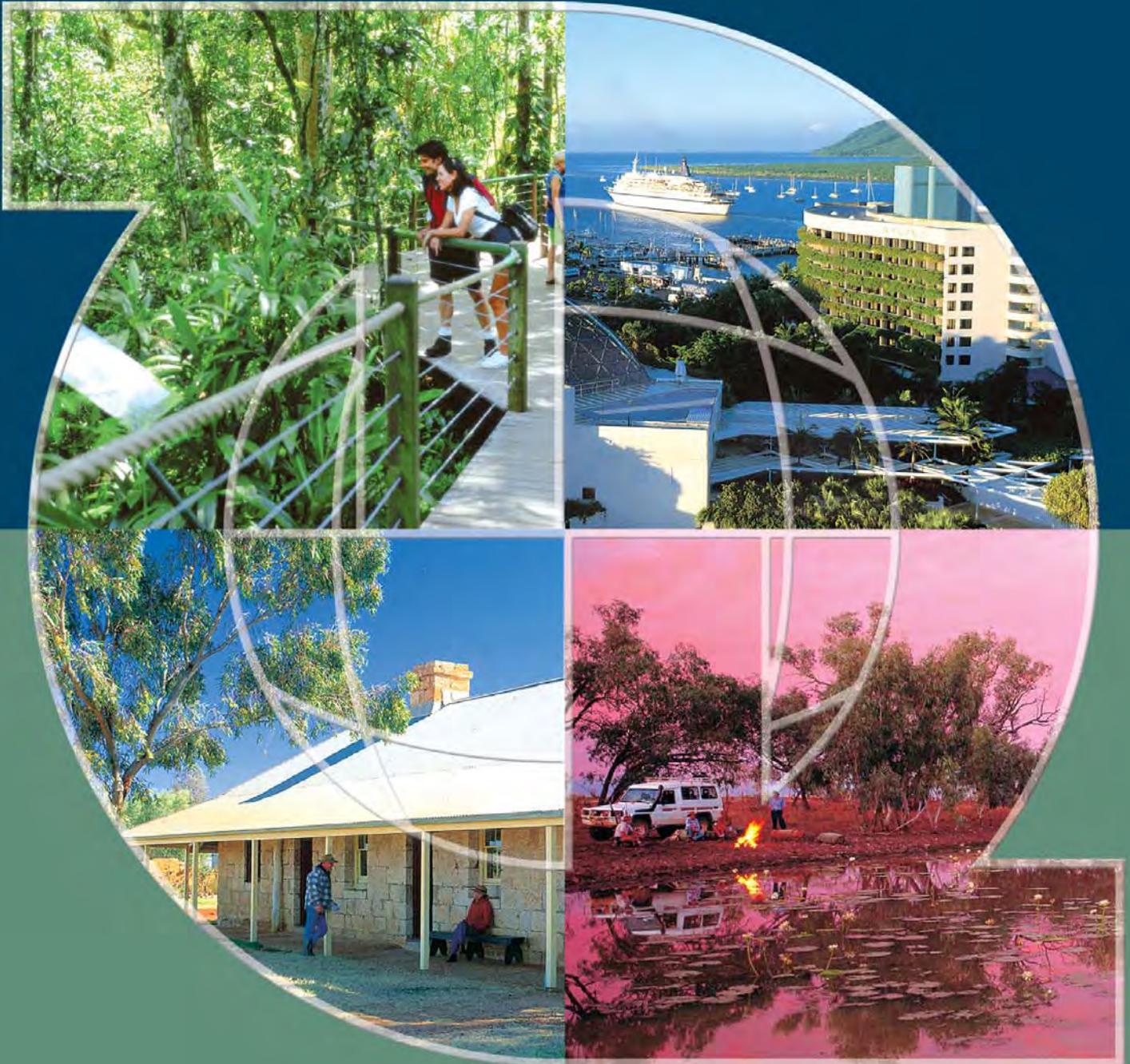


CONVENTION SITE SELECTION

DETERMINANTS OF DESTINATION CHOICE IN THE AUSTRALIAN DOMESTIC CONVENTIONS SECTOR



By Geoffrey Crouch and Jordan Louviere

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Summary

The conventions industry has grown to become a very important part of the global tourism and hospitality sector. For cities, particularly, conventions have become one of their principal target markets. For this reason, Convention and Visitor Bureaux typically focus a great deal of their time and effort wooing large associations that are looking for an attractive host convention site.

This report presents the results of a study of the Australian domestic conventions industry that has modelled the convention site selection choice process. The results analyse the importance of a number of factors which are believed to influence this process. As a result, the findings will be of value to destinations that seek to compete for a share of the Australian conventions market. Specifically, the research sheds light on how destinations can increase their competitiveness, and where resources and efforts ought to be focussed to improve a destination's attractiveness in this industry.

An extensive review of past research and of the professional literature in the meetings and conventions industry identified eight categories of potentially important site attributes as follows:

- attributes that affect site accessibility,
- factors that relate to the level of local support behind the convention,
- the range and quality of various extra-conference opportunities beyond the convention,
- aspects concerning the suitability of accommodation facilities,
- meeting facility attributes,
- sources and types of information available on the site,
- components of the general attractiveness of the site environment, and
- other criteria such as risk, novelty of the site, promotion of association goals, etc.

A great deal of information was revealed that suggests what the important site selection factors might be. But the study found very little pre-existing real evidence of the actual significance or importance of each factor. From among the above list of categories, the research estimated the utility or impact that each of 20 different site attributes exert on the selection of a host destination for the convention. These 20 attributes were selected based on the results of interviews with industry professionals.

To achieve the aims of the project, a method known as choice modelling was employed using data from a choice experiment carried out with the cooperation of Australian convention planners who have experience evaluating, selecting or recommending a convention site from among several alternatives. This method is very suited to the aims of this research. It is scientifically rigorous and theoretically sound, being founded on the most up-to-date theories in choice and decision-making.

The major results from the study are as follows:

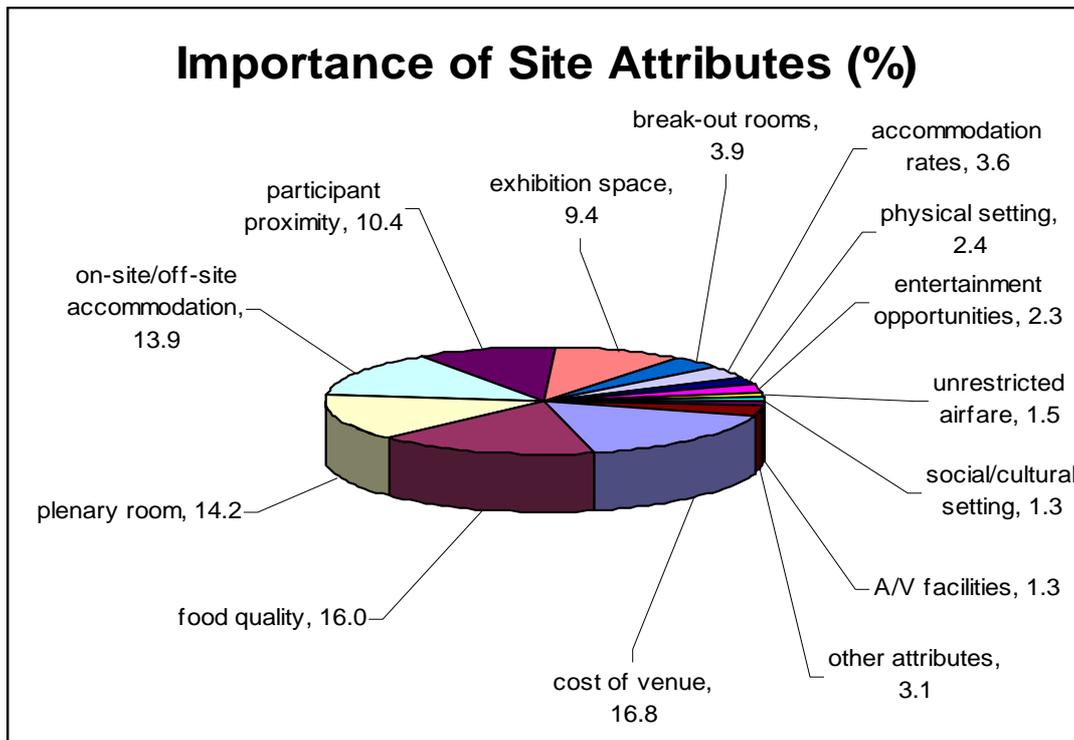
- The attractiveness of a site is strongly connected to the proximity of the site to convention participants. When a site requires a greater proportion of convention delegates to travel further, its competitiveness declines significantly. This is most notable when the weighted average flying time exceeds about 2.5 hours.
- Neither the level of unrestricted economy airfares nor discount airfares available to the site were found to be significant factors. A possible explanation is that, although a site needs to be accessible, the cost of air travel is borne by the attendee rather than the association, so that convention planners may have put little weight on this factor.
- The degree to which convention attendees needed to, or could, be accommodated on-site (i.e. in a hotel integrated with the convention facilities) versus off-site (i.e. in other separate hotels) proved to be a very important consideration. The attractiveness of a site is clearly much greater when many more or all attendees are able to stay in an integrated convention/ accommodation facility.
- The range of available accommodation, in terms of the quantity and quality of hotels to choose from, was found to have little influence. In contrast, the room rates for accommodation were found to be significant with attractiveness declining as room rates increase.
- The location of the accommodation relative to the airport (measured in terms of the average duration of a taxi trip) had no significant impact on site competitiveness up to travel times of 40 minutes.
- The anticipated weather at a convention site was found to have no influence on the likelihood of its selection. Although weather varies across Australia, it does not vary greatly. Weather may be a more important factor when site competitiveness is evaluated internationally.
- Not surprisingly, the cost of the convention venue was found to be highly statistically significant. Higher facility costs clearly hurt site competitiveness, but there was some evidence to also suggest that very inexpensive sites may also be unattractive. Such 'cheap' sites may signal poor facilities which might put the success of the convention at some risk.

- The perceived quality of the food provided at the convention site proved to be a very important factor. Improving food quality positively affects the likelihood that a site will be selected at all levels of perceived food quality.
- A site that offers attractive opportunities for entertainment, shopping, sightseeing, recreation and organised tours, or that provides either a unique physical setting or social/cultural setting, was found to be at a significant advantage.
- Somewhat surprisingly, neither the level of assistance expected to be provided by a local chapter of the association, nor the level of assistance expected from the local convention and visitor bureau, seemed to influence site selection. Again, although these factors may not be important within the Australian domestic conventions industry, a different result might be found when analysing international conventions.
- The quality of each of a convention site’s exhibition space, plenary room, and break-out rooms were demonstrated in these research results to be highly significant factors. In contrast, the quality of the ball room/dining facilities were not factors that proved to be important.
- The availability of on-site audio/visual equipment and systems was found to be a statistically significant factor, when the alternative required the use of an off-site AV contractor.

When each of the convention site attributes discussed previously were ranked in terms of their order of importance (from most to least important) to site selection, the results (Figure 1) were as follows:

- cost of the convention venue,
- food quality,
- suitability of the plenary room,
- mix of on-site versus off-site accommodation,
- proximity of the site to convention participants,
- suitability of the exhibition space,
- suitability of the break-out rooms,
- accommodation room rates,
- attractiveness of the physical setting,
- extent of available entertainment, shopping, sightseeing, recreation, and organised tours,
- availability of unrestricted economy airfares to the site,
- attractiveness of the social/cultural setting, and
- availability of audio-visual systems and facilities.

Figure 1: Importance of site attributes (%)



This research study has found strong empirical evidence linking convention site attributes to the likelihood of a site being selected to host an association convention within the Australian domestic conventions industry. It finds that, although the characteristics of the meeting facilities are particularly important, an attractive host site must offer strengths across a broad range of other factors as well, if the site is to be successful in an escalating competitive environment. The results provide a guide to Australian convention destinations which will enable improvements in performance. The results will also be of interest to association convention planners who wish to learn more about how their peers go about assessing alternative host convention sites.

A further potential application of the empirical results reported in this study would be the development of a numerical decision-support model that could be used to perform ‘what-if’ assessments and sensitivity analyses that would directly estimate the change in the probability of site selection as destination attributes are varied.

Chapter 1

Introduction

Many Destination Management Organisations (DMOs) in the tourism industry, particularly Convention and Visitor Bureaux (CVBs), today place a great deal of emphasis on targeting the meetings and conventions market segment. The task of these organisations is to persuade the corporations or associations intending to hold meetings or conventions that the destination they represent is the best host site for the event.

Meetings and conventions have grown in number, size and frequency. The range of potential host sites has also grown significantly as destinations have responded by building or expanding convention centres and facilities, as hotels have also added and improved such facilities, as globalisation has transformed internationally the scope of many corporations and associations, and as smaller cities and towns (so-called second-tier sites) have recognised the potential economic benefits of this market segment and have begun to successfully compete for a share of this activity.

While much is known about the type and range of factors that influence the choice of a host site, little is known about the relative significance of each factor, making it difficult for destination managers to know where and how they should invest resources to enhance their competitiveness. Specifically, what role do individual site attributes play in the site-selection decision? How are site attributes 'traded off' in this process? How does the process differ as a function of the corporation's or association's characteristics?

This publication reports the results of the first stage of a research program designed to answer these questions with respect to association-organised conventions. The current study is focused on the Australian, domestic, association-organised conventions sector. Further research is currently under way to investigate convention site selection issues with respect to the international conventions market. This research is also part of a broader approach to destination competitiveness (Ritchie & Crouch 2003).

Chapter 2

The Meetings and Conventions Industry

Many destinations have increased the emphasis in their marketing strategies on the meetings and conventions industry or travel and tourism market segment. For example, the Australian Commonwealth Department of Tourism's National Tourism Strategy (1995) recognised "the meetings, incentives, conventions and exhibitions (MICE) industry as having significant growth potential" (p. 1). For example, Australian "data indicate that, in general, there has been a rapid increase in the number of international visitors who have come to Australia explicitly to attend a convention or conference" (Peters & Jones 1996, p 4).

Already large, the industry is expected to continue to expand. Although there have been several attempts to estimate the size and significance of the industry, inconsistent definitions and measurement practices make such estimates uncertain and difficult to compare (Crouch & Ritchie 1998), so caution needs to be exercised. The largest meetings and conventions market in the world – the US – is currently estimated by the Professional Convention Management Association (PCMA) to account for more than US\$80 billion in annual spending. The PCMA also estimates that two-thirds of that spending is attributable to association-sponsored events (PCMA 2002). Crouch and Ritchie (1998, p 51), in comparison, concluded that "about 70 to 75 percent of industry spending [in North America] is on association-organised events." Smith (1991) concluded that worldwide the meetings and conventions industry is about double the US industry. Other estimates include £6 billion annually for the United Kingdom (Cotterell 1994), C\$4 to 5 billion in Canada (Kingston 1995) and A\$2.4 to 3 billion in Australia (Australian Commonwealth Department of Tourism 1995). Apart from the obvious economic benefits that arise from the hosting of meetings and conventions, destinations have recognised several other benefits including the expansion of international trade and cultural ties, the enhancement of civic pride, and political motivations.

It is easy to understand, therefore, why destinations today covet this market segment. Yet, although trade and professional magazines on the meetings and conventions industry frequently publish 'checklists' of the various factors that professional meetings managers or conference organisers use to assess the suitability and attractiveness of alternative potential host sites, there has been surprisingly little systematic, empirical, or academic study (Clark & McCleary 1995; Fenich 1992; Fortin & Ritchie 1977; Oppermann 1994; Rockett & Smillie 1994; Var, Cesario & Mauser 1985; Witt, Dartus & Sykes 1992; Zelinsky 1994). Abbey and Link (1994, p 283) comment that:

Despite the importance of this market segment to both individual properties and host cities, little research has been undertaken on its structure and workings. This lack of information is a handicap to operating managers and tourism officials responsible for marketing and promoting their products and services ... While this lack of research is, on the one hand, a hindrance to the convention and meeting industry, it presents a promising opportunity for researchers. Convention and meeting research is, for the most part, an untapped market for researchers. Considerable work is needed to increase understanding of this important segment of the tourism industry.

As noted above, since association-organised conventions dominate the industry, and because corporations differ fundamentally from associations in the way they organise conventions (Fortin, Ritchie & Arsenault 1976), this present study addresses the issue of convention site selection by associations. It does not study corporate conventions or meetings.

Chapter 3

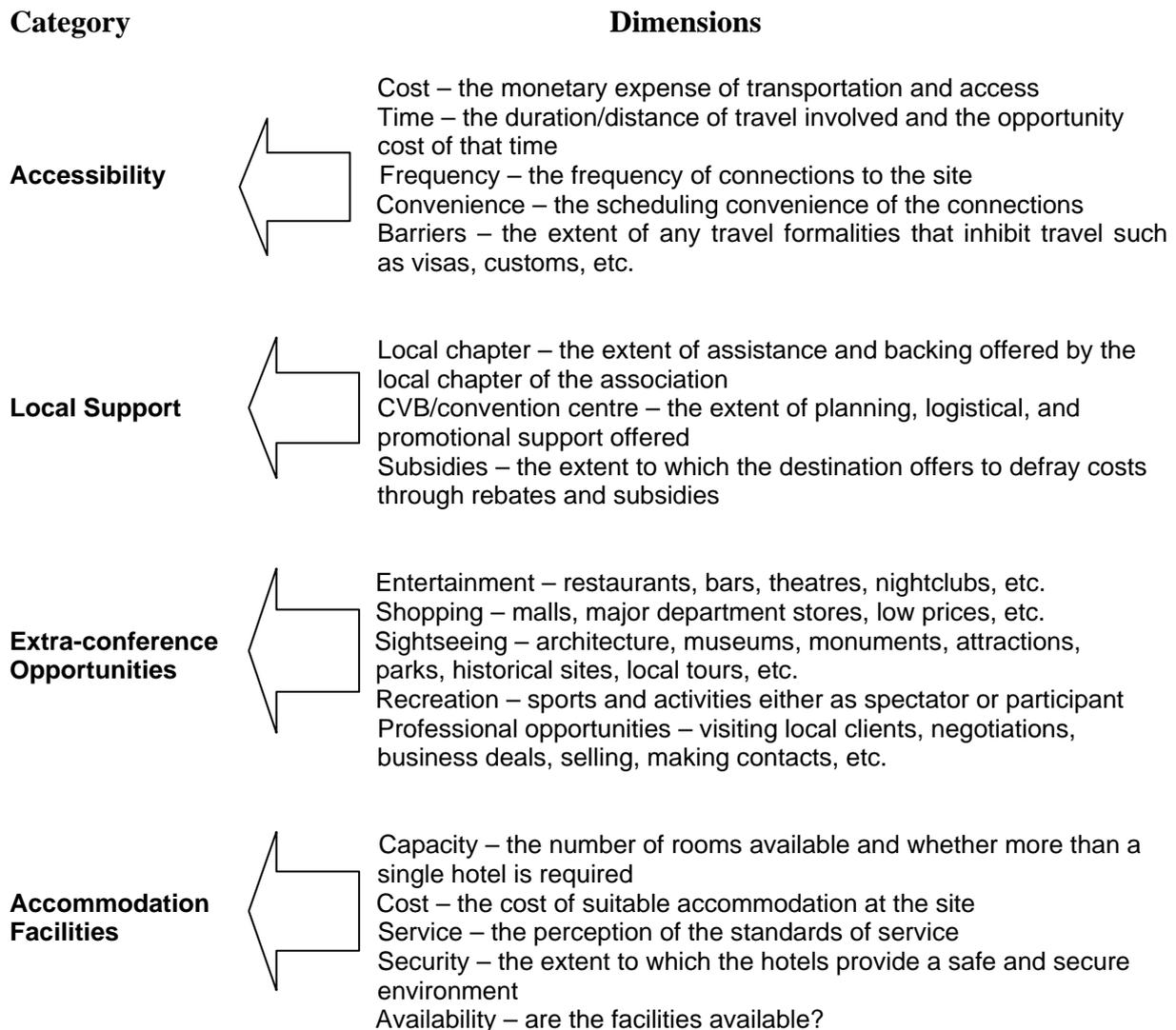
Convention Site Selection

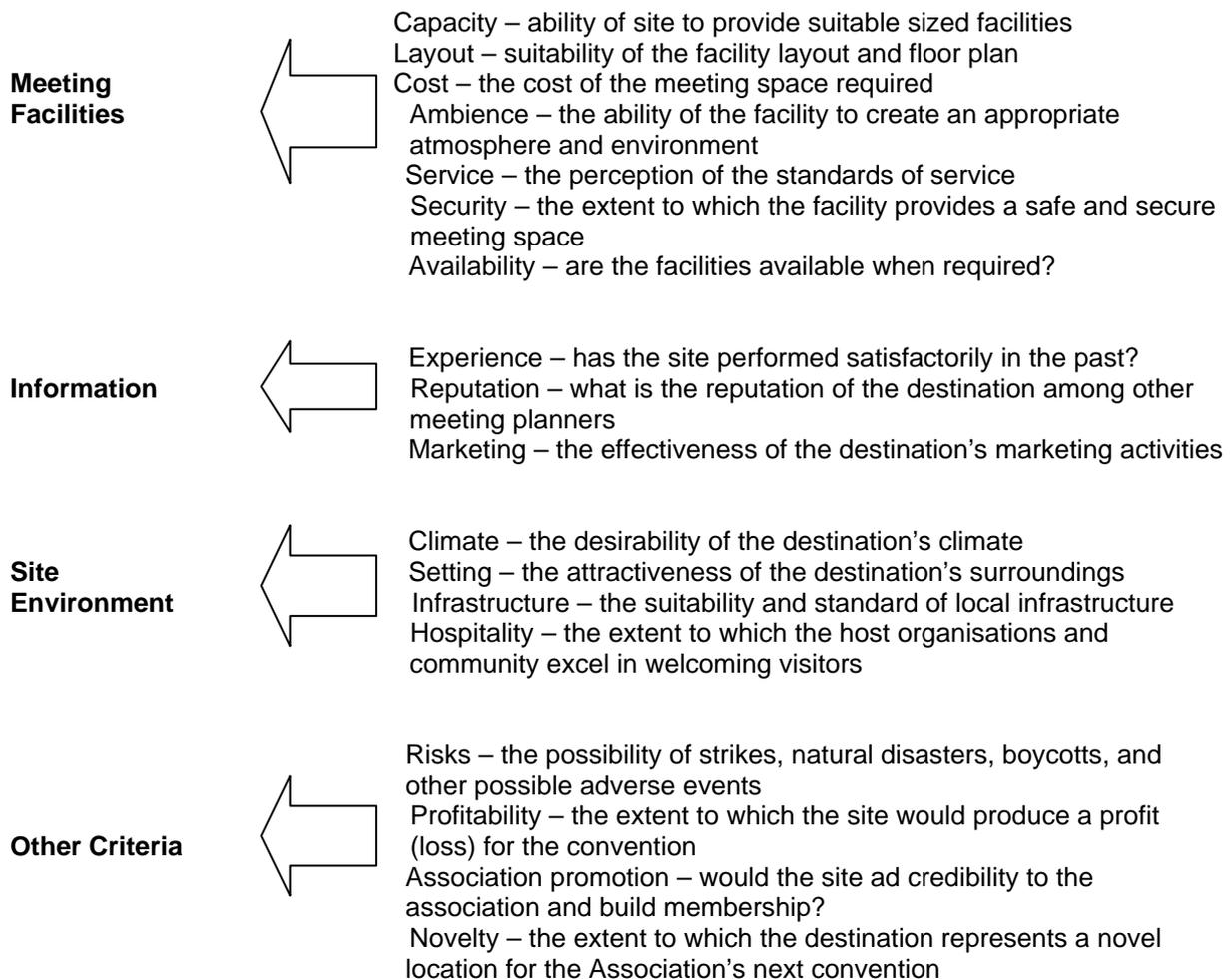
Crouch and Ritchie (1998) undertook an extensive review of the literature in order to identify and evaluate the extent of knowledge concerning the factors which are believed to influence the choice of convention site by associations. The research questions that guided their work were as follows:

- what factors influence the choice of convention site?
- how important are each of the site selection factors and how are trade-offs made between factors?
- who participates in the site-selection decision?
- what is the relative influence of each participant?
- is the site selection process a function of certain association characteristics?
- how can destinations enhance their competitiveness recognising the varied control they can exert over each principal site-selection factor?
- what are the dynamics of convention site selection by time and across destinations, associations, and other stakeholders?

On the basis of the 64 studies revealed in their review, several categories of site-selection factors were identified as illustrated in Figure 2.

Figure 2: Convention site selection factors





(From Crouch & Ritchie 1998)

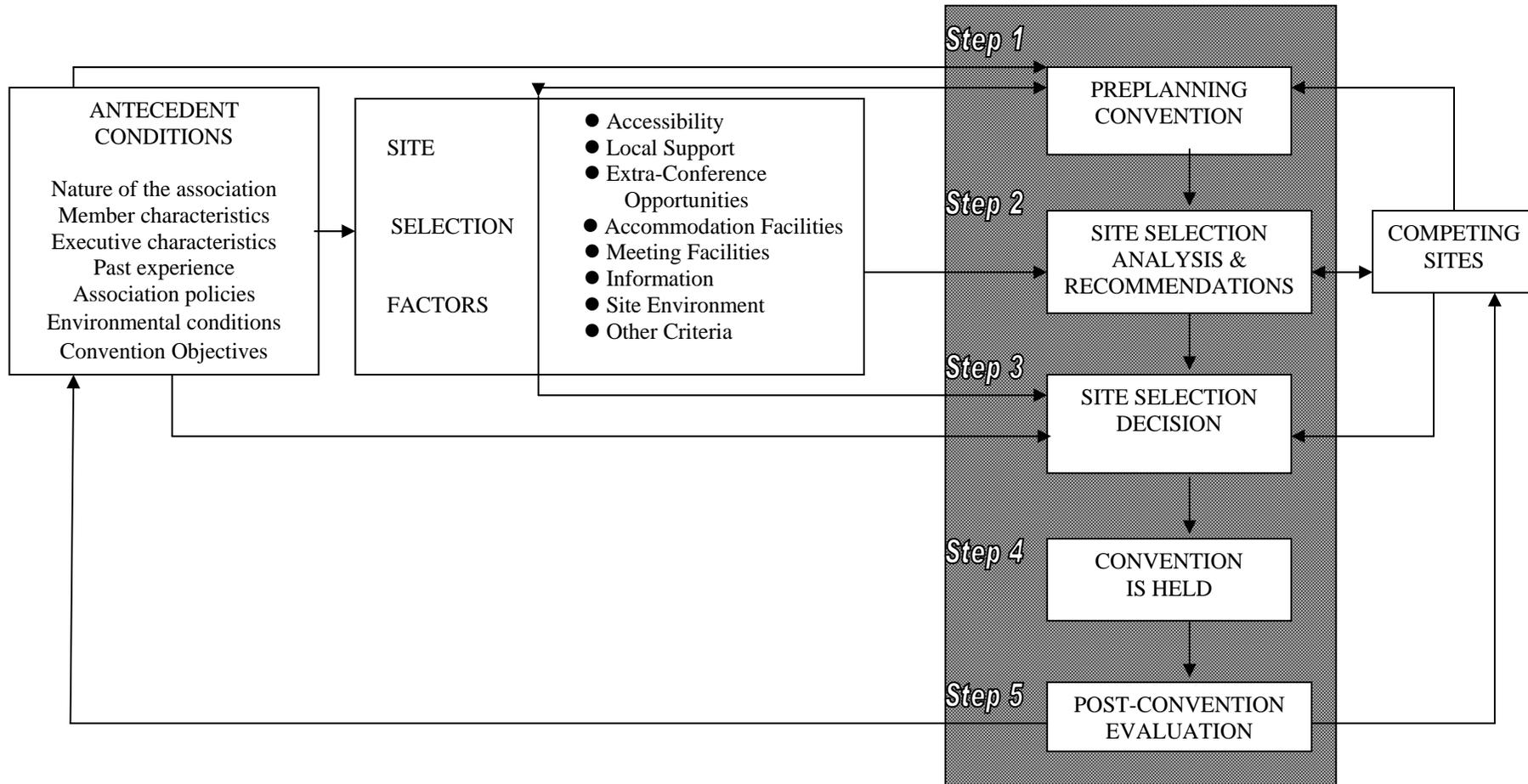
Based on their research, Crouch and Ritchie (1998) also produced a conceptual model of the convention site selection process (Figure 3) that illustrates the influence of these site-selection factors, and consists of five principal steps.

Step 1 (preplanning) occurs before alternative host sites are identified and analysed. It includes issues such as setting convention objectives, formulating a preliminary budget, establishing possible dates for the convention, etc. Alternative sites are then evaluated in step 2. This might involve actual site inspections, receiving bids from competing host sites, liaison with local association chapters and CVBs, collecting information about each site on key selection criteria such as size of meeting facilities, air access, range of accommodation, the attractiveness of the site environment, etc. Step 2 ends with a recommendation from the association’s meetings manager or planner, or a committee assigned the task of investigating alternative sites. The final decision (step 3) from among the alternatives is usually made separately from the site analysis and recommendations stage (step 2) since this becomes a decision usually for the board or executive of the association rather than the meeting planner or site committee. The executive may opt for a site that was not the first preference or recommendation arising from step 2. At this stage, political issues can often intervene to shape the final decision.

After the convention is held (step 4), either implicitly or explicitly, the convention and site is evaluated (step 5) to see what lessons need to be learnt before the next convention is planned.

The intervening factors in this process include various antecedent conditions such as association, member and executive characteristics, past convention experiences, policies (such as geographic rotation of sites), convention objectives, and environmental conditions such as the prevailing or expected economic climate or, as we have seen recently, acts of terrorism. Further intervening variables include the role and actions of competing sites, and the profile of alternative sites in terms of the key site-selection attributes – the focus of this research.

Figure 3: A general conceptual model of the site selection process



(From Crouch & Ritchie 1998)

Chapter 4

Research Approach

Choice Modelling

In order to evaluate the relative importance of the various site-selection factors, one needs a formal theory of how decisions are made and the process by which these factors combine to drive decisions. The theory is given by Random Utility Theory (RUT), which postulates that preferences for sites can be decomposed into a systematic and observable/explainable component and a random and unobservable/unexplainable component (Louviere, Hensher & Swait 2000). The systematic component represents the decision strategy used by the individual(s) (known as a utility function); and the random component represents all possible unobserved influences on decisions. Both components are specified by the researcher.

Different distributions and associated properties of random components specified by researchers lead to different probabilistic discrete choice models that represent the underlying process that generates the choices. The RUT approach leads to tractable probabilistic discrete choice models, which in turn allow one to decompose preferences into component parts as a function of the factors that drive them. The present study adopts this Discrete Choice Approach (DCA) for reasons outlined in Crouch and Louviere (2001). In summary, however, the DCA is based on behavioural theory that recognises that preferences (and the choices that reveal them) have both deterministic and random components.

Choice modelling requires choice data that can be obtained by observing and recording real or actual choices, or choices made in response to hypothetical options. Observations of choices *reveal* the preferences of those making the choices; choices collected in real markets typically are known as Revealed Preferences (RP), whereas choices collected in hypothetical markets are known as Stated Preferences (SP).

RP choice data offer the advantage of certainty with regard to actual choice behaviour, but suitable RP data often are unavailable. Moreover, basing choice models solely on RP data can be disadvantageous due to inadequate information about choice options considered but rejected, information that pertains only to preferences for existing options, and data that make it difficult to decompose effects to individual factors. "These characteristics of markets and the RP data observations taken in them unfortunately suggest that very rarely will RP data be of much use for modelling purposes" (Crouch & Louviere 2001, p 72).

Although the meetings and conventions industry collects some RP data, it generally does not provide information on options considered but rejected, rendering it unsuitable for this type of analysis. Hence, this study set out to gather SP data through the use of a survey designed as a choice experiment.

Depth Interviews

Before preparing the choice instrument, a series of 25 depth interviews were conducted with meeting planners who had experience evaluating and recommending potential host convention sites. The aim of these interviews was to assess specific site attributes for inclusion in the choice instrument from among the factors listed in Figure 2. Size and complexity of choice experiments grow exponentially as the number of site attributes and/or their levels increase; hence, it is important to be parsimonious in choosing attributes for experimentation. It also is important that attributes and levels are clearly understood by researchers to describe them appropriately in the resulting survey instrument. The latter serves to ensure that the information presented is clear, unambiguous and relevant for each experimental subject.

Experimental Design

In the experiment, each respondent was asked to indicate their choice in a series of choice tasks in which possible hypothetical convention sites were described in terms of important site-selection attributes that were selected and designed on the basis of depth interviews and consultation with industry professionals. The design of choice experiments is highly complex. A brief overview of the experimental design is provided in Appendix A.

The present study only considers convention site selection within Australia; hence, certain site attributes that might matter in situations where sites are competing internationally were considered irrelevant for Australian choices. For example, there is little variation in site safety and security in Australia, but this may well be a key decision attribute internationally.

Choice Survey

The survey consisted of three parts. The first part included a set of questions about the survey participant, and the association with which the participant was involved in the role of evaluating host sites in Australia for the most recent convention, whether as an employee of, or as a consultant to, that association.

The second part of the survey contained several scenarios, each describing a hypothetical convention site. The participant was asked to evaluate the information provided about each site and answer two questions: 1) whether the planner would/would not recommend that the Board of the association consider that site option for the Association's next convention; and 2) was the site described better than, worse than, or about the same as the last convention site chosen. An example of one survey scenario is in Appendix B.

The third part of the survey obtained information about the last convention site and its attributes, and was structured in such a way that it closely resembled the format of part 2 to facilitate data collection.

Pilot Test

A pilot test of the survey was conducted to ensure that instructions, wording, explanations and questions were clear and formatted properly and efficiently. The pilot test also tried to identify the optimum number of choice scenarios that respondents could complete effectively without compromising the reliability of the survey or its response rate. To accomplish the latter, we randomly assigned subjects to receive eight, 16 or 32 scenarios. The pilot survey results indicated that subjects would have no difficulty completing 16 scenarios, and that this number of scenarios would have minimal effects on response rates.

Sample

A database of 500 meeting planners was assembled based on membership in the Meetings Industry Association of Australia and a list of 150 national associations supplied by the Association of Australian Convention Bureaux. The target population was meeting planners or convention organisers with experience in evaluating alternative convention sites and recommending a preferred site. It is important to recognise that some meeting planners only become involved with a convention after a site is chosen, which makes it difficult to know in advance who in the database has such experience. As a result, we initially sent a letter to provide information about the survey, which was followed by a phone call to establish if they had site-selection experience and were prepared to participate.

There were 500 names in the database, and we contacted 257 of them. Of these, 200 were eligible to participate in the choice experiment, and 134 initially agreed to do so. We ultimately received 86 completed responses by the cut-off date, resulting in a usable response rate of 43 percent (86/200). This staged process of contacting and distributing surveys also enabled the eight versions of the survey to be distributed in approximately equal numbers, which ensured approximately the same number of responses in each version. Respondents were asked to complete and return the survey within two weeks of receiving it. Follow up telephone calls were made to maximise returns.

Analysis

We first analysed the relationship between the subjects' choices and the levels of each site that were varied in the experiment. The first scenario response question simply asked if the subject would/would not recommend the site for the next convention. We evaluated the relationship between each attribute and this (choice) response by initially conducting a series of cross-tabulations. The analysis then involved the simultaneous assessment of the complete set of site attributes on site choice using a method known as binary logistic regression. Conventional regression analysis is inappropriate in this instance since the dependent variable is dichotomous (i.e. yes or no). Together the results estimate the relative importance and statistical significance of each of the site selection factors.

We also analysed the data from the second response question which asked each respondent to assess the suitability of the site against the attributes of the last convention site. However the results from this analysis proved to be inferior to those arising from the analysis of the first response.

The cross-tabulation and binary logistic regression results are presented and discussed in the next section. Further information on the analysis is included in Appendix C.

Chapter 5

Results and Discussion

Table 1 presents the results from the cross-tabulation analyses for each of the 20 site attributes shown in Appendix B. Results of the binary logistic regression analysis are summarised in Table 2.

For each attribute found to be statistically significant in Table 2, graphs illustrating the relationship between the logarithms of the odds ratio calculated from the cross-tabulations results, the binary logistic regression coefficients, and the attribute levels are presented in Figures 4 to 15 of Appendix D.

Proximity of convention participants to conference sites was highly significant as shown in Figure 4, which illustrates that the desirability of the site declines as the proportion of conference attendees who need to fly further to get to the conference increases. Interestingly, however, neither unrestricted economy nor discount airfares impacted site choices directly.

Table 1: Cross-tabulation results – attributes v. choice response

Attribute	Pearson Chi-Square	Sig. ²	Tau. ³	Sig. ²	Uncert. Coeff. ⁴	Sig. ²
participant proximity	22.279***	0.000	0.016***	0.000	0.013***	0.000
unrestricted airfare	1.547	0.672	0.001	0.672	0.001	0.670
best airfare	0.351	0.950	0.000	0.950	0.000	0.950
on-site/off-site accomm.	31.202***	0.000	0.023***	0.000	0.018***	0.000
accommodation range	1.816	0.611	0.001	0.612	0.001	0.611
accommodation rates	9.544**	0.023	0.007**	0.023	0.006**	0.020
taxi time	1.331	0.722	0.001	0.722	0.001	0.719
expected weather	1.331	0.722	0.001	0.722	0.001	0.719
cost of venue	34.983***	0.000	0.025***	0.000	0.021***	0.000
food quality	32.658***	0.000	0.024***	0.000	0.020***	0.000
entertainment opps	5.665**	0.022	0.004**	0.017	0.003**	0.017
physical setting	4.128**	0.042	0.003**	0.042	0.002**	0.042
social/cultural setting	2.281	0.131	0.002	0.131	0.001	0.131
chapter assistance	0.054	0.816	0.000	0.816	0.000	0.816
bureau assistance	0.054	0.816	0.000	0.816	0.000	0.816
exhibition space	19.980***	0.000	0.015***	0.000	0.012***	0.000
plenary room	32.405***	0.000	0.024***	0.000	0.019***	0.000
break-out rooms	8.091***	0.004	0.006***	0.004	0.005***	0.004
ball room	1.350	0.245	0.001	0.246	0.001	0.245
A/V facilities	2.834*	0.092	0.002*	0.092	0.002*	0.092

Notes:

- Response 1 – ‘would’ v. ‘would not’.
- Significance levels for respective statistics in column to the left.
- Goodman and Kruskal tau with the response variable as the dependent variable.
- Uncertainty Coefficient with the response variable as the dependent variable.
- *** significant at 1% level, ** significant at 5% level, * significant at 10% level.

Accommodation connected to or part of the convention facility is also highly desired by associations, while off-site accommodation is not desired. The range of available accommodation at the site had little impact, and

site desirability drops when room rates reach high levels. Accessibility of the accommodation site and the local airport appears unimportant.

In terms of the general convention setting, opportunities for entertainment, shopping, sightseeing, recreation and organised tours were significant, as were physical site attributes and the social and cultural environment. On the other hand, weather expected during the conference and assistance from the local association chapter or convention and visitors bureau were not significant determinants of choice as far as the Australian domestic meetings and conventions industry is concerned.

Not surprisingly, the cost of the convention venue was a major factor. But it is interesting to note (Figure 7) that, while site attractiveness generally declines as cost increases, the lowest cost levels investigated may have signalled poor and unattractive convention facilities. Alternatively, it may be that associations expect a certain minimum level or standard.

In terms of the convention venue and facilities, the quality of the exhibition space, plenary room, break-out rooms, and the perceived food quality were important determinants of site choice. In contrast, ballroom and dining facilities were less important, as were availability of required audio-visual facilities on-site.

Table 2: Binary logistic regression results

Attribute	Level 1		Level 2		Level 3		Level 4	
	B ¹	Signif ²	B	Signif	B	Signif	B	Signif
participant proximity	-0.543***	0.000	0.112	0.314	0.086	0.432	0.345***	0.000
unrestricted airfare	-0.053	0.644	0.114	0.296	0.117	0.285	-0.178	0.313
best airfare	0.045	0.686	0.037	0.742	-0.027	0.813	-0.055	0.931
on-site/off-site accomm.	0.411***	0.000	0.299***	0.006	-0.205*	0.075	-0.505***	0.000
accommodation range	-0.058	0.605	-0.149	0.199	0.109	0.333	0.098	0.425
accommodation rates	0.191*	0.082	0.030	0.788	0.091	0.424	-0.312**	0.042
taxi time	-0.125	0.271	0.062	0.583	0.029	0.791	0.034	0.741
expected weather	-0.100	0.372	0.002	0.987	0.046	0.685	0.052	0.826
cost of venue	0.326***	0.003	0.462***	0.000	-0.282**	0.014	-0.506***	0.000
food quality	-0.626***	0.000	-0.077	0.490	0.269**	0.013	0.434***	0.000
entertainment opps	-0.151**	0.018	0.151**	0.018				
physical setting	-0.155**	0.016	0.155**	0.016				
social/cultural setting	-0.114*	0.078	0.114*	0.078				
chapter assistance	-0.015	0.811	0.015	0.811				
bureau assistance	0.018	0.781	-0.018	0.781				
exhibition space	-0.304***	0.000	0.304***	0.000				
plenary room	-0.372***	0.000	0.372***	0.000				
break-out rooms	-0.194***	0.003	0.194***	0.003				
ball room	-0.086	0.178	0.086	0.178				
A/V facilities	0.112*	0.082	-0.112*	0.082				
Constant	-0.950***	0.000						

Notes:

- Binary logistic regression coefficients.
- Significance levels for each coefficient.
- *** significant at 1% level, ** significant at 5% level, * significant at 10% level.
- -2 Log likelihood = 1482.579
- Omnibus test of model coefficients, Chi-square = 230.517, significance = 0.000.

Tables 1 and 2 indicate the statistical significance of each of the site attributes as a determinant of site selection. In order to determine a measure of the extent to which each attribute contributes to the explained variance in the logistic model of site selection, the model as recomputed with each site attribute omitted one at a time to calculate the -2Log Likelihood statistic. Changes in this statistic due to attribute omission indicate the relative impact of the attribute on the explained variance. Table 3 summarises these results and indicates that the most important attribute is the cost of the convention venue which accounts for 16.8 percent of the explained variance. Together with food quality, the suitability of the plenary room, the mix of on-site versus off-site accommodation, the proximity of participants to the site, and the quality of the exhibition space, these six attributes account for just over 80 per cent of the model's explained variance.

Table 3: Explanatory power of each site attribute

Attributes excluded from the model	-2LL	Change in -2LL	% explained by attribute	Cumulative % of variance explained	Attribute Importance Rank
none (all attributes present)	1482.579				
cost of venue	1522.500	39.921	16.77	16.77	1
food quality	1520.677	38.098	16.00	32.77	2
plenary room	1516.301	33.722	14.17	46.94	3
on-site/off-site accommodation	1515.558	32.979	13.85	60.79	4
participant proximity	1507.417	24.838	10.43	71.22	5
exhibition space	1505.009	22.430	9.42	80.64	6
break-out rooms	1491.742	9.163	3.85	84.49	7
accommodation rates	1491.019	8.440	3.55	88.04	8
physical setting	1488.379	5.800	2.44	90.48	9
entertainment opportunities	1488.155	5.576	2.34	92.82	10
unrestricted airfare	1486.178	3.599	1.51	94.33	11
social/cultural setting	1485.695	3.116	1.31	95.64	12
A/V facilities	1485.611	3.032	1.27	96.91	13
accommodation range	1485.385	2.806	1.18	98.09	14
ball room	1484.397	1.818	0.76	98.85	15
taxi time	1483.840	1.261	0.53	99.38	16
expected weather	1483.483	0.904	0.38	99.76	17
best airfare	1483.024	0.445	0.19	99.95	18
bureau assistance	1482.657	0.078	0.03	99.98	19
chapter assistance	1482.637	0.058	0.02	100.00	20

Chapter 6

Conclusions

The results provide strong evidence that 12 of the 20 site attributes investigated have a statistically significant effect on site choice. These factors were:

- proximity of the site to convention participants,
- percentage of convention attendees able to be accommodated on-site with the convention venue,
- accommodation conference rates,
- cost of the venue,
- perceived food quality,
- opportunities for entertainment, shopping, sightseeing, recreation and organised tours,
- uniqueness of the physical setting,
- uniqueness of the social/cultural setting,
- quality of the exhibition space,
- quality of the plenary room,
- quality of the break-out/session rooms, and
- the available range of audio/visual systems and facilities.

Six of these factors pertain to the convention venue and facilities while the other six factors concern travel distance, cost and site accessibility (1 of 3), accommodation location and costs (2 of 4), and the setting, site environment and local assistance (3 of 6).

Convention destinations, therefore, need to pay primary attention to ensuring that their meeting and convention facilities are highly competitive with respect to their targeted meetings and convention market segment. In addition, however, other site features also play an important role, albeit, secondary but no less significant. Hence, a successful convention destination must also offer an accessible, enjoyable and interesting setting. A successful convention destination must offer a complete package if it is to perform well in this increasingly competitive market.

Appendix A: Overview of the Experimental Design

The choice experiment described different hypothetical sites defined by 20 attributes; each attribute in turn was described by two, four, or six levels, resulting in a $2^{10} \times 4^9 \times 6^1$ fractional factorial design. In order to model the 42 implied main effects, we made use of an orthogonal main effects fraction of the 4^{21} factorial that requires 64 treatment combinations. The first ten columns of the fraction were used to create the $4^9 \times 6^1$ portion of the design, and the remaining five 4-level columns were used to make the ten, 2-level attributes. The design that we implemented consisted of 128 treatment combinations (scenarios) that were produced by folding over the 64 treatment combination fractional design. The 6-level attribute was made by using the four levels in each half of the fold-over to create six levels by keeping the extreme levels the same in both fractions but varying the two intermediate values in each half. We randomly assigned the resulting 128 treatment combinations to 8 blocks (survey versions) of 16 using two criteria:

1. all levels for each attribute should appear at least once within each block (version), and
2. attribute correlations within each block should ideally be zero, but minimised in practice.

The latter two criteria constitute objectives to be optimised, which we implemented by means of a trial and error process by generating many block assignments and choosing the best of those generated. Because there are more than 20 attributes and only 16 cases per version, it is not possible to perfectly satisfy the criterion of orthogonalising attribute correlations within versions. So, we tried to minimise correlations to the extent possible.

Appendix B: Example Choice Survey Scenario

Convention Site Scenario: Number 1		
Features that describe convention sites		Details of <u>THIS</u> site
Travel distance, travel costs & site accessibility to members	Proximity of the site to convention participants	10 % of members don't need to fly 20 % of members under 2 hours flying time of the site 30 % of members within 2-4 hours of site <u>40 %</u> of members over 4 hours from site 100%
	Unrestricted economy airfares available	<2 hours: \$450 2-4 hours: \$600 4+ hours: \$800
	Best discount airfares available	<2 hours: \$200 2-4 hours: \$300 4+ hours: \$400
Accommodation, location & costs	Percentage of convention attendees able to be accommodated on-site versus off-site	On-site accommodation: 100% Off-site accommodation: 0%
	Range of available accommodation at or within 15 minutes of convention facility	3 star: 2 hotel(s) 4 star: 1 hotel(s) 5 star: 0 hotel(s)
	Conference rates by class of accommodation (room only)	3 star: \$90 4 star: \$120 5 star: \$180
	Accommodation location relative to airport	10 minute taxi ride
Physical setting, climate, local assistance, & things to do for attendees & partners in the general vicinity	Opportunities for entertainment, shopping, sightseeing, recreation and organised tours	Few opportunities
	Unique physical setting	No
	Unique social/cultural setting	No
	Expected weather/climate during the convention	Warm & Humid
	Expected level of assistance from local chapter	Satisfactory
	Expected level of assistance from visitors bureau	Satisfactory
Convention venue itself & facilities	Cost of venue	50% below national average
	Exhibition space	Marginal
	Plenary room	Marginal
	Break-out/session rooms	Marginal
	Ball room/dining venues	Marginal
	Range of A/V systems/presentation facilities	Available completely on-site
	Perceived quality of food	Below average
I most likely (tick ONLY one) <input type="checkbox"/> Would <input type="checkbox"/> Would not suggest or recommend that the Board of the Association seriously consider this convention site for its NEXT convention.		
Compared with the LAST convention I helped organise for the Association, I think that THIS potential site would be (tick ONLY one): <input type="checkbox"/> Better than <input type="checkbox"/> Worse than <input type="checkbox"/> About same as the actual site that hosted this last one.		

Appendix C: Notes on Data Analysis

As the number of survey responses per block varied slightly, each case was weighted to correct for over- and under-represented blocks.

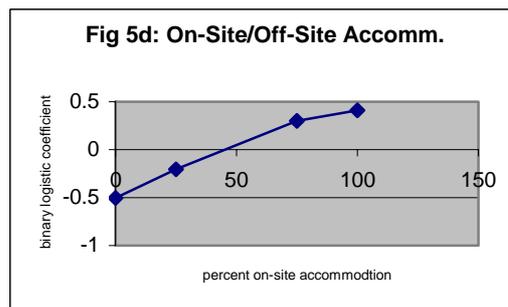
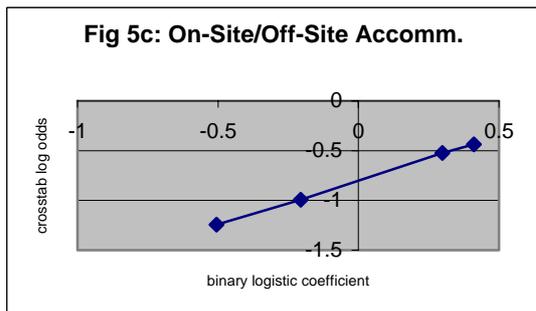
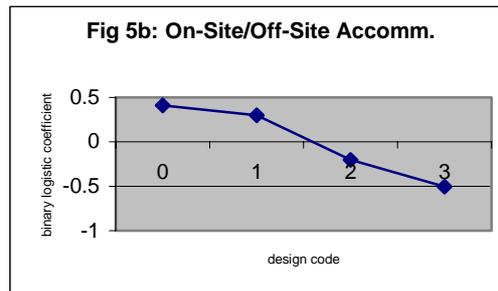
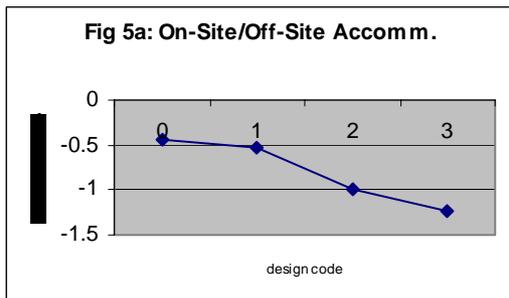
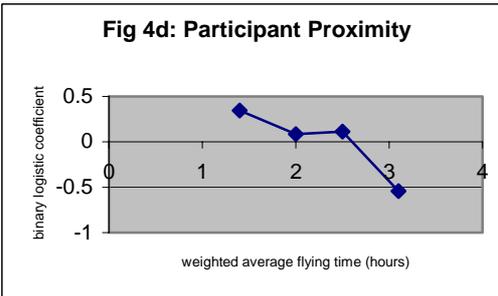
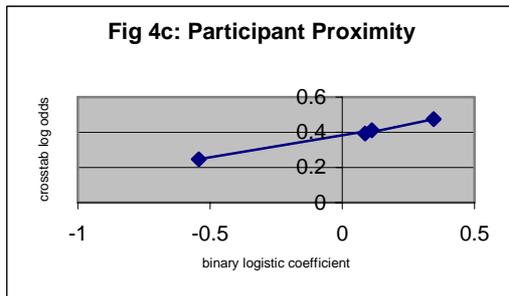
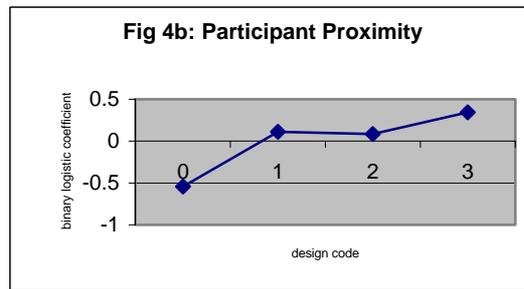
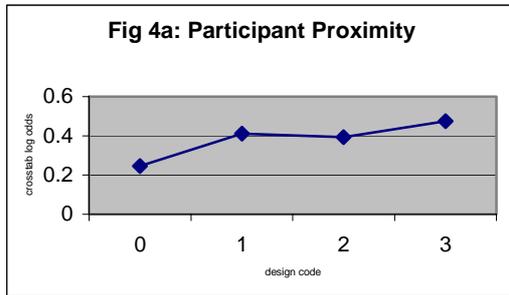
Each attribute appears at two or four discrete levels (and one at six discrete levels), and hence a choice experiment can be viewed as a large, incomplete contingency table. We calculated the Pearson Chi-square statistics associated with each cross-tabulation of the choice responses against the levels of a particular attribute to test the null hypothesis of probabilistic independence. In addition, because we hypothesised that site choice depends upon the value of each attribute, Goodman and Kruskal tau statistics and Uncertainty Coefficient directional measures were calculated using the choice response variable as the dependent variable.

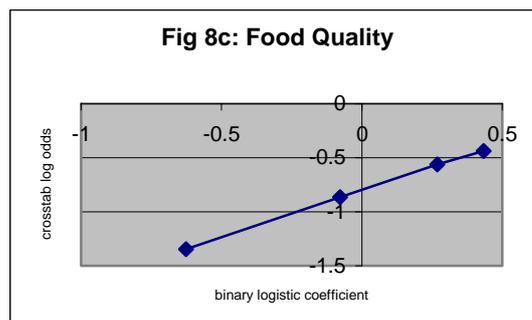
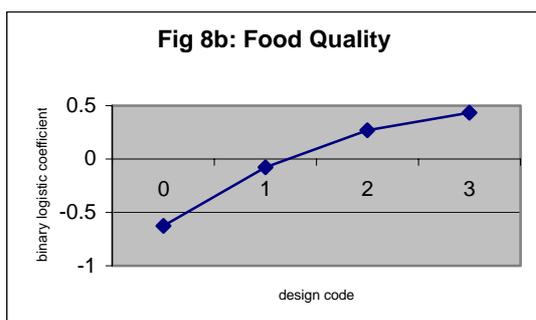
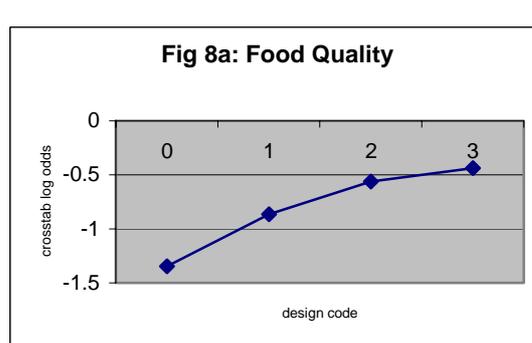
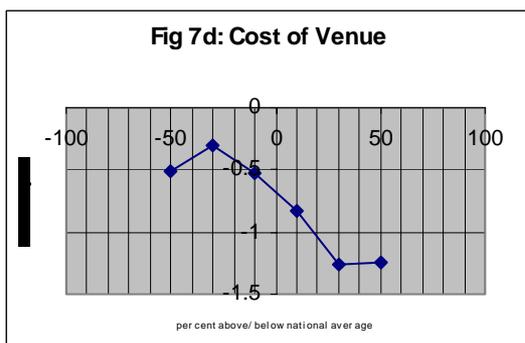
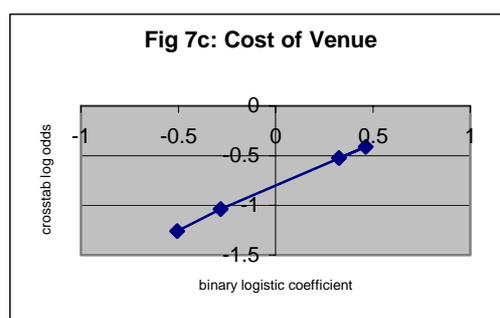
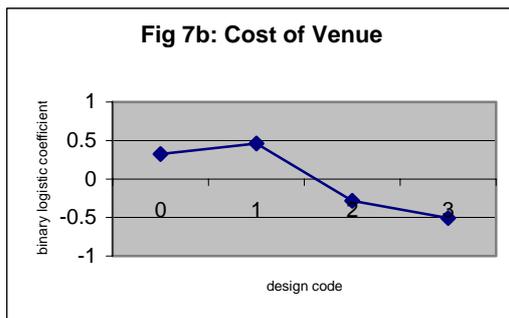
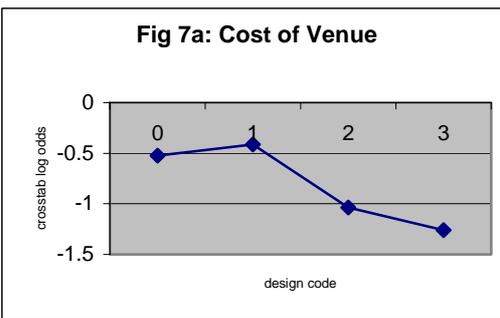
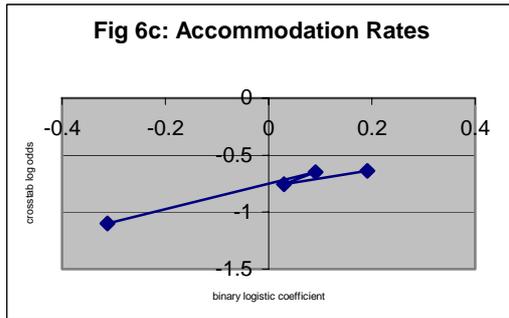
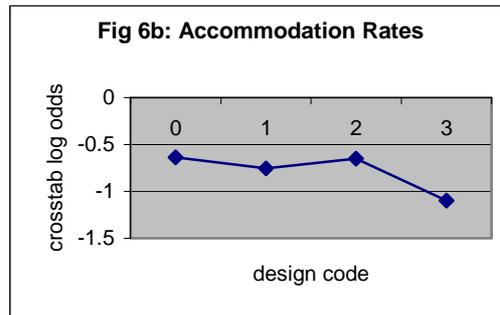
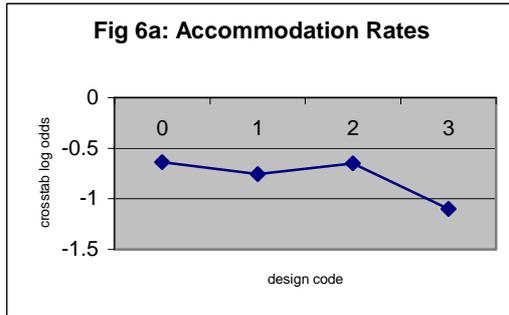
For each statistically significant relationship, we examined the direction of the relationship between each attribute and the responses by plotting the natural logarithm of the ratio of choice odds against the attribute levels varied in the choice experiment. That is, we calculated the marginal choice responses associated with each attribute level, holding everything else constant because the experimental design is orthogonal. This approach is model-free in the sense that the choice responses are whatever they are, and hence the relationships that are uncovered are those that empirically underlie the data regardless of the process that a researcher might use to represent the systematic and random utility components.

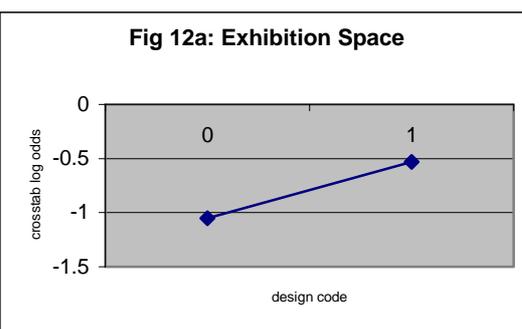
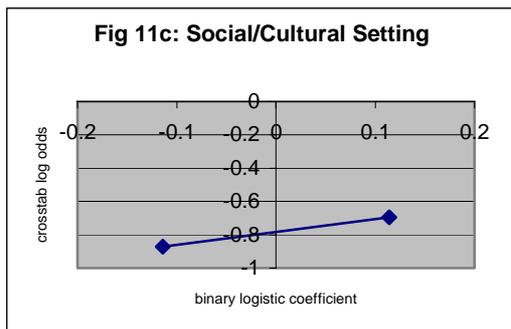
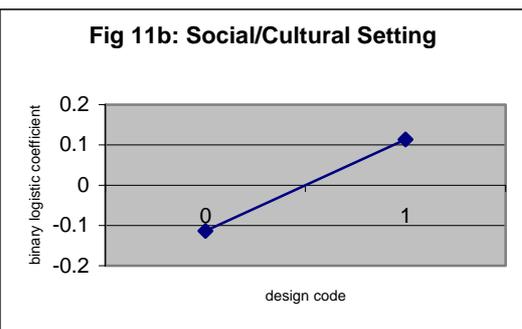
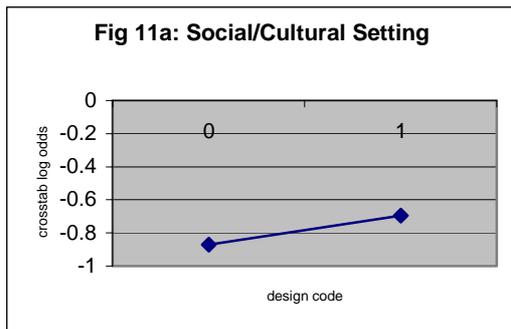
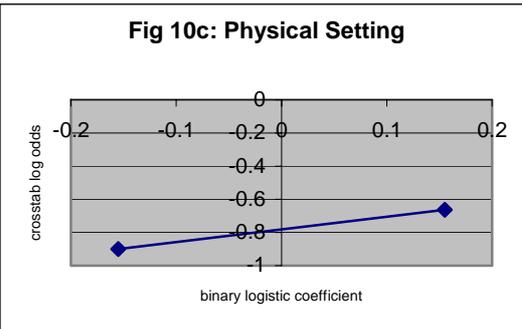
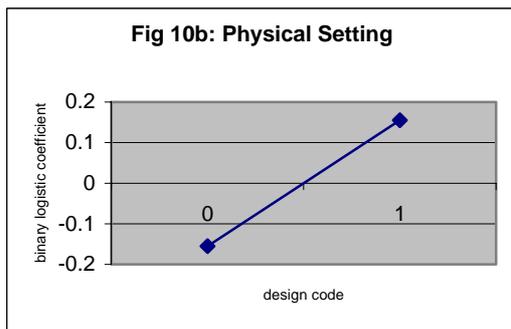
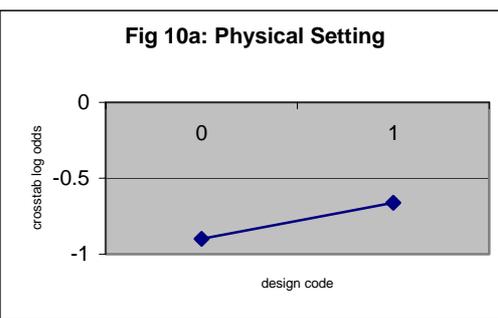
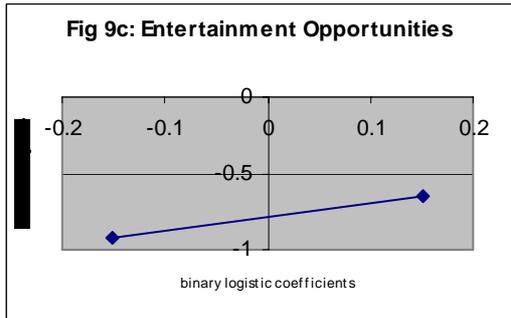
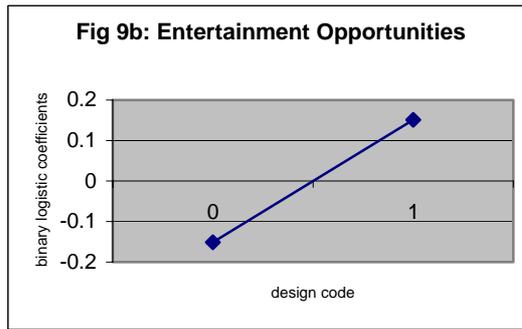
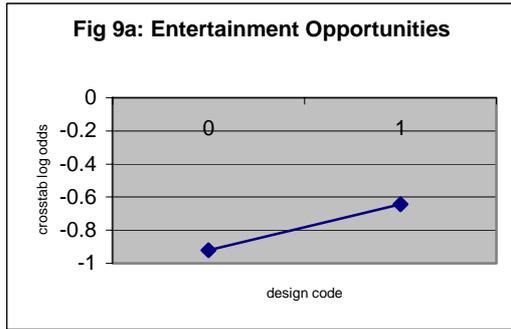
For example, if the random component is distributed independently and identically as an extreme value type I random variate, the resulting model of the process will be a binary logit model. The binary logit is completely defined by the odds of saying “yes” to each scenario relative to saying “no”, and the model can be linearised by taking the natural logarithm of the odds ratio, which is linearly related to the unknown, true utilities of interest (Louviere, Hensher and Swait 2000). For this reason, we examined the relationship of each numerical attribute with the choice response by graphing the logarithm of the odds ratio of the marginal probability of saying “yes” relative to saying “no” for each level of each attribute.

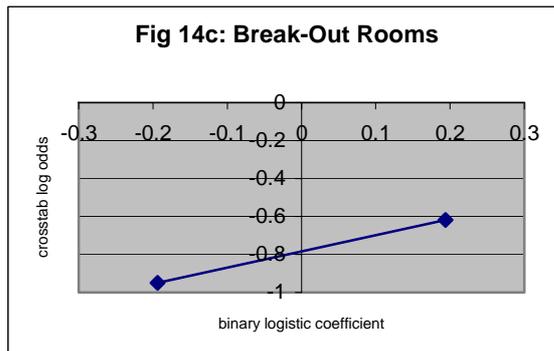
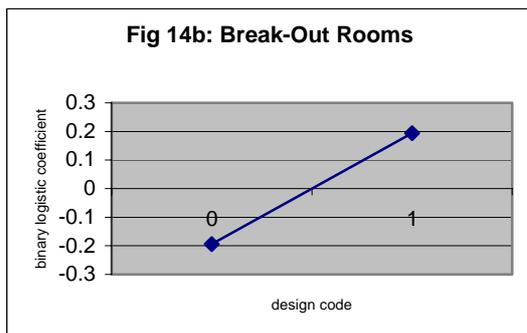
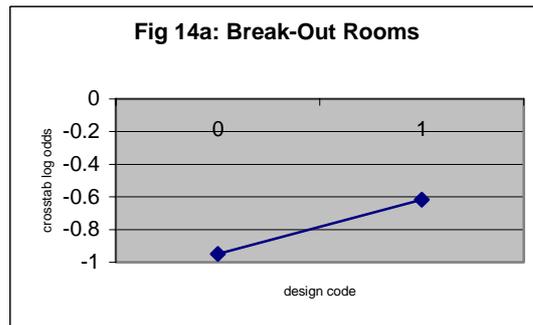
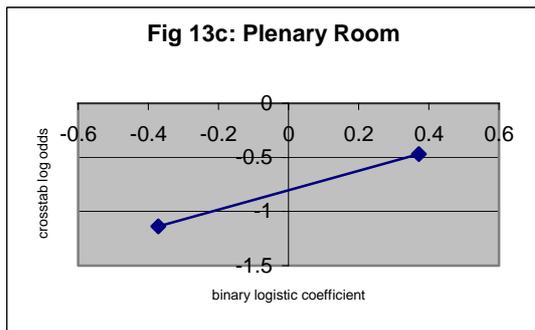
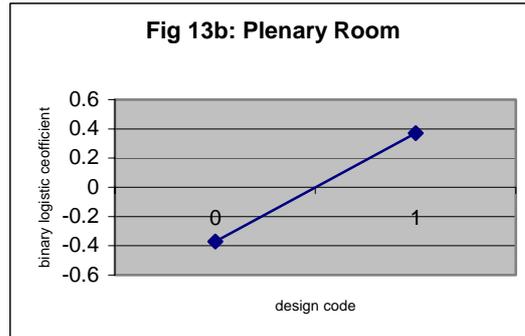
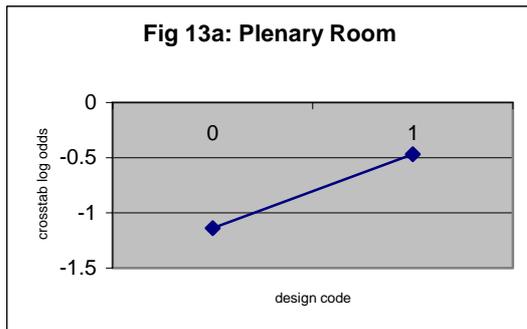
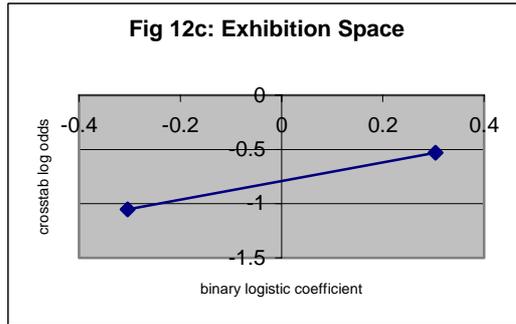
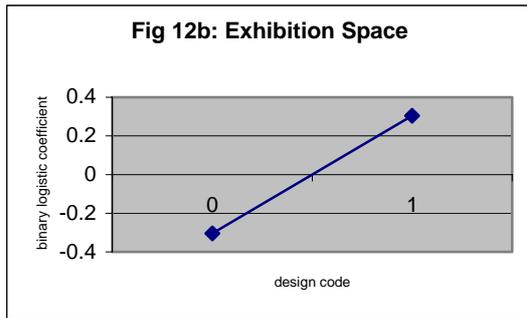
The preceding discussion hopefully makes it obvious that the graphical and preliminary statistical relationships uncovered in the cross-tabular analysis can be formally examined using simultaneous binary logistic regression rather than one-at-a-time analyses of attributes. It is worth noting that the attribute levels used to design the scenarios are discrete; hence, one can estimate the marginal effects of all attributes by using effects-codes to represent the design matrix. In this way, the estimates of the utilities derived from the binary logistic regression analysis can be compared directly with the odds ratios calculated from the data, and the associated preliminary statistical analyses to determine the most parsimonious model form for final analysis, as well as to demonstrate that the simple, preliminary analysis provides virtually all the information that is available about the relationships underlying the response data.

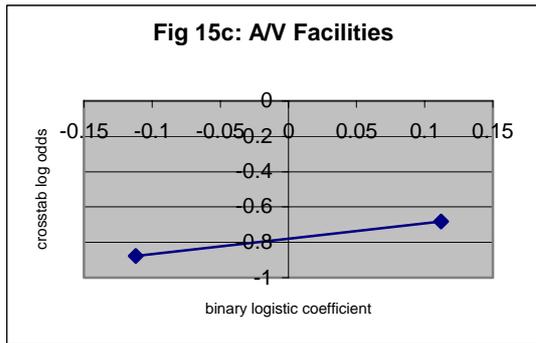
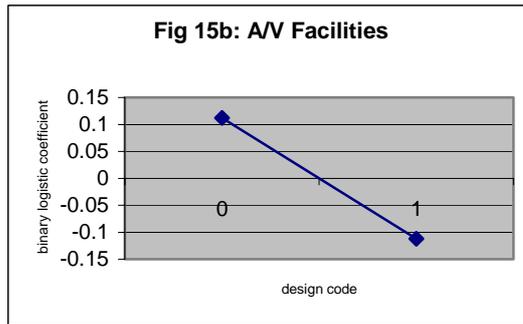
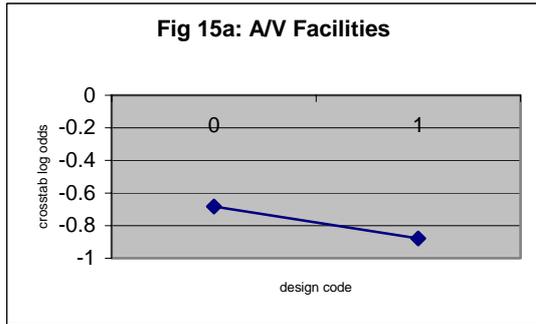
Appendix D: Choice Modelling Results Graphed for Statistically Significant Factors











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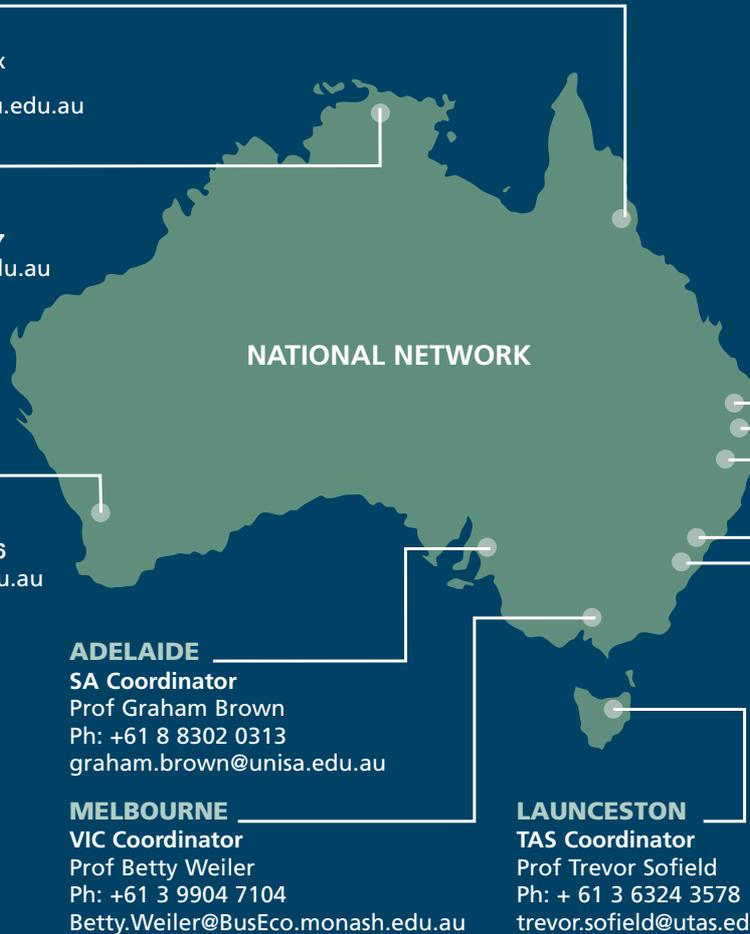
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