The Performance of Bundling: A Probabilistic Approach to Structuring Package Deals for the Performing Arts. A case study in Opera attendance

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Published

2013

Conference Title

2013 Academy of Marketing Conference

Version

Version of Record (VoR)

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Abstract

In this paper opera has been selected as an example of a sector of the entertainment industry. This sector is currently facing the challenges of decreasing demand as the traditional and loyal opera going segment ages and other sectors of the performing arts industry compete more effectively in terms of price. It is hypothesised that increased demand for opera performances may be achieved by formulating attractive "package deals" which bundle various benefits together with the seat ticket. To test this hypothesis a discrete choice experiment was conducted in which respondents were required to choose between competing deals. The results obtained largely support *a priori* expectations based on a series of focus group discussions. The results of a series of simulations provides support for the notion that package deals which include additional services, act to facilitate visitation to operatic performances and as a consequence result in a larger share of preference. It is concluded that the marketing approach adopted in this paper would prove useful to both event organizers and policy makers particularly where the goal is to broaden access to the performing arts.

Keywords

Multinomial logit, opera, bundling, choice modelling, performing arts.

Introduction

In the services marketing context, performing arts poses a series of complexities in relation to its intangible characteristics, experiential nature and the degree of emotional attachment of the patrons(Kotler and Scheff 1997). This coupled with declining attendance and an aging audience has left operatic organisations with the difficulty of how to encourage attendance as well as increase repeat attendance. Price bundling, offering two or more separate products/services together in a single package at a different price from the sum of the components' prices, is one of the most prevalent marketing practices in many industries (Venkatesh and Mahajan 2009). Tellis, G., & Stremersch, S. (2002) reflect that bundling is pervasive in marketing strategies and provides examples of "opera season tickets, luggage sets and internet services." It is hypothesised in this paper that increased demand for opera performances may be achieved by formulating attractive "package deals" which bundle various benefits together with the seat ticket. To test this hypothesis a discrete choice experiment was conducted in which respondents were required to choose between competing deals.

Background

Opera in Australia has a rich history and the Sydney Opera house is recognised as "A genuine Australian icon…much like the Eifel Tower in Paris" (Colbert, 2003). However Colbert (2003) states that the CEO of the Opera House had the key objective of encouraging people to "seek out the Sydney Opera House for its shows not just its architecture." Recent research into Opera Australia attendees indicates hat over half (57%) of subscribers who answered the survey were over 65 and over a third (35%) of single ticket buyers who answered the survey were over 65 (Bell 2009). Additionally there has been an increase of lapses in subscription. A report from 2009 shows that 19% lapsed after only a year and a third lapsed after subscribing for 10 years or more (Bell 2009). In researching opera attendance characteristics few academic studies have reported empirical analyses of opera audiences or their attendance preferences. Holak et al. (1986) found that subscribers were influenced most heavily by timing, while nonsubscriber attendance was influenced also by the familiarity of the opera. Borgonovi (2004) found that occupation and educational attainment played a major role in opera attendance. Johnson and Garbarino (2001), identified two goal orientations motivating customer decisions to attend dramatic theatre, enrichment and leisure. Hume and Sullivan Mort (2008) put forward that within performing arts perceived value is a predictor of customer satisfaction. Furthermore results of Hume and Sullivan Mort (2010) indicate repurchase intention of performing arts products and services is largely based on satisfaction mediated by perceived value. It has been repeatedly indicated that bundling can increase consumers perceptions of value (Naylor & Frank 2001, Yadav, & Monroe,1993,). Naylor and Frank (2001) state that providing an all-inclusive price package, even if actual monetary outlay is greater, will significantly increase perceptions of value for first-time consumers and repeat purchasers. As such this research will explore bundling as a strategy to stimulate demand in the performing arts using opera attendance as a case study.

Whilst bundling that is offering two or more separate products/services together in a single package is prevalent in a wide variety of industries and it is also implemented in a wide variety of forms (Wu et al. 2008). Price Bundling is the sale of two or more separate products in one package at a discount, without any integration of the products for example a luggage set (Bakos and Brynjolfsson 2000). Another form is Pure bundling a strategy in which a firm sells only the bundle and not the items separately (Venkatesh and Mahajan 2009). There is

also Mixed Bundling whereby a firm sells both the bundle and the items separately (Banciu 2009).

There have been various applications of bundling within leisure services, including tourism (Dev et al), sport (Woolf 2008) and performing arts (Simonin 2003). Examples of research into bundling of services can be seen as early as 1963 when Stigler was believed to first articulate this idea using the famous example regarding "block booking" of movies. Mixed bundling was explored by Chalip & McGuirty (2004) who found it was effective to bundle sporting event elements with the host destination's attractions. Herrmann, Huber, & Coulter (1997) illustrated that pure bundles are preferred to mixed bundles, and unsurprisingly, a greater price discount is preferred to a lesser one. Within tourism, price bundling has been analysied in terms of consumer preferences for various tourism service designs, including transport, accommodation and sightseeing packages. (Bojamic, & Calantone, 1990). More recent research by Cros, & Jolliffe (2011) illustrated that bundling the arts with heritage tourism can also be successful.

Whilst the bundling of Opera services may increase attendance and broaden access to the performing arts it is also widely accepted that bundling has the added benefit of generating cost savings within both marketing and operational costs. (e.g., Adams and Yellen, 1976; Bakos and Brynjolfsson, 1999; Guiltinan, 1987; Jeuland, 1984; Stremersch and Tellis, 2002). The research hypothesis that increased demand for opera performances may be achieved by formulating attractive "package deals" which bundle various benefits together with the seat ticket is examined and tested utilising a discrete choice experiment explained below.

Method

Experimental Analysis of Choice

The choices that individuals make translate directly into the demand for various categories of entertainment. While some entertainment research has been directed towards the objective of gaining an understanding of entertainment needs in the broader sense, little has been reported that predicts the response of individuals to various package deals that entertainment providers might consider offering. A "stated preference" approach, such as a stated choice analysis used in this study is based upon data obtained from a discrete choice experiment in which individuals make choices among choice alternatives; these stated choices are then used to estimate the parameters of utility functions. A Multinomial Logit Model was used in this study as it allows analysis of a choice from more than two alternatives.

Data Collection

Data collection involved two stages a qualitative phase and a quantitative phase. The qualitative phase was designed to identify the attributes, levels and issues of importance with respect to attendance at performances which was required for the choice analysis. This was achieved by conducting four focus group discussions with: heavy, medium, light and potential users of Opera. The quantitative phase consisted of a sample survey. To achieve the study's objectives i.e. to understand respondents' attitudes towards various package deals that Opera Australia might implement, an internet panel based survey was used to contact a sample of Sydney based individuals. Opera Australia provided a data base from which the sample was stratified in order to obtain a sub sample of the 4 user groups identified in the qualitative phase. Potential respondents were contacted by email and invited to respond to the online survey which included 8 choice tasks. Each task involved the evaluation of three opera ticket packages or concepts. Each concept consisted of five attributes at various levels. Attributes and their associated levels are detailed below. In responding to the choice tasks respondents were asked to imagine that they were planning an evening at the Sydney Opera.

Then after being presented with three separate package deals each of which evaluated 5 attributes, respondents were asked to consider their own personal circumstances and then indicate which if any of the package deals they would choose. As the final sample comprised 1,340 respondents (including satisfactory representation of each of the four groups) the choice analysis evaluated a data base of 10,720 choices. The data collected was then analysed using SPSS software as well as a specialized Choice Based Conjoint package.

The attributes and levels investigated in this analysis are: **Opera** with modern interpretation, with traditional interpretation, with world renowned singers. **Parking** with Priority parking included in package, free parking included in package, parking NOT included in package. **Price:** package price per person - $150, $200, $250, $300, $350. **Benefits**: Invitation included to; join post-performance social dinner, meet the cast after the show, join a pre-performance social dinner, join a pre-performance backstage tour, package does not include any special invitations**. Package** includes: free pre-performance talk, price to be discounted by 15%, includes free - "Behind the scenes experience", free interval drink, does not include any additional free items.

Results

To determine the relative importance of each attribute, the difference that each attribute could make in the total utility of a concept was considered. That difference is the range in the attributes utility values expressed as a percentage. The relative importance of each attribute is presented in appendix Figure 1(Appendix) and reveals the importance of price and the nature of the opera as being of critical importance.

The results of the multinomial logit model are reported in Table 1 (Appendix). The t ratio shown in Table 1 is a measure of the significance of the difference between that level's effect and the average of zero for all levels within the attribute. When there are no interaction effects, as in this case, the relative attractiveness of a concept can be assessed by adding up the effects for its component attribute levels. For example, consider the following:

Package Deal 1		**Package Deal 2**	
Traditional Opera	0.12	Traditional Opera	0.12
Parking not included	-.13	Parking not included	-.13
Package Price $250/p	0.02	Package Price $250/p	0.02
No special invitations	0.06	No special invitations	0.06
No additional items	-0.10	Price discounted 15%	0.14
TOTAL	-0.03	TOTAL	0.21

By summing up the effects of their component attribute levels these package deals may be scored to reveal that the second package is likely to be preferred to the first by sample respondents. Further, by exponentiating each of the total values and expressing them as percentages of the final total, the proportion of respondents who would choose each package deal can be identified.

	Total	exp(total)	percent
Package deal 1	-0.03	0.0009	2.0%
Package deal 2	0.21	0.0441	98.0%
		0.0450	

An examination was conducted by noting changes in shares of preference over and above that achieved from a "Base Level" scenario of four packages (see Table 2 Part A in Appendix). The base level bundle (package 1) within this scenario was arbitrarily defined as consisting of

the following bundle of attributes: A traditional opera with an A Reserve seat, priced at $300 per person without any parking arrangements, added benefits or special invitations. A series of four simulations were then performed. The results of these simulations are presented in Table 2 (Appendix)

Simulation 1: The results of the first simulation are given in Table 2 Part B. In this simulation a series of independent changes were undertaken to identify whether any of the specified changes would have an effect on the 33.7% share of preference of the base package. It was found that all changes tested had a positive effect on the percentage share of preference with the post-performance dinner having the least effect with a 0.6% increase and free parking having the greatest effect by increasing the share of preference by 12.3%.

Simulation 2: To explore strategies for increasing the share of preference for an opera with a modern interpretation over that of a traditional opera, two potential strategies were investigated – (a) the addition of free parking and (b) in addition the incorporation of a meeting with the cast. As shown in Table 2 Part C, the addition of the offer of free parking increased the share of preference by 13% from 13.6% to 26.6% while the incorporation of an additional offer to meet the cast provided a marginal increase to the share of preference of 2.4% to achieve a final level of 29% or 15.4% over the base level.

Simulation 3: The results of the third simulation are shown in Table 2 Part D; in this simulation the strategy of being able to increase the price to counter the cost of presenting an opera with a world renowned singer was explored. In this simulation it was noted that the introduction of a world renowned singer would increase the percentage share of preference from 33.7% to 44.2% or 10.5%. However if the price of this package was then increased to $350 from $300, the share of preference was found to fall to 35.9% providing a 2.2% increase over the base level. The addition of an added benefit in the form of a meeting with the cast added 1.4%, while adding free parking in addition restored the share of preference to 43.9%.

Simulation 4: The final simulation examined competition among package deals. By systematically varying levels and combinations of attributes the results shown in Table 2 Part E reveals competitive interactions that operate between attributes. It is particularly interesting to observe the effect on operas with a modern interpretation when a 15% discount is combined with priority parking – the resulting share of preference increasing to 39.3%.

Conclusions

The research instrument contained questions which allowed a discrete choice experiment to test responses to various ticket bundling strategies to be undertaken. Many of the findings of this experiment were found to support a priori expectations as to the impact of various attributes on respondent preferences. For example the heterogeneity of preferences found, supports the strategy of providing parking services such as priority parking or free parking to Sydney opera attendees.

There were clear indications that socio-demographics would impact to some extent on the future viability of the opera segment of the Australian performing arts industry. However the findings of this study provided encouraging support for this sector. Given appropriately designed package deals it was shown that choice could be significantly influenced.

In conclusion, this paper demonstrates that choice experiments can be effectively used to expose some of the determinants of demand for the performing arts. The findings have useful implications for both event organizers and policy makers. The findings of this research confirm much of the theory of bundling, and provide support for the development of this strategy to support the performing arts.

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APPENDIX

Example of Choice Question

No 10 Thinking about the number of times that you normally go to the opera in a year imagine that you decide to plan an evening in Sydney at the opera. Consider all your own personal circumstances, for example; your current income and whether you would normally include a friend or your spouse in your plans. In planning the evening you find that it is possible to purchase a package which included tickets for **A Reserve seating.**

In the next section we will show you a number of different packages, each package in a set will have different options included. Please consider the options in each set carefully and then indicate by clicking on the appropriate box, your preferred choice.

{PLEASE NOTE: All packages include A RESERVE seating, which means great seats with an unrestricted view. Some packages may include options which are not currently available. Such packages could include a combination of features that may appear unrealistic e.g. an unrealistically high or low price – please consider these as completely valid options which should be considered in the normal way and should be rejected or chosen depending on your personal preferences.}

Q10.1.1 If you were considering an evening at the opera in Sydney and these were the only alternatives, which would you choose?

Opera with world renowned singers	Opera with modern interpretation	Opera with traditional interpretation	
Parking NOT included in package	Priority parking included in package	Free parking included in package	
Package price - $350 per person	Package price - $300 per person	Package price - $150 per person	NONE: I wouldn't choose any of these.
Invitation included to join a pre-performance social dinner	Invitation included to meet the cast after the show	Invitation to join a pre-performance backstage tour	
Package does not include any additional free items	Package includes free pre-performance talk	Package price to be discounted by 15%	
☐	☐	☐	☐

Figure 1: Relative Importance of Attributes

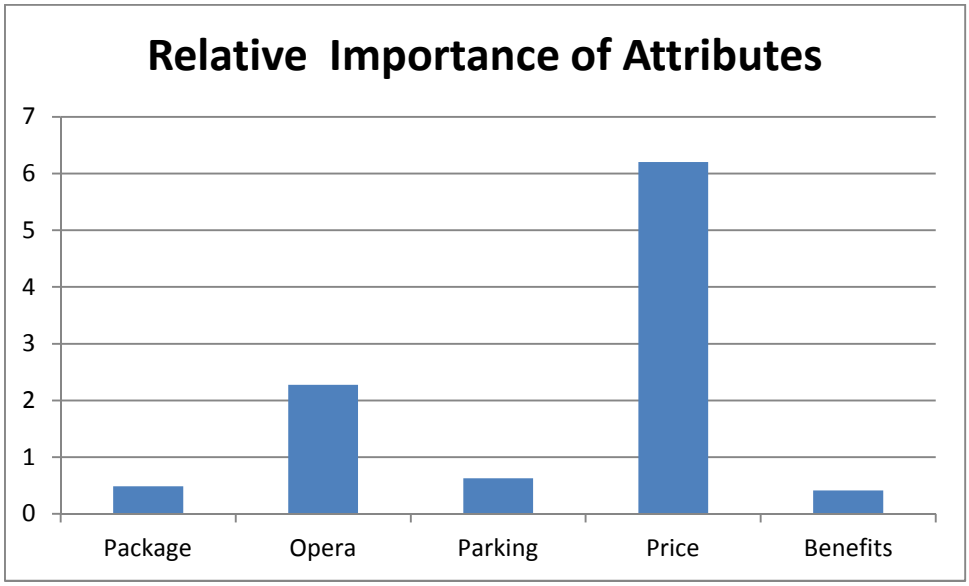

TABLE 1
Multinomial Logit Estimation

Log-likelihood for this model		-12524.13545	
Log-likelihood for null model		-14861.07555	
Difference	2336.9401		
Percent Certainty		15.72524	
Akaike Info Criterion		25223.02863	
Chi Square		4673.8802	
Relative Chi Square		274.93413	
Effect	**Std Err**	**t Ratio**	**Attribute Level**
-0.50511	0.02089	-24.17562	Opera with modern interpretation
0.12895	0.01911	6.74854	Opera with traditional interpretation
0.37616	0.01826	20.60009	Opera with world renowned singers
0.03237	0.01917	1.68825	Priority parking included in package
0.10486	0.01885	5.56306	Free parking included in package
-0.13723	0.01955	-7.01795	Parking NOT included in package
1.27475	0.02465	51.71467	Package price - $150 per person
0.52288	0.02651	19.72061	Package price - $200 per person
0.02049	0.02841	0.7213	Package price - $250 per person
-0.68995	0.03529	-19.5499	Package price - $300 per person
-1.12818	0.04053	-27.83883	Package price - $350 per person
-0.09208	0.02886	-3.19019	Invitation included to join post-performance social dinner
0.04283	0.0277	1.54607	Invitation included to meet the cast after the show
-0.05593	0.02799	-1.99847	Invitation included to join a pre-performance social dinner
0.06702	0.02765	2.42343	Package does not include any special invitations
0.03817	0.028	1.36291	Invitation to join a pre-performance backstage tour
-0.04006	0.02806	-1.42749	Package includes free pre-performance talk
0.14874	0.02806	5.2998	Package price to be discounted by 15%
-0.1073	0.0283	-3.79184	Package does not include any additional free items
0.04691	0.0277	1.69335	Package includes free - "Behind the scenes experience"
-0.04829	0.02833	-1.70444	Package includes free interval drink
0.4972	0.02353	21.12651	NONE

Table 2
Choice Simulations

A. The Base Scenario

	Opera	Parking	Price	Benefits	Package	Base%
Package 1	Traditional	-	$300	-		33.7
Package 2	Traditional	-	$300	-	Talk	37.5
Package 3	Modern	-	$300	-		13.6
Package 4	Modern	-	$300	-	Talk	15.0

B. Simulation 1 Modifying the Base Package

	Opera	Parking	Price	Benefits	Package	Base%
Base Package	Traditional		$300			33.7

Base - Independent Changes	% Share of Preference	% Change in Share of Preference
15% Discount	42.6	8.9
Behind the Scenes Experience	39.3	5.6
Free Drink	36.4	2.7
Meeting Cast	38.1	4.4
Backstage Tour	38.1	4.3
Pre-Performance dinner	35.5	1.8
Post Performance dinner	34.3	0.6
Priority Parking	43.9	10.2
Free Parking	46.0	12.3

C. Simulation 2 Increasing the Share of Preference for an Opera with Modern Interpretation

Package 3: Cumulative Changes	% Share of Preference	% Change in Share of Preference
ADD – Free Parking	26.6	13.0
PLUS – Meeting the Cast	29.0	15.4

D. Simulation 3 Pricing with a World Renowned Singer

Package 1: Cumulative Changes	% Share of Preference	% Change in Share of Preference
ADD – World Renowned Singer	44.2	10.5
PLUS – Increase Price to $350	35.9	-8.3
PLUS – Add “Meet Cast”	37.3	1.4
PLUS – Add Free Parking	43.9	6.6

E. Simulation 4 Competition Among Package Deals

	Opera	Parking	Price	Benefits	Package	Base%
Package 1	Traditional	-	$300	-	Behind Scenes	26.1
Package 2	Traditional	Free	$300	Meet Cast	Talk	30.5
Package 3	Modern	Priority	$250	Pre Dinner	-	30.8
Package 4	Modern	-	$275	Back Stage	Talk	12.5
	Opera	Parking	Price	Benefits	Package	Base%
Package 1	Traditional	Free	$325	-	Behind Scenes	17.7
Package 2	Traditional	Free	$300	Pre Dinner	Behind Scenes	27.0
Package 3	Modern	Priority	$250	-	15% Discount	39.3
Package 4	Modern	-	$275	-	Talk	15.8