

How do you value an icon?
*The Sydney Opera House:
economic, cultural and digital value*

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Glossary

ABS	Australian Bureau of Statistics
ACG	Allen Consulting Group
AUD	Australian dollar
BAV	Brand Asset Valuator
CAD	Canadian dollar
DEWHA	Department of Environment, Water, Heritage and the Arts
DRET	Department of Resources, Energy and Tourism
FTE	Full Time equivalent
FODI	Festival of Dangerous Ideas
GDP	Gross domestic product
NFC	Near Field Communication
NSW	New South Wales
SOH	Sydney Opera House
SOHT	Sydney Opera House Trust
TSA	Tourism Satellite Accounts
US	United States
USD	US dollars
WTP	Willingness to pay

Executive summary

We estimate the Sydney Opera House has a total social asset value to Australia of \$4.6 billion

This report assesses the economic, cultural, brand and digital value of the Sydney Opera House (SOH). Commissioned and produced in mid-2013, its purpose is to gauge SOH's true worth to Australian residents and visitors. It takes into account the direct and indirect financial and employment value SOH adds to the economy, its iconic and experiential value to local and international visitors and residents, its perceived value among key audiences, and the value of its digital footprint – both now and into the future.

Economic contribution

In its first 40 years, SOH has established itself as Australia's foremost cultural centre. In the 2011/2012 financial year alone, it attracted nearly 1.4 million people to more than 1,800 performances.

Outside its status as a cultural venue, SOH is of substantial financial value to Australia. Between the SOH's resident performing arts companies, the activity of the Sydney Opera House Trust (SOHT) itself, and the site's bars, shops and restaurants, the SOH is estimated to contribute \$141 million a year in total direct value added to the Australian economy. Value added measures the value of output (i.e. goods and services) generated by the entity's factors of production (i.e. labour and capital) as measured in the income to those factors of production. The sum of value added across all entities in the economy equals gross domestic product.

SOH also contributes indirectly through the reach of its supply chains into other sectors, such as agriculture and food processing. It is estimated to support 2,753 full-time equivalent jobs, directly and indirectly.

We estimate SOH contributes \$254 million in value added to the Australian economy each year. However, as a national icon and tourist destination, its value is much greater.

SOH attracts substantial visitation to Sydney. More than half of surveyed tourists from China, the United States, the United Kingdom and New Zealand see it as the main factor in visiting the city. We estimate that the SOH contributes \$640 million in yearly expenditure by visitors to Sydney, \$558 million of which is value added.

After accounting for a degree of overlap between tourism expenditure and expenditure on the SOH precinct (estimated to be worth \$38 million in value added), the total value added by the SOH from its activities on the precinct, and in attracting tourists to Australia, is estimated to be \$775 million per year. The SOH was also estimated to support 8,439 full-time equivalent jobs, directly and through tourism.

The audience value

Beyond its financial strengths, SOH is of great experiential and cultural value to audiences.

Our research has found Australian residents visiting the venue value the experience of an event at an average of 22% higher than the price paid for a ticket. Accounting for this and the broader value of the venue's uniqueness and diverse programming, the total value consumers place on SOH experiences is \$125 million a year – 38% more than ticket sales.

Australian residents also place a considerable premium on the non-use value of SOH. This is the intangible cultural or iconic value perceived by all Australians – not just those that attend performances.

We gauged general attitudes regarding SOH, including its contribution to Australia's national identity, the value of its cultural offerings, the use of the surrounding precinct, and willingness to pay taxes to maintain the facility.

We found that 77% of Australian residents believe SOH makes a significant contribution to Australia's unique culture. An even greater majority acknowledged it as an iconic Australian landmark that contributes to the country's national identity and international standing.

The value of such sentiments is difficult to quantify, but they are reflected in attitudes towards taxation relating to the upkeep of the venue.

We informed survey respondents of the current ongoing state funding levels for SOH (\$6.20 per person per year), and placed this in the context of the state budget. We found Australian respondents that do not use SOH are willing to pay a small but significant premium for its maintenance in place of tax cuts.

Our estimates based on these findings suggest the SOH's non-use value – which relates to its cultural heritage and identity as a national icon – is a 40-year present value of \$2.1 billion. We estimate its total social asset value at a 40-year present value of some \$4.6 billion.

The Opera House brand

In 2013, a Brand Asset Valuator (BAV) study of Australia and SOH demonstrated great brand strength and differentiation across respondent categories.

Among early adopters and innovators over 40 years of age, SOH considered the most distinctive brand in the country, is ahead of Apple's iPhone. For the same audience, its uniqueness ranks second only to the brand of Australia itself.

Considered internationally, the SOH brand is similarly unique to Australia, but more relevant and esteemed overall than the national brand. This demonstrates the critical and dynamic role SOH plays as an aspect of Australia's international appeal now and in the future.

Digital footprint

Despite the absence of a pronounced digital commercial methodology, SOH's digital footprint shows great promise.

During the period from June 2010 to June 2013, SOH's digital visitation increased by a compound annual growth rate of 28%, and visitors are increasingly visiting SOH digital properties not only to research performances and events and buy tickets, but to consume content.

SOH has an online digital reach of 128 million, 93% of which comes through Facebook. In 2012, The Ship Song online video brand campaign brought 400,000 YouTube viewers to SOH. It was shared 1.7 million times on Facebook within the first 24 hours and earned value of more than \$2 million in free editorial, PR and social media recognition.

An online stream of the most recent Vivid Live festival attracted 916,000 playbacks, 573,000 on-demand views, tallying a total of 63,000 viewing hours. In the last financial year, 4.2 million people watched video of SOH performances online via YouTube and the House's own PLAY channel.

Our survey found that audiences place a substantial premium on the value of digital performances. The current value of a streamed performance to a viewer is around three cents, but viewers reported a willingness to pay an average of \$5.60 for such content. This represents an unrealised potential commercial value of hundreds of millions to SOH and the broader Australian economy (see Appendix G for further detail on SOH's digital future).

Future promise

The value of SOH – to Australians' sense of identity, as a symbol of Australia overseas, and as an economic resource – is well established. This report demonstrates that SOH's consumer value, digital footprint and brand perception provide a huge opportunity for the venue to build on its existing strengths and capitalise on considerable new local and international audiences in future.

Section 1: Introduction

The Sydney Opera House draws tourists to Sydney and Australia that may not otherwise visit, or may not stay for the same length of time

This report examines the SOH precinct and analyses its value to the Australian economy and society. It expands upon a 2012 report by Deloitte Access Economics that examined the specific economic contribution of SOH.

Beyond an updated economic contribution analysis, which looks at SOH's value added, contribution to employment, and impact on tourism spending, there are two additional aspects to this report.

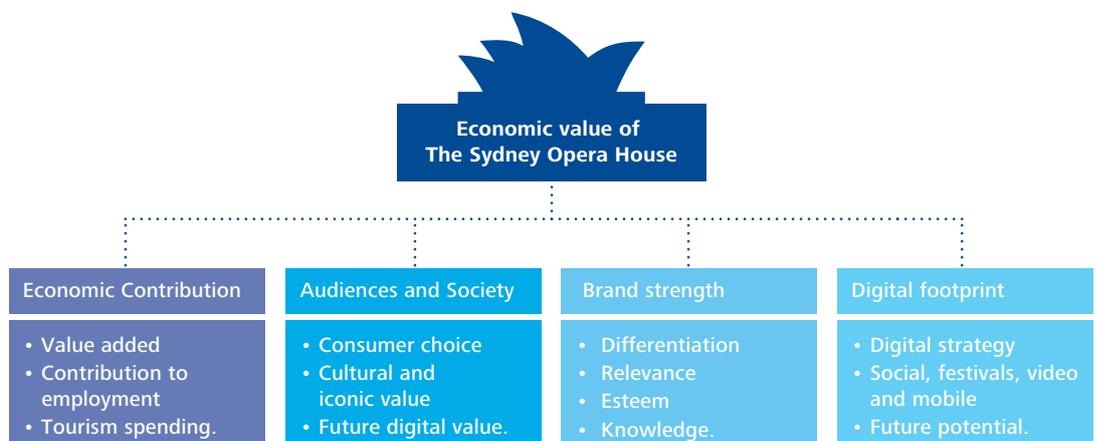
The first is an analysis of the SOH's position as a cultural and entertainment venue, beyond the extent to which this is captured by direct spending and GDP statistics.

SOH plays an important role in providing additional 'consumer surplus' to patrons through the quality and variety of its performances. Additionally, for those Australians who do not necessarily attend a performance (or even visit the precinct) there is a broader cultural and iconic value associated with SOH for Australian society.

To examine these broader values, Deloitte Access Economics and Stancombe Research & Planning conducted a survey of more than 3,000 Australians and overseas residents. This analysis is conceptually distinct from the SOH's economic contribution and incorporates broader conceptions of social value, although it should be noted there is some overlap between the two concepts.

Second, Deloitte looked at SOH as a digital entity. With the expansion of the online world, it is appropriate to sketch the digital footprint of the SOH. Over time, there will be even more opportunities for SOH to create value, including through enhanced tours of the facility and by increasing access to virtual performances. This potential digital value was estimated through the survey, SOH data and Deloitte analysis, and is explored in more detail in **Appendix G**.

Chart 1.0: Scope of the report



1.1 Report structure

The report is organised as follows:

- **Chapter 2** calculates the direct and indirect economic contributions of SOH
- **Chapter 3** analyses the value of SOH to consumers and broader society
- **Chapter 4** discusses the brand value of SOH, with reference to the Brand Asset Valuator (BAV)
- **Chapter 5** analyses the digital footprint of SOH and how this will contribute to its value over time.

This report is designed to follow and update the data and methodology used in the previous economic contribution reports. The need for an update to these reports is a result of the approaching 40th anniversary of SOH, and because a series of building maintenance, renovation and improvement projects are currently being proposed.

The report is not an evaluation of any particular service or function of SOH, nor is it a funding needs assessment, and it is not a business case for any project.

1.2 Sydney Opera House

Following an international design competition announced in 1956, SOH was officially opened in 1973. The venue was originally conceived as a multipurpose building with a large hall, a small hall, restaurants and public rooms. The final building delivered these functions as well as an iconic exterior that has come to be representative of both Sydney and Australia.

In accounting terms, SOH is the NSW Government's most valuable built asset, and this value is reflected in the complex role SOH plays. The SOH has four main functions:

- A centre for the performing arts
- A focus for tourism on Sydney Harbour
- A heritage structure
- A national icon.

In terms of the performing arts, in 2011–12 nearly 1.4 million people attended 1,808 performances, representing a 3.6% increase from the previous year.

These performances were presented by resident SOH companies as well as by SOH itself, via SOH Presents. The resident companies included Sydney Symphony, Opera Australia, the Australian Ballet, the Sydney Theatre Company, Bangarra Dance Theatre, Bell Shakespeare Company and the Australian Chamber Orchestra. SOH generated revenue from this activity through rental fees and ticket sales, as well as associated food, beverage and retail operations.

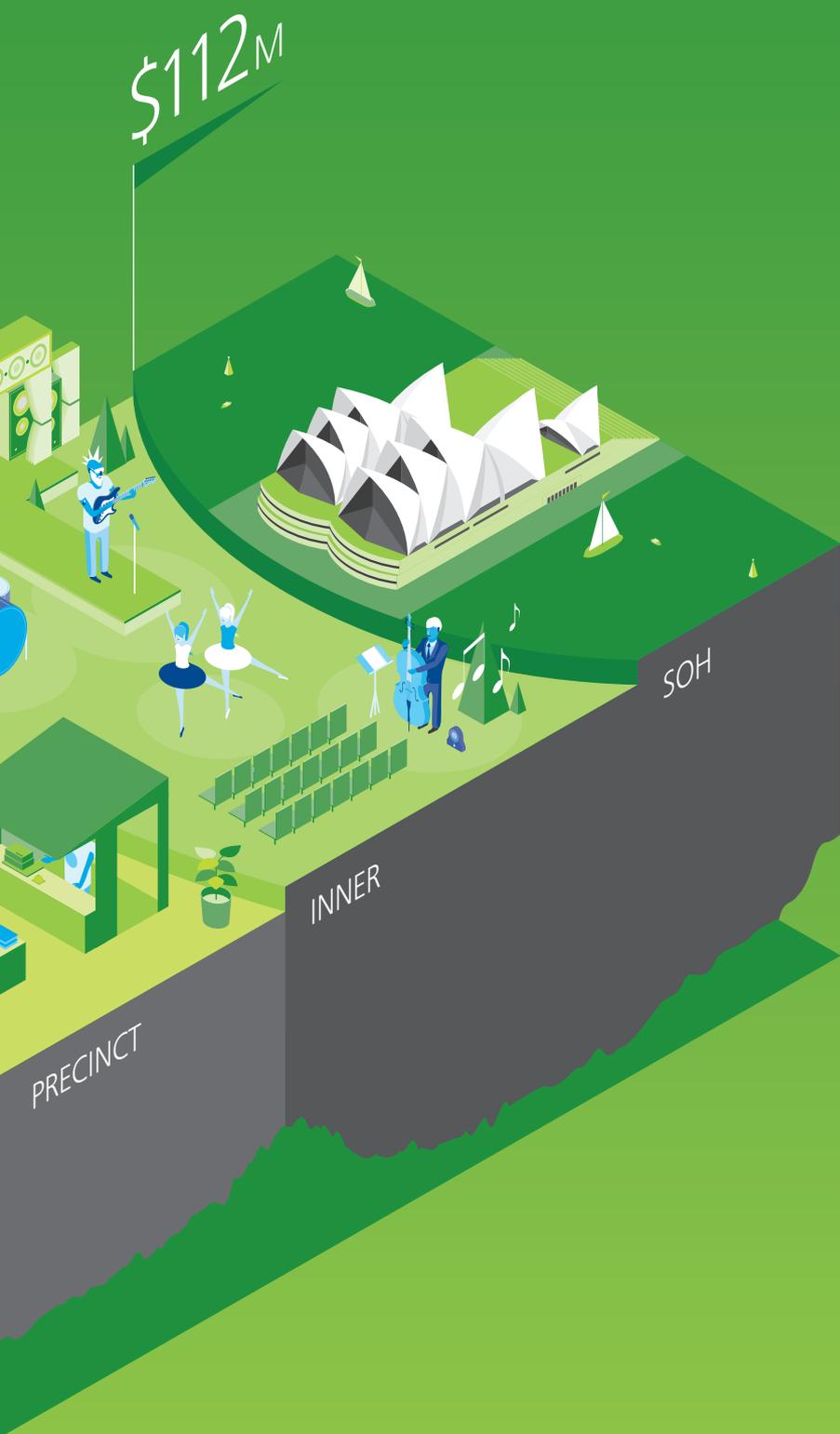
Its role as a heritage structure and national icon enables it to act as a major tourist attraction in Sydney. SOH directly contributes to tourism through the bars, restaurants and cafes that operate within the precinct. More focused tourism services, such as tours of the building and backstage areas, are also offered. These business operations are described further in **Chapter 2**.

Furthermore and importantly, SOH contributes to tourism more broadly by drawing tourists to Sydney and Australia that may not otherwise visit, or may not stay for the same length of time.

1.3 The Sydney Opera House Trust

The Sydney Opera House Trust (SOHT) is responsible for operating and maintaining SOH on behalf of the NSW Government. SOHT is constituted as a body corporate under the Sydney Opera House Act 1961 and is responsible for controlling and maintaining the SOH precinct as an arts centre, promoting all branches of the performing arts, and fostering research into new forms of entertainment and presentation.

The six main areas in which the SOHT operates are SOH Presents (where SOH brings in special performances or festivals), Theatre and Events (which involves the hiring of theatres and equipment to performance companies), the Tourism Department (which is responsible for running the guided tours), Commercial Partnerships (which liaises with the retail, food and beverage operators in the precinct), Audience Development (which is responsible for ticketing, marketing and broader public relations) and Building Development and Maintenance (tasked with overseeing building maintenance and managing the site).



A THRIVING ARTS CENTRE

In 2011/12, nearly 1.4 million people attended over 1,800 performances at the Sydney Opera House. The activities of the Opera House in managing the venue and operating *SOH Presents* was estimated to contribute \$112 million in value added while the seven resident performing companies contributed another \$109 million.

A SIGNIFICANT CONTRIBUTOR TO THE AUSTRALIAN ECONOMY

After taking into account the overlap between these four functions, the Sydney Opera House is estimated to contribute \$775 million in value added to the Australian economy each year and support over 8,400 full-time equivalent jobs.

Section 2: Economic contribution of the Sydney Opera House

The economic footprint of SOH comprises a number of dimensions. **Table 2.1** outlines the four main components of economic activity.

In addition to these areas, SOH also plays a central role in Sydney's arts and cultural scene and generates value to consumers as an arts venue a symbol of Sydney, and a national icon. In recent years, SOH has also begun to establish a digital footprint as it seeks to engage people digitally around the world.

These aspects of SOH's broader economic contribution largely involve non-market transactions and, as such, are not directly captured in the national accounting framework used to generate economic output indicators such as GDP.

Chapter 2 focuses on those aspects of SOH's economic footprint that can be measured in the national accounting framework. This includes the SOHT's economic activity, resident performing arts companies, onsite retailers and the induced tourism expenditure attributable to SOH. Subsequent chapters of this report explore the broader value of other non-market aspects of SOH. Importantly, these broader values should not be seen as additional to the economic contribution, as there is a degree of overlap between the two and they use different measurement concepts.

2.1 Measuring the economic contribution

The economic contribution of SOH has been measured in terms of the value it adds as well as its contribution to employment in the Australian economy. Value added measures the value of goods and services produced by an entity's factors of production (i.e. labour and capital) as reflected in the income to those factors of production (wages and gross operating surplus). The sum of value added across all entities in the economy equals gross domestic product (GDP).

The total economic contribution of the SOHT and the businesses within the precinct includes both their direct and indirect contribution to value added. Direct value added captures the wages and gross operating surplus of the SOHT and other businesses in the precinct. Indirect value added captures the flow-on economic activity associated with the purchase by SOHT and other businesses within the precinct of intermediate inputs from other firms. Further details on the methodology used to estimate the economic contribution of the SOH is provided in **Appendix D**.

Table 2.1: Components of SOH's economic contribution

Component	Main economic activities
Sydney Opera House Trust (SOHT)	<ul style="list-style-type: none"> • Maintaining and managing the precinct • Renting venue and retail space to other companies • Providing guided tours and ticketing services • Programming performances under the banner of SOH Presents
Resident performing arts companies	<ul style="list-style-type: none"> • Providing events and performances at SOH
Onsite retailers	<ul style="list-style-type: none"> • Selling food, beverages and merchandise to visitors on the precinct
Tourism	<ul style="list-style-type: none"> • Supporting tourism expenditure as visitors from overseas and around Australia are attracted to Sydney to visit SOH

Source: Deloitte Access Economics

2.1.1 Data sources and methodology

The main data sources for estimating SOH's economic contribution were information contained in its 2012–13 financial report and information from the financial reports of the resident performing arts companies from 2011–12 (its 2012–13 financial reports had not been released at the time of writing).

In the case of the SOHT, its value added and employment were directly obtained from its 2012–13 financial report.

Assessing the value added and employment of the resident performing companies is more complicated. Many of these companies perform around the country and so not all of their revenue can be attributed to SOH. At a minimum, the economic contribution should include ticketing revenue generated at SOH; however, much of the revenue received by performing arts companies also comes from government grants, sponsorships and donations. These other revenue sources were attributed to SOH based on the proportion of each company's total ticket revenue attributable to performances at SOH.¹ In the case of state government grants, all income was included if SOH was the primary NSW performing venue for the company.

Once an estimate of total revenue from the resident performing companies attributable to SOH was obtained, the value of labour income and gross operating surplus was estimated based on their proportion of total revenue in the companies' financial accounts.

The revenue of the bars and restaurants and retail outlets in the precinct was provided to Deloitte by SOH. This revenue was converted into estimates of value added, employment, labour income and gross operating surplus using the ABS Input Output Tables for 2008–09. **Table 2.2** lists the main resident performing arts companies and retailers within the precinct, as at June 2013.

The final aspect of SOH's economic contribution is its role in supporting tourism expenditure. This includes expenditure on travel, food, beverages, and accommodation associated with attending a performance or a tour of SOH. It also takes into account the role played by SOH in attracting tourists to Sydney even if they do not actually enter the building. For example, seeing SOH may be an important motivation for many tourists to come to Sydney, but once here they may be content to just walk around the precinct or have their photo taken with the venue as a backdrop.

Table 2.2: Performing arts companies and retailers in the precinct, as at June 2013

Resident performing arts companies	Retailers
Sydney Symphony Orchestra	• Foyer store and lower store
Opera Australia	• Aria catering
The Australian Ballet	• Opera Bar
Sydney Theatre Company	• Guillaume at Bennelong
Australian Chamber Orchestra	• Bistro Mozart
Bell Shakespeare	• Theatre bars
Bangarra Dance Theatre	• Opera Kitchen • Studio Café • Vending carts/Campos coffee

Source: Deloitte Access Economics

¹ This calculation involved multiplying the ratio of other revenue to ticketing revenue for a company in 2011–2012 by their ticketing revenue at the SOH in 2012–13.

Table 2.3: Direct economic contribution, SOH precinct, 2012–13 (\$m)

	SOHT	Resident performing companies	Bars, shops, restaurants and cafes	Transfers	Total
Direct Value Added	54.3	63.2	34.5	10.7	141.3
Labour Income	47.6	62.2	15.8	5.5	120.1
GOS	6.7	1.0	11.5	5.3	21.2
Employment (FTE)	510	945	519	194	1,780

Source: Deloitte Access Economics.

Estimating the impact of SOH in supporting tourism expenditure is not straightforward as, in many cases, it is but one of a number of attractions that tourists come to Sydney to visit. Section 2.5 discusses the approach used to attribute tourism expenditure to SOH and the impact of this tourism expenditure on value added and employment.

2.2 Direct economic contribution

The direct economic contribution of the SOH precinct captures the value added by labour and capital inputs within it. The economic contribution of SOH is separated into three components:

- The SOHT
- The resident performing arts companies
- The bars, shops, restaurants and cafes that hire space from SOH.

It is estimated that these three components contribute around \$141 million a year in direct value added. As **Table 2.3** shows, the resident performing arts companies had the largest direct contribution of \$63 million, followed by the SOHT, which directly contributed \$54 million. The bars, shops and restaurants contributed \$34 million. Since some of the revenue of the performing arts companies and bars and restaurants is transferred back to SOH through commissions and payments for venue hire, the impact of these transfers is netted out of the total economic contribution to avoid double counting.

Information on employment was obtained for the SOHT from the SOH’s annual report. While onsite retailers employed a total of 921 people, no figures for full-time equivalent (FTE) employment were available. In practice, the retail sector has high levels of part-time employment. To estimate the amount of full-time equivalent employment for the resident performing companies and onsite retailers, Deloitte estimated industry averages for direct employment per million dollars in revenue based on information from the Australian Bureau of Statistics (ABS) Input-Output tables for 2008–09.

2.3 Indirect economic contribution

The intermediate inputs demanded by the SOHT and businesses in the precinct also generate flow-on effects in other sectors of the economy. For example, purchases of food by restaurants in the precinct will lead to payments to factors of production in sectors (such as agriculture, food processing and wholesaling) involved in supplying the food. The size of this flow-on activity is dictated by the extent of linkages with other sectors of the economy. The methodology used to measure the indirect economic contribution of the SOH precinct is detailed in **Appendix D**.

The indirect economic contribution of SOH was estimated to be \$113 million, as shown in **Table 2.4**. The indirect contribution of SOH to the Australian economy was estimated to be smaller than its direct contribution of \$141 million.

Table 2.4: Indirect economic contribution of SOH precinct, 2012–13

	SOHT	Resident performing companies	Bars, shops, restaurants and cafes	Transfers	Total
Value Added (\$m)	58.0	46.1	19.0	10.0	113.0
Labour Income	32.9	26.7	17.6	5.8	71.4
GOS	25.0	19.4	1.4	4.2	41.5
Employment (FTE)	518	387	152	84	973

Source: Deloitte Access Economics

2.4 Total economic contribution

The total economic contribution of the SOH precinct includes both the direct and indirect contributions of the SOHT, resident performing companies and onsite retailers. The total economic contribution of these groups is shown in **Table 2.5**. In total, it is estimated the SOH precinct generates \$254 million in value added to the Australian economy. SOH was estimated to directly and indirectly support the employment of 2,753 people on a full-time equivalent (FTE) basis.

The estimated total economic contribution of the SOH precinct has risen from the figure of \$200 million estimated by Deloitte Access Economics for 2010–11 in the 2012 report. This has been driven by two main factors: growth in revenue for all three components (particularly onsite retailers, and food and beverage operators), and the availability of information on ticketing revenues for the resident performing arts companies at SOH. The latter has resulted in a more precise estimate of the sources of revenue for the performing arts companies that are attributable to SOH and the amount of intermediate inputs that are attributable to the performing arts companies' activities at the SOH. This has led to a higher estimate of value added for the resident performing arts companies.

Table 2.5: Total economic contribution of SOH precinct

	Direct	Indirect	Total
Value added (\$m)	141.3	113.0	254.3
Employment (FTE)	1,780	973	2,753

Source: Deloitte Access Economics

2.5 Contribution to tourism

In addition to the economic contribution of the precinct, SOH also supports economic activity through its role in attracting tourists to Sydney. This encompasses not just those who come to see a performance or take a tour, but also those who enjoy walking around the foreshore or being photographed with SOH in the background.

While SOH is a major Sydney tourist attraction, in practice it is difficult to separate its impact from other attractions such as the Sydney Harbour Bridge, the harbour itself, and Sydney's beaches. It is likely many visitors base their decision to come to Sydney on a number of attractions. Indeed, the combined offering may be more appealing than each individual offering. For example, the offer of being able to walk through the Botanic Gardens and to Circular Quay for a view of SOH and the Harbour Bridge is likely to be more appealing than visiting each in isolation.

The main approach taken to estimating the contribution of SOH to tourism expenditure in this report attributes expenditure based on the number of activities associated with SOH as a proportion of all tourist activities in Sydney, implicitly recognising that many tourists are attracted to Sydney by a bundle of attractions. The following section outlines this approach, which follows that used in the Deloitte Access Economics 2012 report.

2.5.1 Approach to estimation

The challenge created by SOH being part of a bundle of tourist attractions is comparable to one that has been closely studied in economics: 'team production'. The classic paper in this area is Alchian and Demsetz (1972), which was the first to take an in-depth analysis of the economic issues raised by team production. One of the paper's main conclusions was that "individual cooperating inputs do not yield identifiable, separate products which can be summed". This raises problems in ascribing output to individuals (or in our case tourist attractions). Alchian and Demsetz (1972) consider the possibility of monitoring inputs and consider that this is an explanation for the role of managers.

Alchian and Demsetz's (1972) approach of analysing inputs to production as a proxy for outputs can be adapted to the case of SOH because data is available on the number and types of activities undertaken by domestic and international visitors to Sydney. This data is described further in **Appendix F**. Activities undertaken by tourists can be considered an input to a tourism industry that converts these activities into revenue. Data on tourism activities can therefore provide a guide to the contribution of SOH.

The alternative to an inputs-based approach is to attempt to identify tourists whose main reason for coming to Sydney was to visit SOH and to then attribute their expenditure to it. The difficulty with this approach is that in many cases there are multiple attractions that attract people to Sydney. Moreover, even those who primarily come to see SOH may choose to extend their stay to visit other attractions. As a result, it may not be appropriate to attribute all their expenditure to SOH.

The results in this report largely focus on an input-based approach, although results based on the alternative approach are discussed in section 2.5.5.

Table 2.6: Estimated contribution of SOH to tourism expenditure, 2012–13

	\$m
Sydney holiday expenditure	6,066.4
Attribution to SOH	10.55%
Estimated expenditure attributable to the SOH	640.1

Source: TRA (2013) and Deloitte Access Economics

2.5.2 SOH's contribution to tourism

There are two main steps to estimating tourism expenditure attributable to SOH:

- Estimating the amount of holiday tourism expenditure in Sydney in total
- Estimating the contribution of SOH to this expenditure.

To estimate holiday tourism expenditure in Sydney, we multiplied the ratio of expenditure of holiday visitors to total expenditure in NSW by estimates of total tourism expenditure in Sydney. We undertook this process separately for international, domestic day and domestic overnight visitors.

To estimate the contribution of SOH to this tourism expenditure, we used an analysis of tourism activities based on the international and domestic visitor surveys.

This approach estimates the total number of tourist activities attributable to SOH (e.g. general sightseeing, visiting a heritage building or seeing a live theatre performance) as a percentage of total tourist activities in Sydney based on the international and domestic visitor surveys conducted by Tourism Research Australia. The precise approach used is detailed in **Appendix E**.

By combining the estimated tourism expenditure with the proportion attributable to SOH, we derived an estimate of the level of tourism expenditure directly attributable to SOH. This is outlined in **Table 2.6**.

This approach indicates that SOH could be responsible for around \$640 million of tourism expenditure in 2012–13.

These expenditure numbers must also be converted into value added (this is discussed in detail in **Appendix C**). As shown in **Table 2.7**, tourism expenditure associated with SOH was estimated to contribute \$311 million in direct value added and \$247 million in indirect value added to the Australian economy. The total value added was \$558 million. Tourism expenditure was also estimated to support the employment of 6,098 people (directly and indirectly) on an FTE basis.

Table 2.7: Estimated contribution of SOH to tourism in Sydney, 2010–11

	Direct	Indirect	Total
Expenditure (\$m)	640.1		
Value added (\$m)	310.5	247.4	557.9
Gross Operating surplus	117.3	110.6	227.9
Labour income	193.2	136.9	330.0
Employment (FTE)	4,012	2,086	6,098

Source: Deloitte Access Economics

2.5.3 Comparison to the previous report

While the estimated tourism value added is broadly similar to that in the previous report (which was \$534 million for 2011–12), the number of employees supported by tourism expenditure at the SOH has fallen from 6,759 in the 2012 report to 6,098 in this report. The reason for this is that updated ABS Input-Output tables from 2008–09 were used in this report to model the economic structure of the sectors contributing to tourism expenditure, whereas the previous report used the ABS Input-Output for 2005–06. The 2008–09 tables indicate lower average industry estimates of employment per million dollars of industry revenue for the retail, accommodation, road transport and sport and recreation sectors. As a result, estimates of the total employment supported by tourism expenditure at the SOH have fallen relative to the 2012 report.

2.5.4 Sensitivity analysis for the inputs-based approach

The attribution of tourism expenditure to SOH is based on two main assumptions. The first is that the value of tourist activities associated with SOH is equal to the average value of all tourist activities in Sydney. In practice, tourist activities at SOH might be valued more highly on average than other activities in Sydney. The second assumption is that tourist activities are attributed to SOH even if it is not the only attraction that generated these activities. For example, a visitor who attended performances at both the Opera House and Wharf Theatre would be attributed solely to SOH.

On balance, these assumptions tend to offset each other. That is, modifying the first assumption would increase tourism expenditure attributable to the SOH, but modifying the second would decrease it.

Table 2.8: Sensitivity of modifying the value of tourist activities at SOH, 2012–13

Scenario	Value added (\$m)
SOH activities have average value	557.9
SOH activities have twice the average value	1,115.8
SOH activities have three times the average value	1,673.7

Source: Deloitte Access Economics

Table 2.9: Sensitivity of tourism contribution to varying number of activities (\$m)

Performing arts events visited	Heritage buildings visited	General sights visited			
		1	3	5	7
1	1	557.9	267.8	209.8	184.9
1	2	538.1	248.0	190.0	165.1
2	1	516.3	226.3	168.2	143.4
2	2	496.5	206.4	148.4	123.5

Source: Deloitte Access Economics

In relation to the first assumption, given that SOH is one of the most photographed architectural icons in the world, assuming that visiting or seeing it has the same value as other tourist activities is likely to be conservative. **Table 2.8** shows the estimated contribution of SOH to tourism expenditure in Sydney if its activities were valued at two or three times the value of other activities in Sydney.

Conversely, the second assumption (the attribution of tourist activity to SOH even if it was not the only attraction to generate this type of activity) has the potential to overestimate tourism expenditure attributable to SOH. For example, those who visited heritage buildings or attended cultural events could have visited more than one attraction during their stay. The impact of this assumption on the results is shown in **Table 2.9**.

The first row of the table shows the estimated tourism expenditure if visitors visited one performing arts event, one heritage building and from one to seven general sights. For example, if the average visitor saw one performing arts event, one heritage building and seven general sights, estimated tourism expenditure at SOH would be \$185 million. This is lower than the central expenditure estimate, because if the average visitor sees seven different general sights (rather than just SOH) the amount of tourism activity attributable to SOH falls. The second to fourth rows show the impact of going to more than one heritage building and/or performing arts event on estimated tourism expenditure attributable to SOH. Varying this assumption would mean that the economic contribution of tourism at SOH is between \$124 million and \$558 million.

2.5.5 An alternative survey-based approach to estimating tourism expenditure

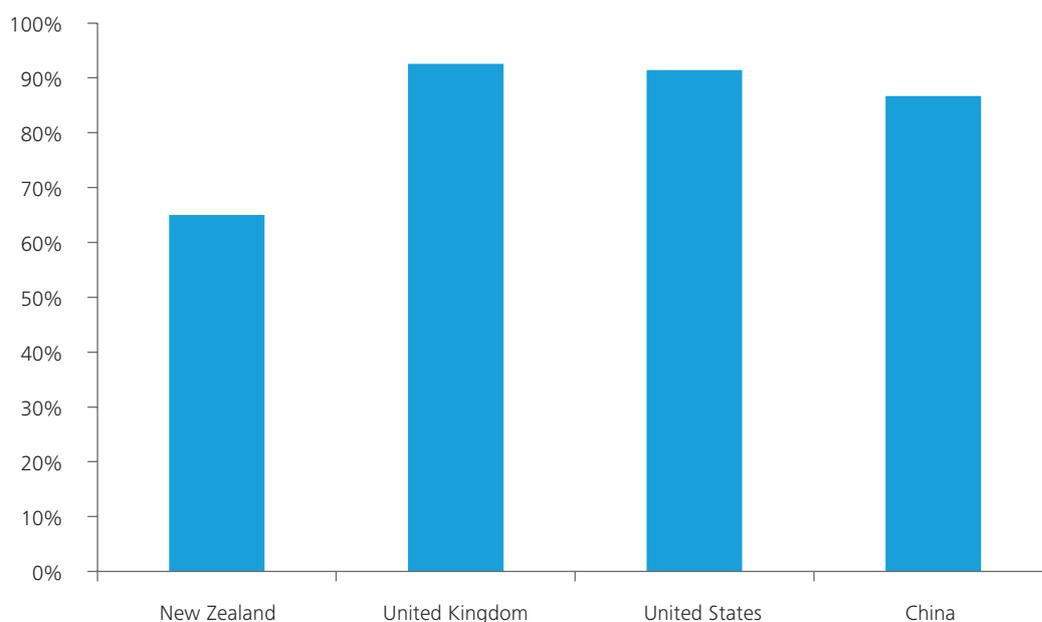
As part of a survey capturing consumer valuation of SOH (discussed in more detail in **Chapter 3**), a number of tourism questions were asked of respondents from New Zealand, the United Kingdom, the United States and China. **Chart 2.1** below shows the proportion of visitors to Sydney from these source countries who visited the SOH precinct. The proportion ranged from 65% of visitors from New Zealand to 93% for those from the United Kingdom.

Respondents were also asked whether they had attended an event or performance at SOH, with results ranging from 9% for New Zealand to 71% for China. The figure for China was surprisingly high and may reflect interpretation difficulties. It would imply that 160,000 Chinese visitors attended a performance at SOH last year.

This is relatively high given that demographic data from SOH indicated around 17% of the approximately 1.4 million performance attendees were international visitors, suggesting total attendance by international visitors of approximately 210,000. However, the proportion attending events or performances was also relatively high for those from the US and UK (61% and 43% respectively), suggesting that perhaps respondents included attendance at festivals or other events in their assessment or that the survey was more likely to be answered by those who had attended an event at SOH.

The survey also asked respondents from these source countries whether attending SOH was a factor in their decision to visit Sydney and, if so, whether it was the main factor in their decision to visit the city. **Chart 2.2** shows the proportion of holiday visitors citing SOH as a factor or main factor in the decision to visit Sydney.

Chart 2.1: Proportion of visitors attending SOH and precinct



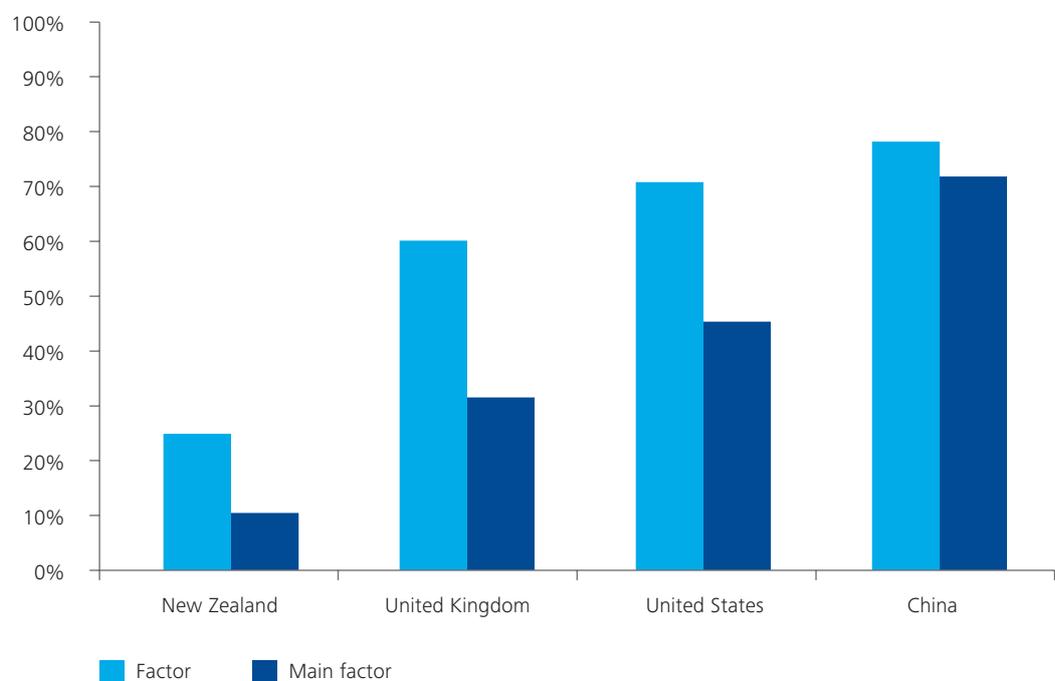
Source: Stancombe Research & Planning and Deloitte Access Economics

The results varied considerably by country of origin. In total, 30.4% of holiday visitors from New Zealand regarded SOH as a factor in their decision to come to Sydney, with 12.7% further describing it as the main factor. By comparison, 95.5% of those from China regarded SOH as a factor in their decision to visit Sydney, with 87.7% seeing it as the main factor.

The differences across countries shown in **Chart 2.2** are interesting. They could reflect the more limited knowledge of Australia's attractions held by visitors from further afield.

Iconic images such as the Sydney Opera House are often front of mind for those from China, the US and UK, whereas residents from nearby countries such as New Zealand might have more detailed knowledge of other local attractions. The fact that fewer visitors from the US and UK were less likely to see it as a main factor may reflect the fact that there were fewer language barriers to investigating Sydney's other attractions than for Chinese visitors. It is also possible that the high proportion of Chinese visitors indicating the Sydney Opera House as the main factor in the decision to come to Sydney might to some extent reflect cultural/interpretation challenges when responding to survey questions.

Chart 2.2: Proportion of holiday visitors citing SOH as a factor or main factor in the decision to visit Sydney



Source: Stancombe Research & Planning and Deloitte Access Economics

2.5.6 Estimating tourism expenditure based on the survey data

The proportion of respondents indicating that SOH was the main factor in their decision to come to Sydney also provides another way of estimating tourism expenditure attributable to SOH. The process involved in this calculation is outlined in **Box 2.1** below.

This approach results in a higher value for tourism expenditure, with the SOH's tourism value added estimated to be \$892 million compared with \$558 million using an inputs-based approach. Deloitte Access Economics believes these figures should be seen as a high scenario estimate of tourism expenditure at SOH.

While the approach discussed in **Box 2.1** is likely to be appropriate for art galleries, museums in smaller cities, or regional areas where average lengths of stay are only a few days, it may overestimate the tourism expenditure attributable to SOH. This is because an average international visitor's length of stay tends to be relatively long, given the large number of other attractions available in Sydney. For example, the average length of stay by international holiday visitors to Sydney was 12.9 nights in 2012/13 (Tourism Research Australia, 2013). While SOH may draw many visitors in, both average length of stay and expenditure are likely to be lower in the absence of other attractions. This is why Deloitte adopted the inputs-based approach to estimating tourism expenditure as the preferred measure of tourism value added attributable to SOH (which found that SOH's tourism value added was \$558 million).

Box 2.1: Attributing tourism expenditure based on survey responses

A common approach used to estimate tourism expenditure associated with a particular attraction is to use the proportion of visitors to that attraction who indicate they visited the region primarily to visit that attraction.

Results of other Australian surveys performed for large art museums, for which Deloitte Access Economics has previously undertaken similar economic contribution studies, have indicated the proportion of tourists coming primarily to visit these museums is between 10% and 37%.

After weighting survey respondents based on the proportion of international holiday visitors to Sydney from New Zealand, the UK, the US and China, the results of the survey indicated that 53% of holiday visitors to Sydney from these source countries saw SOH as the main factor in deciding to come to Sydney.

This proportion is somewhat higher than was found in previous surveys of other institutions, which is likely to reflect the fact that SOH is an internationally recognised building. The proportion is also partly driven up by the high proportion of Chinese visitors who stated that it was a main factor in their decision to come to Sydney.

Applying this ratio to all international holiday visitor expenditure in Sydney, and including estimated expenditure by domestic and local visitors to the precinct (based on the proportion of tour participants residing locally and outside Sydney), implies SOH contributed \$1.02 billion in tourism expenditure to Sydney. This equates to \$892 million in value-added terms.

2.5.7 The overlap between tourism expenditure and activities at the SOH

Some of the total tourism expenditure by holiday visitors in Sydney will occur on the SOH precinct. As a result, there is a small degree of overlap between the contribution of the SOHT, performing arts companies and onsite retailers and the SOH's overall tourism contribution. This overlap was not estimated in the previous report as limited information was available on the demographic characteristics of those attending tours and performances at the SOH (including their purpose of visit). However, the availability of detailed survey information in this report allows for the size of this overlap to be estimated.

Overall, the size of this overlap is estimated to be \$41.3 million, which reduces the tourism expenditure (excluding expenditure on the precinct) to \$597 million and the total value added by the tourism sector to \$520.3 million.

As a result, the total value added by the SOH is estimated to fall from \$812 million² to \$775 million³, once overlaps are accounted for. Similarly, total employment supported by SOH is adjusted from 8,851 full-time equivalent jobs to 8,439.

² This comprises \$254.3 million for the economic contribution of the SOHT, performing companies and onsite retailers, and \$557.9 million for the tourism contribution, using an inputs based approach.

³ This comprises \$254.3 million for the economic contribution and \$520.3 million for the tourism contribution, after accounting for overlaps between the two.

Audience and cultural value



By purchasing tickets for performances, food and beverages, and retail items, visitors declare a transaction value of Sydney Opera House services.

\$1,985_M



**TICKET &
PURCHASES**

Many audiences value SOH performances above the ticket price and a SOH experience offers a unique experience.

\$456_M



**CONSUMER
SURPLUS & CHOICE**

\$4.6 BILLION



Australians value the SOH as a cultural and heritage icon, contributing to national identity, even if they do not visit it.

The digital activities of the Sydney Opera House also contribute to its value to audiences. Beyond the convenience associated with online performance information and online ticket sales, there are benefits from online broadcasting of performances. In the future, there is also the potential for greater use of digital tools to enhance tourist experiences.

\$2,074_M

 **ICONIC
VALUE**

\$59_M

 **DIGITAL
VALUE**

These figures are 40 year present values

Section 3:

Audience and cultural value

94% of Australian residents say that the Sydney Opera House is an iconic landmark that contributes to Australia's national identity and international standing

In this chapter we estimate the audience and cultural values of SOH recognising that, for a range of reasons, the economic contribution outlined in the previous chapter may not fully reflect SOH's total contribution to the welfare of the Australian community.

Consider the following two cases where **transactional value** (the amount paid for the performance) may not fully encompass broader consumer value:

- If an organisation provides services at prices below their market value or consumers' true value, economic contribution statistics will underestimate the value of services (this will be referred to as **consumer surplus**)
- If services are uncommon or unique, they add to the choices available to consumers, and may contribute additional value to consumers (this will be referred to as consumer **choice value**).

Further, public institutions may also provide value to people who do not directly use their services. People may describe this as 'iconic' or 'symbolic' value, or may place a value on the contribution of SOH to national culture in a way that cannot be allocated between individuals. To capture all these sentiments, we estimate a '**non-use**' value of SOH using Contingent Valuation (CV). CV is a method of placing a market value on a non-market good, in this case the cultural and iconic value of SOH. A selection of the relevant literature on using CV to determine the value of cultural and heritage goods and services is summarised in **Appendix A**.

As these are fundamentally different approaches to estimating the economic value of SOH, the estimates cannot be compared. Unlike the economic contribution study in **Chapter 2**, the results presented in this chapter cannot be compared with concepts of GDP or a governmental budget, partly because these are flow (measured per year) values, and the cultural value is presented as a 'social asset' stock value. Crucially, these estimates do not net out the cost to audiences, cost to governments, or any form of opportunity cost associated with SOH activities. In this sense, therefore, they are gross benefit measures. Finally, as these values are not revealed through a transaction, they are more abstract than the economic contribution results.

3.1 Estimation approach

The primary method used to estimate the consumer surplus, choice value and non-use values that are not revealed by the market is to survey a sample of individuals who would receive this value, in this case a representative sample of Australian residents. We acknowledge that around 17% of audiences are international visitors, who will also have consumer surplus and indeed a non-use value of SOH, yet it is less pertinent to evaluate the non-use value of the Opera House from a worldwide perspective if those individuals do not contribute as taxpayers to SOH activities. This is why we did not ask international correspondents about non-use value.

Deloitte Access Economics, with Stancombe Research & Planning, has developed and fielded a survey of more than 2,500 Australians and over 650 international visitors to Sydney from New Zealand, the UK, the US, and China. This survey was administered online and designed to reveal attitudes towards SOH activities and provide a way to estimate the value of SOH beyond the pure economic contribution to GDP. The questions focused around seven main areas:

- General attitudes on SOH's contribution to Australia's national identity
- Opinions on how SOH adds to the cultural offerings in Sydney and Australia
- Respondents' use of SOH and the surrounding precinct
- Their cost and value of SOH experiences
- Respondents' digital interaction with SOH
- Australian respondents' willingness to pay in taxes to SOH
- International respondents' travel patterns.

The full questionnaire and results are available in **Appendix B**. In order to achieve a reasonable sample size for individual geographic regions, we placed minimum quotas on Western Sydney⁴, the rest of Sydney, the rest of NSW, and the rest of Australia. Sydney was split into two groups, so that geographical dispersion was taken into account. Where applicable, we reweighted survey results to reflect the overall population in these regions. In parallel, we conducted a survey of the SOH mailing list to compare the consumer value results between samples.

We combined these survey results with well-established approaches used in economics to estimate the broader consumer surplus and consumer choice values. For non-use value, a contingent valuation method was developed, based on the existing literature discussed in **Appendix A**.

Treatment of costs

As outlined previously, this approach to estimating consumer and non-use value of SOH does not attempt to net out the cost to audiences, construction or periodic maintenance costs, or ongoing government funding costs. Hence the aggregate estimates do not necessarily suggest whether SOH generates positive net returns. Likewise, they do not evaluate the efficiency of government funding of SOH relative to other funding uses.

⁴ Western Sydney is defined as the following 13 local government areas: Auburn, Bankstown, Blacktown, Blue Mountains, Camden, Campbelltown, Fairfield, Hawkesbury, Holroyd, Liverpool, Parramatta, Penrith and Wollondilly.

3.2 Consumer value and choice

3.2.1 Consumer value

Audiences are the consumers of SOH performances and events. Each year, almost 1.4 million people attend a performance or event. Revenue from ticket sales and associated services are around \$23 million for Sydney Opera House Presents events, \$7.8 million for Opera House tours, and around \$60 million for resident company performances.

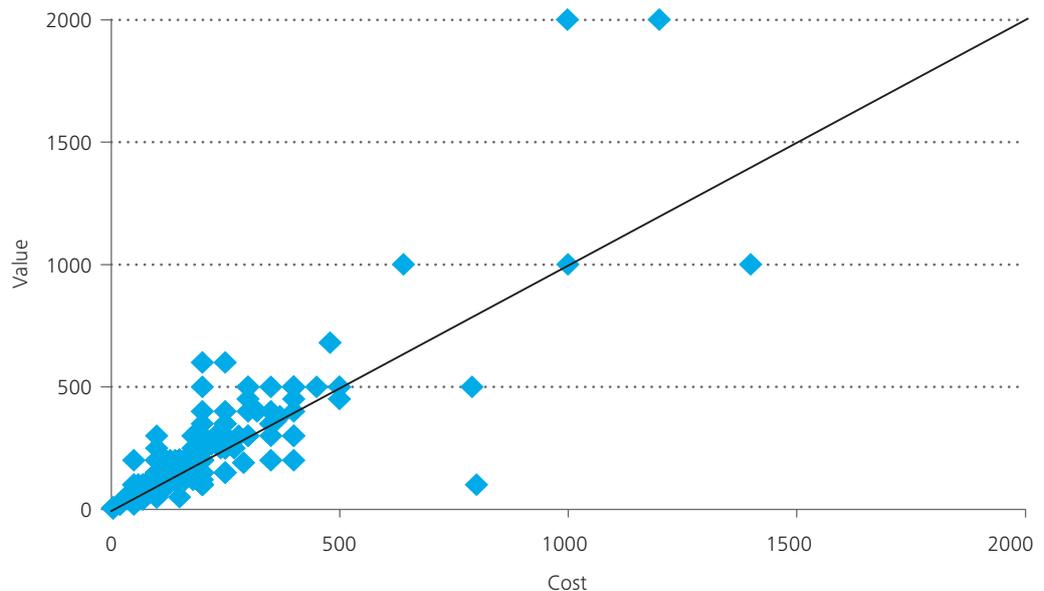
The 'marginal' purchaser of a ticket is indifferent between attending a performance or not, given the price; so the benefit they receive is exactly equal to the cost of a ticket. However, most attendees may receive a benefit higher than the cost of the ticket. If, for these individuals, prices are less than the broader value accruing to the attendee, this will underestimate the value to society. According to our survey of more than 2,500 Australian residents, consumer value is indeed higher than market prices. Of the Australian residents surveyed, 81% said SOH offers a high-quality venue for performances and events.

Those respondents from Australia who attended a SOH performance in the past 12 months reported they spent, on average, \$223. However, on average, they valued this visit as being worth \$246. So that the results are not skewed by high dollar costs and surpluses from certain individuals, we take each person's individual premium and convert it into a percentage, using the following formula:

$$\text{Premium}_i = \frac{(\text{value}_i - \text{cost}_i)}{\text{cost}_i} \times 100$$

For example, a person with a \$10 value for a \$5 purchase has a 100% consumer surplus on price, while a person with a \$50 value from a \$100 ticket has a 50% consumer deficit. The plot of value versus cost for the Stancombe sample of respondents is given in **Chart 3.1**.

Chart 3.1: Value versus cost – Stancombe respondents



Source: Stancombe Research & Planning and Deloitte Access Economics

We can average this across consumers, noting that this will be a different result from the surplus of average value to average expenditure. This also accounts for income effects, in which a dollar may have a lower marginal value for high-income individuals than those with a lower income. When accounting for frequency of attendance, the Stancombe broader sample of respondents suggests a 22% additional value on average. It also indicates that demand is relatively elastic (that is, price sensitive), given that the amount of surplus is a relatively small percentage of expenditure. The SOH mailing list sample suggests that the premium is closer to 15%.

It is important to note that these estimates are conservative, for a number of reasons. First, there will be an element of strategic bias when respondents are asked if they value their SOH experience more than what they paid for it. If respondents believe, to a certain degree, that responding with a higher premium is more likely to influence a price increase, then individuals will be more likely to understate their true value. Further, regular attendees and subscribers may be underestimating their average surplus, as the second and subsequent performances may generate progressively lower surpluses. Overall, the Stancombe Australia-wide sample was deemed the most robust, as there was less apparent strategic bias, and occasional visitors, who may not be on a mailing list, were better represented.

Table 3.1: Consumer surplus

	Stancombe broader sample		SOH mailing list	
	Value premium	Percentage of respondents (adjusted for the frequency of attendance)	Value premium	Percentage of respondents (adjusted for the frequency of attendance)
Australian residents				
Occasional attendees	15%	71% (29%)	7%	27% (11%)
Regular attendees	27%	22% (44%)	13%	57% (53%)
Subscribers	23%	6% (26%)	19%	15% (35%)
Australian residents (adjusted for frequency of attendance)	22%	100%	15%	100%

Source: Stancombe Planning & Research and Deloitte Access Economics

Note: that the percentage of respondent's breakdown is not representative of a typical audience, as regular attendees and subscribers would go more often

Some expenditure from consumers is received by resident companies or other service providers. But assuming SOH has the same proportion of consumer surplus as other companies involved would suggest SOH earned \$23 million through its own presented performances, \$7.8 million through guided tours, and \$60 million through the resident company performances. This is around \$91 million in transactional value, yet this was worth \$111 million to customers. Note that the revenue from some events held at SOH was excluded such as commercial hire, as this may not accrue the same amount of consumer surplus and choice value as other performances.

Of course, we note that while firms have a range of strategies to extract value from consumers, such as package deals and time-limited offers, firms are generally unable to fully capture this surplus. However, in this case, a large proportion of the available surplus is being captured. Also, for a range of competitive, equity or cultural reasons, it might not be possible for SOH to change its pricing policies. Nevertheless, the additional consumer value is a modest premium on the standard revenue measure, suggesting that much of the available willingness to pay is being extracted by SOH.

Direct questioning is one method of estimating consumer surplus. Another method proposed was to analyse performance prices and attendances to estimate the marginal willingness to pay. This method would be suitable in the absence of a direct survey of attendees, as it requires strong assumptions about the homogeneity of performances, in terms of value and costs. It also requires a demand curve to be extrapolated from what may be small variations in price.

The transaction value also includes the revenue for the precinct food and beverage options, such as Opera Bar and Bistro Mozart, as well as retail expenditure, which represent \$57.9 million in consumer expenditure. These elements are excluded from the consumer choice/surplus calculation on the basis that these operations are priced more commercially than the performances or tours themselves. However, since consumers were willing to pay at least what they actually paid, this transactional value is a conservative estimate of the consumer value.

3.2.2 Consumer choice

In this section we estimate the value of unique choice and variety offered by SOH compared with other venues for culture and entertainment. This is an important supplement to the previous section's analysis of consumer value, because SOH provides specialised performances and events that have value for niche (smaller) audiences. Without the commercial imperatives to simply deliver similar content to the largest audiences, SOH has greater freedom to schedule programming that may contribute to consumer welfare by greater amounts than ticket sales would imply.

Some background

Audiences with typical preferences for certain types of performances and events are likely to have their entertainment needs met by a range of commercial providers, such as movie theatres, TV and sporting codes. Audiences with atypical preferences, by contrast, are less likely to have their preferences met by the commercial sector. Economic research in the media sector finds that, in general, the commercial sector under-provides for niche audiences. See for example, Siegelman and Waldfogel (2001), Owen and Wildman (1992) and Armstrong and Weed (2007).

Measuring the benefits to consumers of programming variety that appeals to certain preferences is difficult, although certain economic theories of consumer choice attempt to do so. Hausman (1997), for example, shows that the consumer benefits of the introduction of a new product are equivalent to the welfare effect of a reduction in the price of the product from the price at which demand is zero to its current price. One fully worked example is provided by Brynjolfsson et al. (2003) – the value of increased consumer welfare from increased book variety on Amazon.com, compared with a traditional book store, is estimated to be between US\$731 million and US\$1.03 billion. That study estimated these benefits by looking at how much prices would have to fall to make the book buyer as well off as the new product offering.

The compensating variation is a function of the amount of new sales and the willingness of consumers to switch between products (the price elasticity of demand).⁵

$$\text{Compensating variation} = - \frac{(p_{n1}x_1)}{(1 + \alpha)}$$

And where $p_{n1}x_1$ is the post-introduction price and quantity of the new product; and α is the price elasticity.

For SOH, the survey was used to provide an estimate for the compensating variation or additional consumer value from the choice offered. Here, we show four steps to perform this calculation.

First, we estimated the elasticity of demand for SOH performances and events. Based on the average consumer surplus of 22%, we calculate an own-price elasticity demand of -2.3. We acknowledge that this is a conservative estimate, as we have averaged consumer surpluses to estimate an 'aggregate elasticity' – in effect assuming a demand curve with constant elasticity.

In reality, the price elasticity of a relatively niche good such as SOH performances and events could be associated with a lower elasticity than that found through this method. For example, Brynjolfsson et al. (2003) found the price elasticity of books to be between -1.56 and -1.79, suggesting that our estimate – of what is arguably a more niche product – is a conservative one. In reality, it is likely that a proportion of individuals have much lower elasticity than -2.3, and accordingly would have a significantly higher consumer surplus. This will disproportionately impact the overall compensating variation, due to its functional form.

Second, we calculate the proportion of SOH activities that are a unique addition to the consumer choice set – a subjective exercise as it depends on consumer tastes and preferences. Our approach is to understand that audience views on how different the performances offered at SOH are based on a range of considerations. As shown in **Table 3.2**, around two-thirds of people say that the SOH is unique.

Table 3.2: SOH uniqueness

Difference characteristic	Value of performance/ event above expenditure
The performances at SOH would be as good if held elsewhere (% who did not agree)	60%
SOH offers a unique range of performances and events not shown elsewhere in Sydney	81%
How similar are performances and shows programmed by the SOH itself to those shows offered by other cultural and entertainment centres in Australia (programs/performance were unique)	57%
As a venue for shows and performances programmed by others, how similar is SOH to other theatres and cultural and entertainment venues (a unique venue)	70%
Average	67%

Source: Stancombe Research & Planning and Deloitte Access Economics

⁵ This uses some simplifying assumptions on the functional form of demand. For a more detailed explanation, see Brynjolfsson et al. (2003).

Third, we use SOH revenues to estimate a value of its unique additional choice, measured in dollar terms. This is \$30 million (based on SOH financial statements) multiplied by 67% for SOH Presents performances, or \$20 million. The respective figure for the resident company performances is \$41 million.

Fourth, using the equation above, we estimate the compensating variation at \$16 million for SOH Presents performances, and \$32 million for resident company performances. Taken together, this means that audiences value the additional choice offered at SOH at \$48 million above the expenditure they make on performances and events.

Total consumer value

While the concepts of consumer surplus and consumer choice value have different interpretations, there is a certain element of overlap in their empirical estimation. Since we are not able to isolate the value that can be attributed to choice value and consumer surplus, a broader consumer value is quantified as the mean of the surplus and choice estimates. This represents \$11 million for SOH Presents performances and tours, and \$23 million for resident company performances. The components of total consumer value are given in **Table 3.3**.

Finally, we can add the standard measure of consumer value: how much they spend on performances and the broader consumer value offered at SOH. Taken together, our analysis suggests that consumer value is \$42 million a year for SOH Presents performances and tours, and \$83 million a year for resident company performances, totalling \$125 million per year. This is 38% more than ticket sales alone.

3.3 Non-use value

Another important value of SOH is its iconic or cultural value. Even those people who do not attend performances and events may place a value on the existence of the facility for these reasons.

According to the survey respondents, Australian residents agree that the SOH has a significant national identity value:

- 77% said that SOH makes a significant contribution to a unique culture in Australia; and
- 94% said that SOH is an iconic Australian landmark that contributes to Australia’s national identity and international standing.

One way of measuring non-use values is through contingent valuation surveys that elicit the willingness of a representative sample of individuals to pay. This can be extrapolated to a NSW or Australia-wide society value.

There are several limitations of solely using surveys to measure value. First, there may be differences between people’s stated preference and their true preferences. Second, there may be an underestimate of value if people are only willing to pay what they think services should cost, rather than estimate benefits.

It is important that people face a choice in putting a value on something that is not used. It cannot simply be an unbounded option to value something without constraint. To ensure respondents had a budget constraint in mind, we asked people what they would be willing to pay, through taxes, to SOH, if that funding was redirected from other government priorities.

Table 3.3: Total consumer value (\$m)

	Sydney Opera House Presents and Tours	Resident companies	Food, beverage and retail
Transactional Value	30.48	60.43	57.97
Consumer Surplus (a)	6.85	13.59	N/A
Consumer Choice Value (b)	16.09	31.91	N/A
Average of (a) and (b)	11.47	22.75	N/A
Total (transactional + average)	41.95	83.17	57.97

Source: Stancombe Planning & Research and Deloitte Access Economics

NSW residents were first made aware that current ongoing state funding levels are equivalent to \$6.20 per person. They were also made aware of a number of other state government expenditure items to illustrate budget constraints.

So that the results were not skewed by attendees who wished to have their experience cross-subsidised by the state government, the responses were filtered to include only those individuals who had not visited SOH during the past 12 months. On average, the amount NSW residents who did not use SOH were willing to pay was \$6.80 per person, or \$51 million across the state per annum. This is an estimate of state-wide, non-use value. To convert this from an annual figure to an asset figure, we take a 40-year net present value with a real discount rate of 7% a year. The total is \$685 million.

A similar question was put to respondents living outside NSW, based on Commonwealth government funding levels. On average, willingness to pay among Australian residents outside NSW who did not use SOH was \$6.70 per person, or \$104 million across the country, excluding NSW. This is an estimate of non-use value.

Again, to convert this from an annual figure to an asset figure, we take a 40-year net present value with a real discount rate of 7% a year. The total is \$1,389 million.

Together, these estimates suggest the non-use value of the Sydney Opera House is \$2.1 billion.

Interestingly, the original cost of building SOH in 1973 was \$102 million, which in today's dollars (using ABS CPI data) is \$831 million.

Table 3.4: Willingness to pay and non-use value

Cohort	Per person	Annual aggregate	40-year net present value
SOH current NSW ongoing funding	\$6.20	\$45m	n/a
Suggested funding level in NSW	\$6.80	\$51m	\$685m
Suggested funding level (outside NSW)	\$6.70	\$104m	\$1,389m
Australia	n/a	\$156m	\$2,071m

Source: Stancombe Planning & Research and Deloitte Access Economics

Funding

Government funding levels for public goods/ community assets are influenced by a range of considerations, including value ascribed by users and non-users, together with the cost of provision. For example, if a service can be provided for low cost (in this case, an asset that cost \$832 million in today's dollars to generate value of more than \$2 billion), it should not be overfunded by more than is needed to competitively supply it. Also, governments have many competing priorities, and organisations have many functions. Any change in funding up or down would need to be assessed against what it would be used for or what could no longer be done with those funds.

Refurbishment

Another method to estimate the non-use value of the SOH is to ask how much respondents would allocate to a refurbishment. According to survey respondents, if the Government had \$100 per Australian resident and could only choose between providing tax cuts and funding the refurbishment, on average the respondents suggested funding of \$35.50 per person. We note that the figure is higher for NSW residents (\$42 each), than people outside NSW (\$32 each). Nationwide, it is the equivalent of \$822 million. This in itself is not a case for the refurbishment of SOH as the dichotomous choice between a tax cut and refurbishment is a hypothetical one. Hence, this should be viewed more as another method to evaluate individuals' non-use value of SOH.

Table 3.5: Willingness to pay for refurbishment over tax cut

Cohort	Per person	Aggregate
NSW	\$42	\$317m
Rest of Australia	\$32	\$505m
Australia	\$35	\$822m

Source: Stancombe Planning & Research and Deloitte Access Economics

Table 3.6: Online performance value

Cohort	Per viewing	Total annual views	Aggregate value
Current (commercial methodology)	\$0.03	4,201,280	\$126,038
Future (commercial methodology)	\$0.03	94,105,138	\$2,729,049
Future (willingness to pay)	\$5.60	94,105,138	\$523,270,792

Source: Sydney Opera House, Stancombe Planning & Research and Deloitte Access Economics

3.4 Digital value

The digital activities of SOH also contribute to its value for audiences. Aside from the convenience of having online performance information and ticket sales, there are benefits from online broadcasting of performances. There is also potential for greater use of digital tools to enhance tourist experiences. In this section we estimate the value of current digital activities and the potential for these to grow.

3.4.1 Online performances

Online availability of SOH content is of value to audiences. It can allow people to access SOH content at different times, in different locations and at lower cost.

So far in 2013, there have been more than four million views of video clips via YouTube and SOH PLAY. While these channels do not represent a fully commercial operation, using the industry commercial value benchmark of 3 cents per viewing for premium video content (TubeMogul quarterly research report, March 2013), these views collectively have a commercial value of \$126,038.

However, survey responses suggest this value could be much higher in the future. Australian residents expressed a strong interest in watching more SOH performances if they were more readily available, such as via their home televisions. Based on an average reported frequency of approximately one view every two months, annual views could reach almost 100 million.

Compared with current physical attendance of more than 1 million a year, this would represent a significant expansion of the SOH's reach. Using commercial metrics, this activity could grow to be worth \$2.7 million a year.

We also asked respondents about their willingness to pay for such performances. On average, they suggested \$5.60 per viewing, which is similar in price to a traditional overnight DVD hire. If SOH achieved this payment level, the potential future value of digital broadcasts of SOH performances could be more than \$500 million each year. It is possible that this could be an overstatement of the potential value of digital activities, as individuals tend to over-report interest in watching performances and paying for them. Nevertheless, it does suggest that the SOH has a significant opportunity to expand its digital activities, their reach and the value they generate.

When considering these results, it should be noted that it may not be possible, or desirable, for SOH to charge such prices for digital access. The organisation's strategy must balance a range of cost recovery and equity objectives, and it is likely there would be strong government and public opinions about broadcast availability and pricing, as well as any advertising. Demand for such online viewing is also likely to be highly price elastic, suggesting that even a modest charge may result in a large reduction in demand.

3.4.2 Enhanced tours with digital technology

Each year around 300,000 Australians and international visitors take part in a paid SOH tour. These tours largely consist of a walk around the facility and explanation of key points from a guide. The tours represent a modest source of income for SOH, equating to just under 8% of total annual revenues.

Digital technologies have the potential to enhance the value of these tours and generate additional revenue. For example, tablets could be offered to participants to provide access to a bank of performances and other information during the tour. This is not without precedent, as the Museum of Old and New Art in Hobart currently uses a portable device to enhance tours of its facility.

According to the survey responses, 75% of tourists said they would use such a device and indicated they would, on average, be willing to pay \$7.40 for the privilege – equating to a potential additional income of around \$1.7 million a year. It should be noted, however, that at any given price point some people would choose not to hire the device, so actual revenues are likely to be lower than they would be under a full take-up scenario.

Table 3.7: Enhanced tour value

Cohort	Cost / value (adult)	Annual	Aggregate value
Current tour	\$29	298,122*	\$7,672,000
Enhanced tour (additional)	\$7.40	223,394	\$1,661,228

Source: Sydney Opera House, Stancombe Planning & Research and Deloitte Access Economics

*Includes children

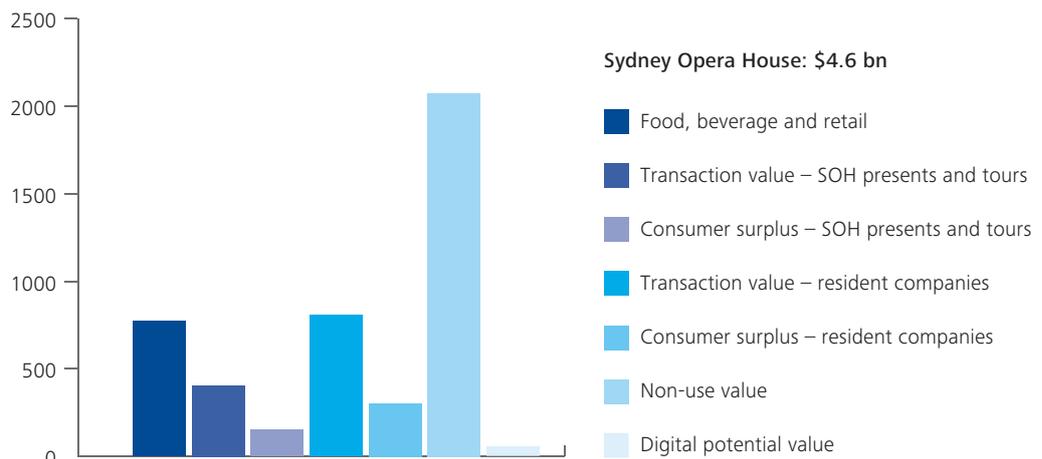
3.5 Total social asset value

Overall, we estimate that the SOH has a ‘social asset’ value to Australia of \$4.6 billion, representing a 40-year present value of a range of benefits. The calculation includes the market or transactional value of services (including performances, food and beverage offerings, retail, and guided tours), the audience surplus offered by SOH, and the iconic or cultural value of the facility by those who do not use it. It also includes the present and future potential digital value the SOH, including enhanced tours and online broadcasting of performances and events. Overall, \$1.1 billion of the social asset value is ascribed to the broader consumer value of attendees of resident company performances. Around half the value of the SOH is its existence as a cultural and national icon rather than its direct value to visiting patrons.

To illustrate the magnitude of the social asset value, current audited financial statements indicate that the property, plant and equipment are valued at \$2.3 billion. That is, the social asset value is around double the built asset value. We note that the built asset is ‘used’ to generate social benefits so these values cannot be added together.

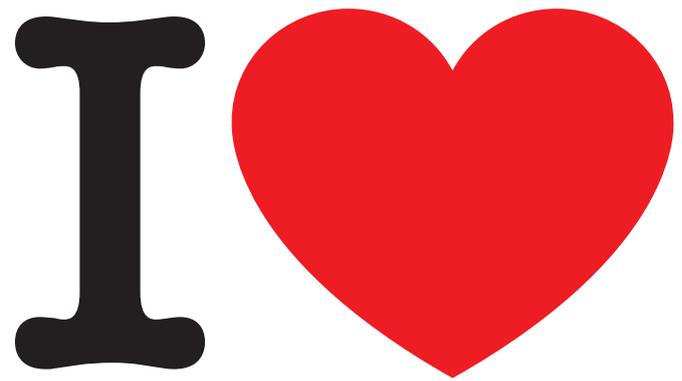
These results are gross expenditure values, so cannot be compared with concepts such as measures of production (GDP, GSP or value added) nor measures of government revenues (such as from the NSW Government Budget papers). They represent both observed transactions (turnover/total expenditures) and estimates of non-monetary benefits accruing to society, and thus do not represent monetary transactions nor net benefits nor value added accruing from that turnover. Also it should be noted that the portion of transaction value, paid through the ticket prices, food and beverage costs, and retail prices, is also incorporated in the economic contribution figure given in **Section 2**.

Chart 3.2: SOH overall audience, cultural and digital value



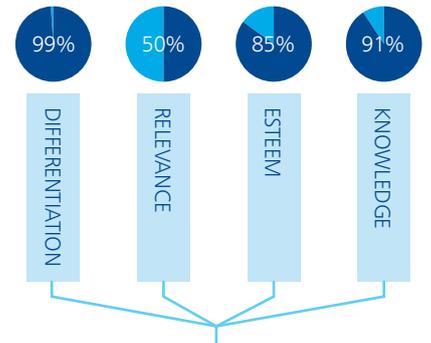
Source: Deloitte Access Economics analysis

Brands are made in the mind



Sydney Opera House outranks all other major brands in Australia's arts/culture space

BRAND VALUE



Strength across these pillars is essential to the health of a brand

SOH

THE TOP 10 ATTRIBUTES OF THE SYDNEY OPERA HOUSE



UNIQUE



STYLISH



GLAMOROUS



CHARMING



UPPERCLASS



DISTINCTIVE



AUTHENTIC



SOCIAL



VISIONARY



PRESTIGIOUS

Section 4:

Brand value

SOH figures strongly in the world's largest and oldest database of brands – the Brand Asset Valuator (BAV).

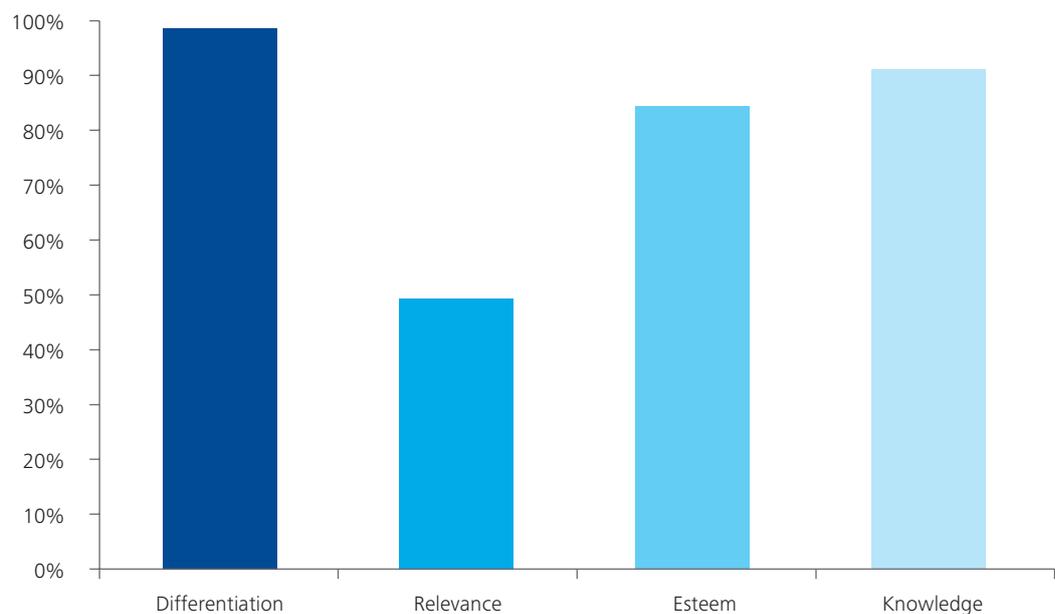
BAV was developed by global advertising and communications agency Young & Rubicam in the early 1990s and first launched as a 'wave' of global research in 1993. Since then, BAV has refreshed its database of brand knowledge with continual (in the US) or biannual (in Australia) waves of research in various countries. It now represents 20 years' brand audit intelligence, encompassing 264 studies and 75 brand metrics across 51 countries. In 2013, BAV was used in Australia to interview 5,060 consumers and evaluate the strength and stature of 1,396 brands in 121 categories.

There are many different approaches to measuring the value of brands. The science has been controversial due to debates over the validity of the inclusion of brand value on company balance sheets alongside traditional built asset value or financial assets, and the fact that methodologies of measuring brand value have been split between streams focused on purely financial data and audience perception research.

BAV is a tool from the second school, which integrates factors such as an audience's familiarity with a brand, the associations they make with it, how they feel about it and the loyalty they may have towards it. These key factors are used to estimate the true value of a brand. A brand's power to sustain its appeal, after all, depends on the strength of its bond with its target audience. In the words of Walter Landor, the German designer who pioneered brand research in the 1960s for his business Landor Associates: "Products are made in the factory; brands are created in the mind." Landor's business, which created the world's first perception-oriented brand study in the late 1980s, ImagePower, was in fact bought by Young & Rubicam in the early 1990s and the tool was developed further to create BAV.

BAV measures the strength of a brand's Differentiation (its unique meaning in the 'brandscape'), Relevance (appropriateness to its audience's values and needs), Esteem (its regard by its perceiver) and Knowledge (understanding by its audience of its qualities and behaviour, and familiarity with its attributes).

Chart 4.1: Massive Brand Power



Source: All Adults 2013

Strength across these four pillars is considered essential to the health of a brand and an indication of whether it is realising its potential, exerting brand leadership qualities to a select or mass market. Alternatively, it also indicates whether a brand's power is waning through declining Relevance, eroding Differentiation or low Knowledge and Esteem.

4.1 SOH in the 2013 BAV study

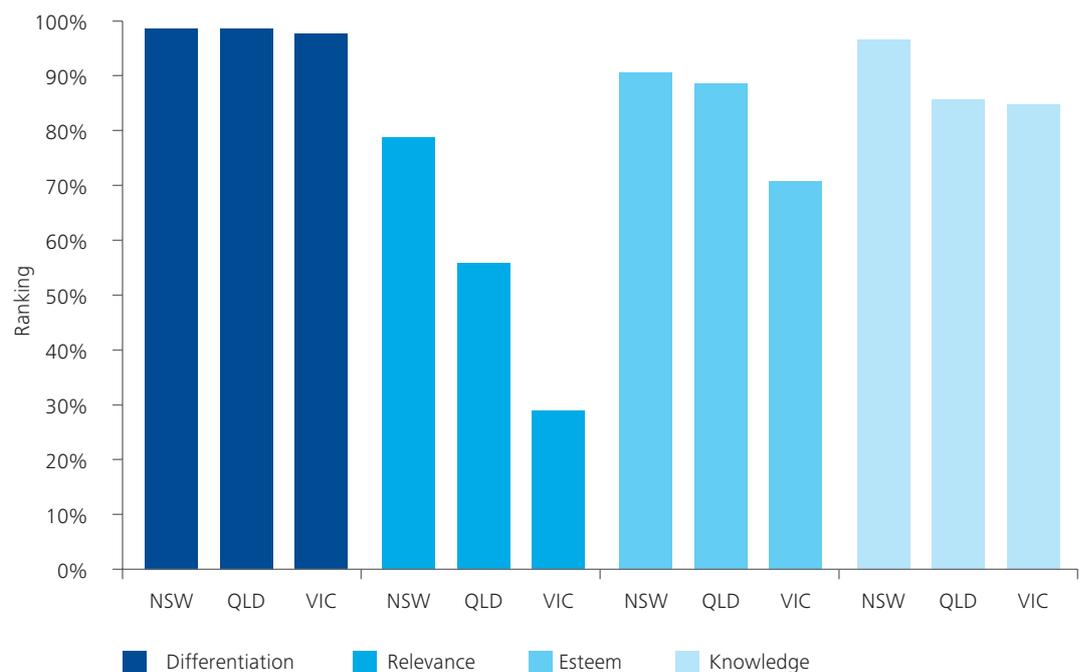
In the 2013 BAV study of Australia and its key brands, audiences' key perceptions of SOH as a brand were consistent in reflecting its position of remarkable brand strength and differentiation (see **Chart 4.1**).

SOH's overall BAV reading was one of extraordinary power through its Differentiation. In fact, among all Australian adult audiences researched, it attained an almost perfect score on Differentiation (with 99 points from 100), as well as demonstrating strong showings with Knowledge (91) and Esteem (85).

Within the same all-Australia adult audience, however, SOH returned an overall Relevance score of 50. This is potentially due to a combination of its perception among researched segments that it provides an exclusive or niche offer, and a marked variation of strength between those located within SOH's physical vicinity and those further afield (see **Chart 4.2**).

It was evident from the BAV research, for example, that geography is currently a penalty of Relevance paid by SOH. While it is perceived as having virtually identical levels of Differentiation among audiences in NSW (99 from 100), Queensland (99), and Victoria (98), its Relevance diminished markedly between NSW (79), Queensland (56) and Victoria (29). It is clear that Victorians find SOH much less relevant to their lives and values than do Sydneysiders and even Queenslanders.

Chart 4.2: Geography: The Most Significant Barrier to Relevance



Source: All Adults 2013

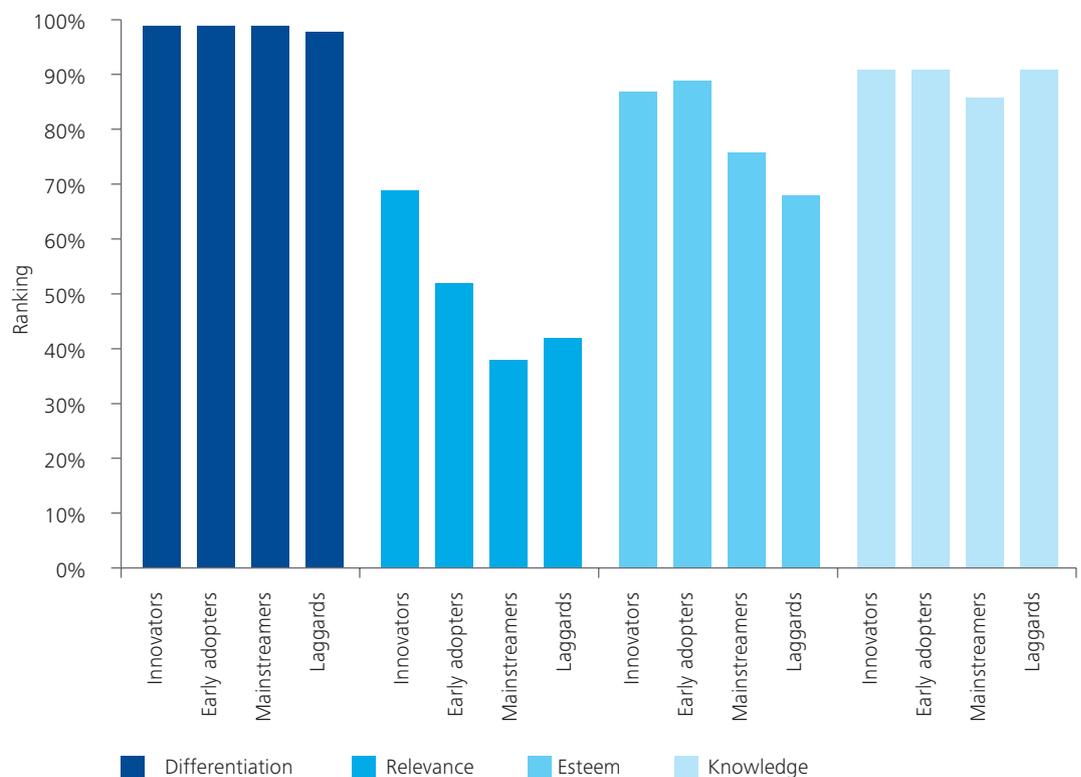
When the Australia-wide audience was broken down into the categories of 'innovators', 'early adopters', 'mainstreamers' and 'laggards' (a combination of audience members' tastes, tendencies, appetite for innovation and demographic profile), SOH maintained its strong appeal across all these categories. As **Chart 4.3** below shows, terms of Differentiation, the institution achieved a score of 99 out of 100 among innovators, early adopters and mainstreamers, with laggards still turning in a strong rating of 98 from 100. It is evident from this that SOH offers something distinct for all sectors of audience type. In terms of Esteem, innovators at 87% and early adopters at 89% turned in strong ratings. Meanwhile, mainstreamers at 76% and laggards at 68% gave SOH a strong charter to elevate its reputation among more conservative audiences.

SOH was most Relevant to innovators at 69%, but less so for early adopters at 52%, mainstreamers at 38% and laggards at 42%. This points to a challenge and an opportunity for SOH to develop stronger bonds with certain elements of its audience, through its programming, accessibility and engagement strategy.

When compared with other major brands in the arts/cultural institutional sphere, SOH outranks all other major Australian brands in every BAV category.

SOH is felt by its Australian audiences to be more relevant as a brand than the Australian Ballet, better known than the Sydney Symphony Orchestra, and more esteemed than Opera Australia. In fact it has a strong advantage on every key brand measure over all of these brands.

Chart 4.3: Near-perfect 'front-end' adoption curve profile



Source: All Adults 2013

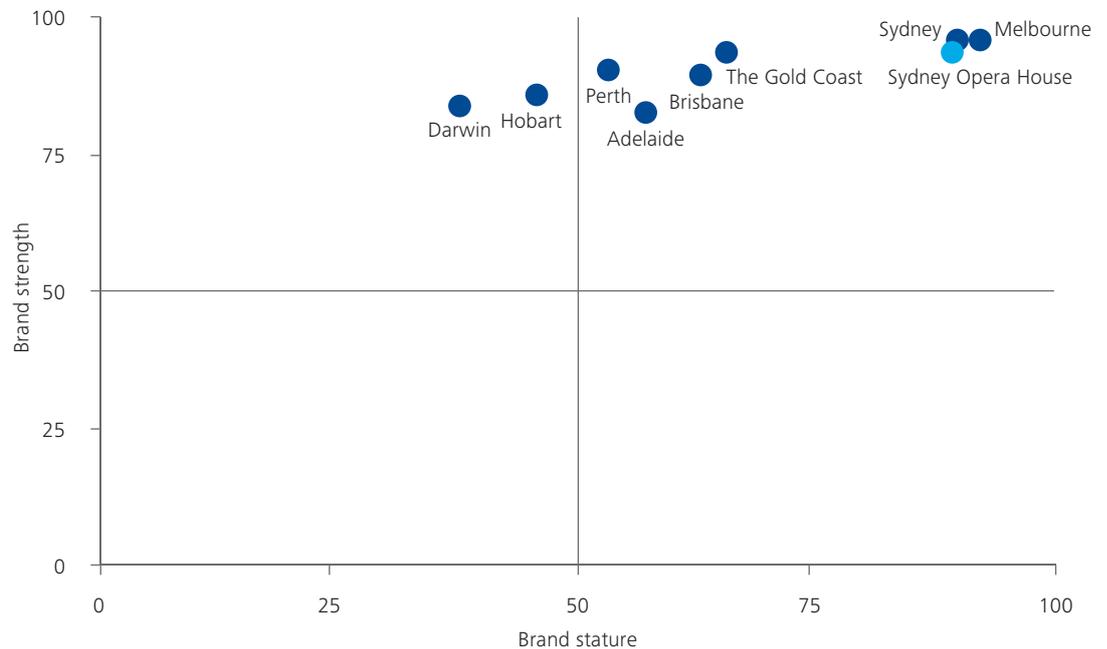
4.1.1 Competitor and peer brands

In terms of the BAV 'Power Grid' – which plots the aggregated results of all categories of research on an axis blending brand strength and brand stature – SOH outranks all other comparable Australian leisure brands such as Opera Australia, the Sydney Symphony Orchestra, the Australian Ballet, Taronga Zoo, Dream World, Australia Zoo, White Water World and Movie World. In terms of brand stature and strength it is, in fact, on par with the city brands of Melbourne and Sydney, and clearly outranks the brands of Brisbane, Adelaide, Perth, Hobart and Darwin, as well as the Gold Coast (see **Chart 4.4**).

In terms of overall distinctiveness, SOH was rated among early adopters and innovators over 40 years old as the most distinctive brand in Australia, ahead of the second ranked Apple iPhone and, indeed, the country 'Australia'.

SOH also ranks second to Australia (as a country) in terms of uniqueness within the same audience and it is readily associated among a cadre of highly prestigious brands such as Aston Martin, Christian Dior, Giorgio Armani, Chanel, Ferrari and Moët & Chandon within that audience.

Chart 4.4: Sydney Opera House: a brand on par with the cities of Melbourne and Sydney



Source: All Adults 2013

4.1.2 Brand associations

The words 'distinctive', 'proven', 'creative', 'differentiated', 'luxury', 'prestige', 'esteemed', 'chic', 'fun', 'leader', 'trusted' and 'emotive' were all strong associations that emerged in relation to SOH in the BAV research.

On the construct of a brand wheel which plots the qualities, meaning and areas of association of a brand, SOH scores as a 'fashionably upscale' brand, with qualities of uniqueness, upper class, prestige, distinction, style and glamour emerging as strongly attached to the brand under the 'premium' association. Qualities such as intelligent, best brand, independent and leader emerged under the 'leader' association.

The top 10 attributes of SOH (unique, distinctive, charming, prestigious, glamorous, upper class, authentic, stylish, visionary and social) all score within the top 4% of all brand measures, and all ranked at between 95% and 100%. This is an extraordinarily strong brand showing in terms of a brand's positive associations.

Moreover, SOH displayed strong leadership values, with measures of ratings for 'high quality', 'leader', 'traditional', 'dynamic', 'intelligent', 'originality', 'independent' and 'best brand', each scoring at or around 90%.

SOH displayed an unusually strong range of rankings, with the first 20 of its personal attributes each ranking between 90% and 100%, and more than half of its positive attributes ranking in the top quintile of all brands surveyed (above 65%).

4.1.3 SOH and Brand Australia

When BAV was used to measure the strength of the national brand ('Brand Australia') in each country's latest study among external global audiences, the rest of the world was found overall to see Brand Australia as strongly Differentiated (with an average ranking of 77% – i.e. within the top 25% of all brands in each market) and relatively high in Knowledge (61% ranking). Disappointingly however, the research showed Brand Australia's lower scores on Relevance and Esteem (49% ranking and 29% ranking respectively) as a brand in danger of not being taken seriously by the rest of the world. It's a brand that is, in the words of the researchers, "nicely differentiated, but without much to admire".

This research is concerning when seen in the context of Australia's major trading partners, and other countries that represent future sources of revenue through tourism, international education, wealth management and other sectors that Deloitte describes as future 'super sectors' of growth in its 2013 Building the Lucky Country paper *Positioning for prosperity? Catching the next wave*.

Whereas for nations like Holland, France and Japan, Australia represents a niche, evolving, brand without much widespread Relevance, India and China, the Australian brand is seen as a declining, somewhat tired, and losing its strength.

While Australia is seen as a 'friendly maverick', scoring strongly in attributes of 'charming', 'unique', 'fun', 'independent' and 'friendly', the country displays a weakness by attaining low scores for the attributes 'high quality', 'helpful', 'reliable', 'cares for customers' and 'good value'.

Specifically, the British see Australia as friendly, charming, rugged and carefree, but quality and trust are in short supply. However, the difference between British audience members who have never visited Australia (who see us as a brand with low stature and medium strength) and those who have (who see Brand Australia as very high in both stature and strength) was notable. The finding implies that it is the actual experience of our country that changes opinions and strengthens our brand.

While the Chinese, meanwhile, see class, style and prestige in our brand, we are not seen as very helpful. Americans see us as a uniquely different, pioneering place – but we do not deliver or offer good value. Germans respect Australia’s difference, but question our quality and, although the Japanese find us energetic, they don’t see us as leading the way.

The strategic challenge identified by the BAV researchers was that, while Australia delivers Differentiation brilliantly, as a nation we badly need to build Relevance and Esteem both through creating a sense of assurance and – critically in terms of SOH – through being seen for a sense of inventiveness. That is, as a leader, an innovator, intelligent and high performing. Our strong showing in Differentiation leaves us a clear strategic task: to build Relevance and Esteem of Australia (with a particular focus on inventiveness) into the Australian brand.

In summary, according to the BAV findings: “Beyond tourism, we need things of difference that others will admire.” It is in this respect that SOH – an almost universally admired and powerfully differentiated brand in its own right – can be leveraged effectively as an ingredient in the reinvigoration of Brand Australia.

4.1.4 Integrated brand strategies

Overall, SOH plays a critical and dynamic role as an ingredient in the Australian national brand, ahead of all other human-created brands (as opposed to natural icons such as Uluru and the Great Barrier Reef). With an intelligent and expansive investment and promotion strategy, and using an approach which projects an evolving, dynamic and content-centric (as opposed to monument-centric) image to the world, SOH can leverage its already strong position to support Brand Australia’s need to increase its Relevance and Esteem to global audiences.

Elsewhere in this report we discuss SOH’s potential to deepen and broaden its digital footprint, engage with wider online audiences and increase the depth and quality of online interactions to transcend its current, primarily physical experience. In doing so, SOH can not only position itself to take advantage of the opportunities presented by digital channels to increase its brand Differentiation and Knowledge, but also bolster its Relevance and Esteem to international audiences. By doing so, it can enhance the Australia brand through its unique content, and through the creation and delivery of a distinctive online and enhanced physical brand experience.

Australia’s Differentiation is an enviable quality among the world’s national country brands. However it is clear that there is a need for Australia to leverage its unique qualities and, in particular, its brand assets to better effect.

It is in this sense that SOH, as Australia’s preeminent brand, can be seen most clearly as an underleveraged asset and a huge opportunity for the country. SOH and Brand Australia have much to gain from each other if their association is described and articulated, positioned and marketed in a more effective way to make up some of the lost ground that Australia requires in an increasingly competitive international market for tourists, investment, education and trade, as well as artists and performers. By playing to its strengths as a fashionably upscale and uniquely interesting brand, SOH can continue to build a global audience and draw more international visitors into the Australian brand cycle.

With Australia already boasting high levels of Differentiation, it is in the interests of both entities – institution and nation – to focus on an integrated strategy to help each other build Relevance and Esteem in the global brandscape.

Digital footprint and future potential



A MILLION PULSES RACING

If part of the magic attending a performance is the sense of shared emotional experience, what could it mean to make that emotional experience more transparent? One possibility: a backdrop to the orchestra of the collective brain of the audience showing synapses firing as the symphony progresses.

THE IMMERSIVE VISIT

What if the Opera House acted as augmented reality tour guide to Sydney? Could visitors assume the role of prima ballerina or orchestra conductor in a virtual experience? Could visitors be given archive content and digital tools to create their fantasy performances?

EDGELESS EXPERIENCES

The performance no longer needs to start when the audience are seated and the lights go down, nor does it have to end when the last encore is played.

ARTISTIC STATUS

An incredible number of people interact with the Opera House as an architectural icon every day, and seek to capture and personalise the landmark (typically through a status update), in visual form. One suggestion involves visitors building a virtual Opera House with each tile being a digital image of their experience. The possibility for the public to take greater (digital) ownership of the building, and to extend the ubiquitous update into a more creative connection with Opera House is one to explore further.

Section 5: Digital footprint and future potential

The opportunity for the Opera House to further expand its social media engagement is enormous, particularly in converting admirers of the building into lovers of the content within

5.1 From poised icon to living cultural experience

5.1.1 The strategic intent

In 2009, market research into the public perceptions of SOH revealed a set of important truisms: the public often did not see beyond its iconic exterior and, as a consequence, SOH was:

- Admired, not experienced
- Occasional, not everyday
- Exclusive, not inclusive.

In response, SOH charged itself with making the inside of the building as famous as the outside, and making the creative experience accessible to as wide an audience as possible. This section of the report considers how investment in digital media is helping to deliver on this strategic intent by increasing the public's understanding of and engagement with SOH.

5.1.2 The digital journey to open up the House

A steady ramp-up in SOH's digital presence and campaign activity during the past three years [see **Figure 1** – timeline] has driven significant growth in digital visitation across all its video channels, websites and micro sites. Reaching a peak of nearly 6.5 million visitors in FY13, this represents a compound annual growth rate of 30% over the period June 2010 – June 2013.

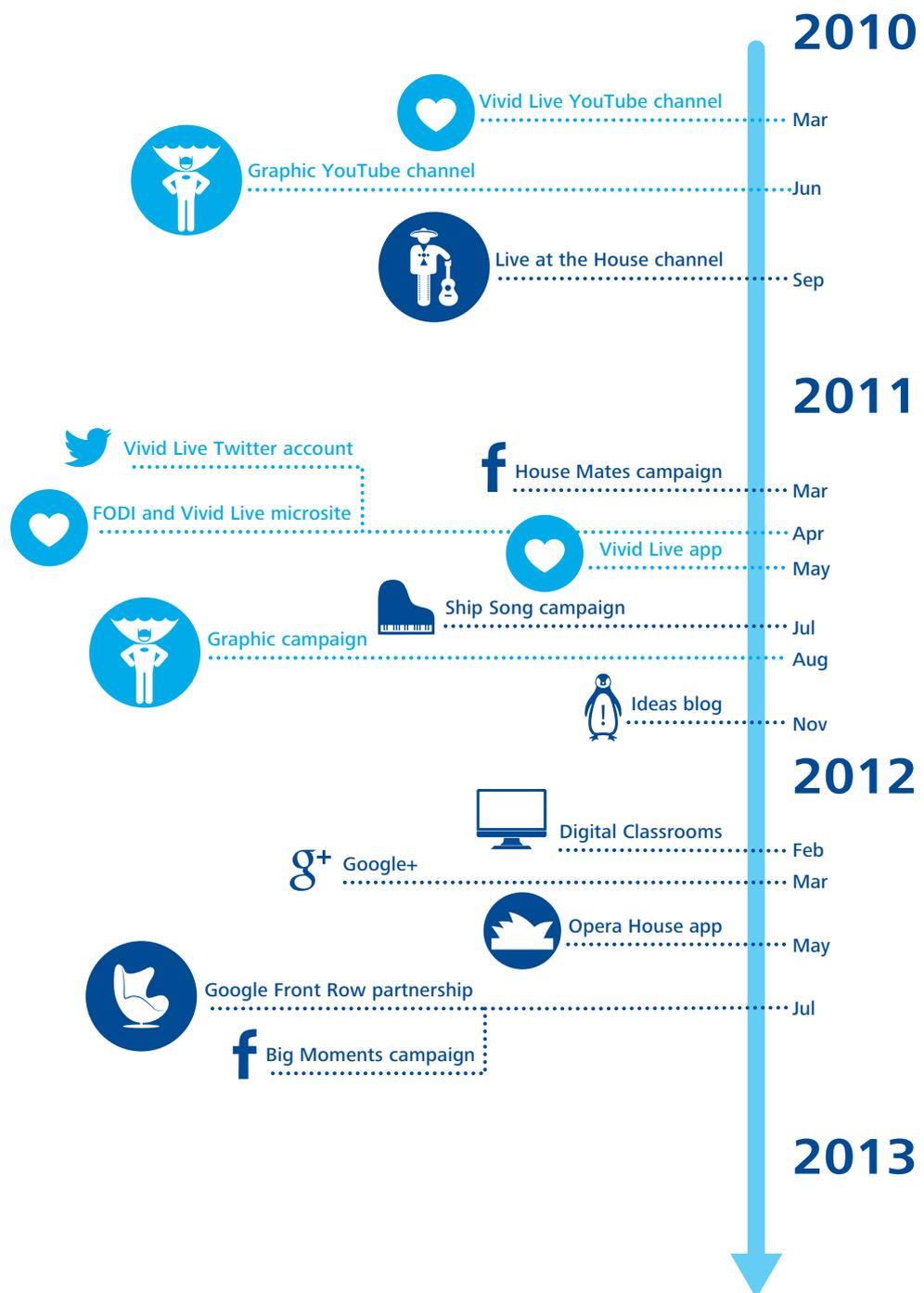
As is noted later in this report, visitation to the main website reflects just a small part of SOH's digital footprint. The growth in digital reach through social platforms has been significant and is today estimated at 128 million [source Lexer analysis].

There is no discernible impact from these digital investments in the public's physical engagement with SOH in terms of ticket sales, which are broadly constant. However, ticket buyers are increasingly transacting online, with the average proportion of online ticket sales increasing from 52% to 63% over the same period, with online sales for certain events reaching up to 92%.

5.1.3 Underpinning festival success

During the past few years, several major festivals – namely Vivid Live and the Festival of Dangerous Ideas (FODI) – have firmly established themselves in Sydney's cultural calendar and have been highly successful in engaging a broader audience. The role of digital in this process has been pervasive. Creating noise and excitement in the market as well as extending and enhancing the experience with video, digital has proved an effective medium for attracting new audiences, stimulating debate, and driving community initiatives. The digital narrative underpinning festivals continues to strengthen every year.

Figure 1: SOH's digital presence, 2010–2013



Source: SOH

5.1.4 Inviting the world inside

The Ship Song campaign aimed to open the doors of SOH to all, capturing intimate performances by a broad range of artists and performers. In doing so, it demystified the venue and showcased the creativity within, affirming it as an accessible cultural hub for Sydneysiders, and domestic and global audiences.

The campaign was shared 1.7 million times on Facebook within 24 hours, was a top trending topic on Twitter, and delivered 325,000 YouTube view. In subsequent weeks was shown on Sydney inbound Qantas flights in made the top 60 iTunes chart, and earned more than \$2 million in free PR, editorial coverage and social media mentions.

5.1.5 Social engagement

The SOH has shown impressive growth in social media engagement. From its inception in 2009, the Opera House main Facebook page has accrued nearly 1 million check-ins and 416k likes – while Twitter followers grew to nearly 25k over the same period. The opportunity for the Opera House to further expand its social media engagement is enormous, particularly in converting casual admirers of the building into lovers of the content within.

5.1.6 Engaging communities

The Opera House has expanded the use of its digital platforms to more than just the arts. The Sydney Opera House Digital Education program allows students to explore the Opera House, its history and its rich culture from their own classrooms via video conference. Through these interactive digital sessions the Opera House has been able to connect students to professional artists and educators.

5.1.7 Digital partnerships

The Sydney Opera House has had a long and successful partnership with Google and its video platform YouTube. The partnership began in 2010 with the MyMutation dance competition, where entrants posted their dance solos and voted on YouTube. Since then, the Opera House has launched numerous video channels, competitions and communities through Google and YouTube platforms. Highlights of this partnership include the YouTube Symphony Orchestra, which at 33 million views became the world's largest live stream, and the launch of interactive live streaming 'Front Row'. Across four events, Front Row reached nearly 1 million playbacks with 63,000 viewing hours.

The Opera House also partnered with JC Decaux for its Big Moments campaign, which broadcast 'big moments' of the last 40 years on large interactive screens throughout the city. The public were then invited to submit their own 'big moments' to digital channels.

5.2 The social scene

5.2.1 Harnessing the power of social

The ability for visitors to share their experiences with friends via social media has enabled arts venues around the world to expand the reach of their brands. To some extent, the growth in the Opera House's digital footprint reflects the astronomic growth in social media, and particularly Facebook. The Opera House has an enormous digital reach of over 128 million people globally – of which 93% comes from Facebook [source Lexer analysis].

More importantly, as described earlier, through its campaigns, the Opera House is effectively using social media to encourage a deeper level of engagement with the Opera House, both digitally and physically. But outside of major campaigns, how are people engaging with the Opera House on social platforms?

5.2.2 Social agenda

Social engagement can be classified under three categories: destination, culture and performance.

Destination refers to engagement around SOH as an iconic Sydney landmark, and is characterised by tagging or uploading photos and by checking-in. This is the primary use of social media for SOH and accounts for the highest volume of audience-generated content.

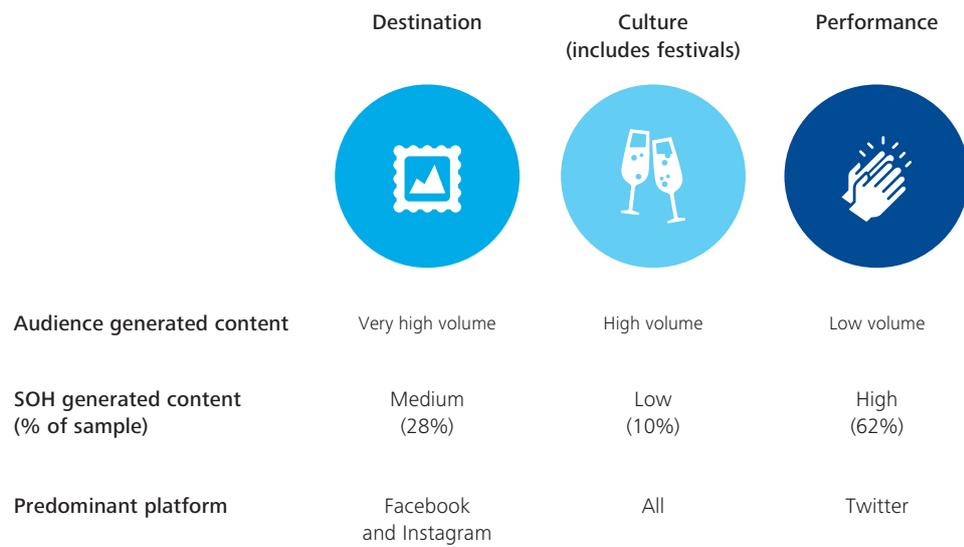
Culture refers to SOH as part of a social culture, including bars, restaurants and festivals. Baseline volumes are low and mostly one-way, although there are several examples of highly successful campaigns that have generated significant social buzz, such as Ship Song and House Mates.

Performance refers to engagement with SOH as an artistic venue. This content has moderately high engagement thanks to events such as Vivid Live and FODI and the digital narrative that underpins them.

Most of the social media content generated by SOH is performance related, reflecting the strategic goal of making the inside experience more accessible to new audiences. Restrictions on the use of cameras for many performances limit the ability for users to generate this type of content.

Overall, while the vast majority of social sharing around SOH brand is 'destination' related, arts content in the popular culture category (such as the announcement of the Game of Thrones event with author George R R Martin), gets some cut-through.

Figure 2: Audience-generated content versus SOH-generated content



Source: Lexer Analysis

5.2.3 Social conversion

Engagement with social platforms can also be considered in terms of referral revenues, paid when a visitor from a social platform purchases a ticket. Thanks to its huge reach (15 times that of Twitter), Facebook is the most effective social channel, with most purchase activity concentrated around festivals and events. Conversely, Twitter and PLAY drive a more constant stream of referrals at much lower volumes.

5.3 The festival effect

5.3.1 Crossover appeal

Festivals have been an effective way for SOH to extend its stage not only the city itself, but to digital stages too – and in the instance of Vivid Live actually made the landmark itself part of the performance. While SOH has explored many avenues to expand onto the virtual stage – including through live streaming, in-flight entertainment and digital TV – the online audience figures suggest festivals have a unique effect on engagement, particularly on social media.

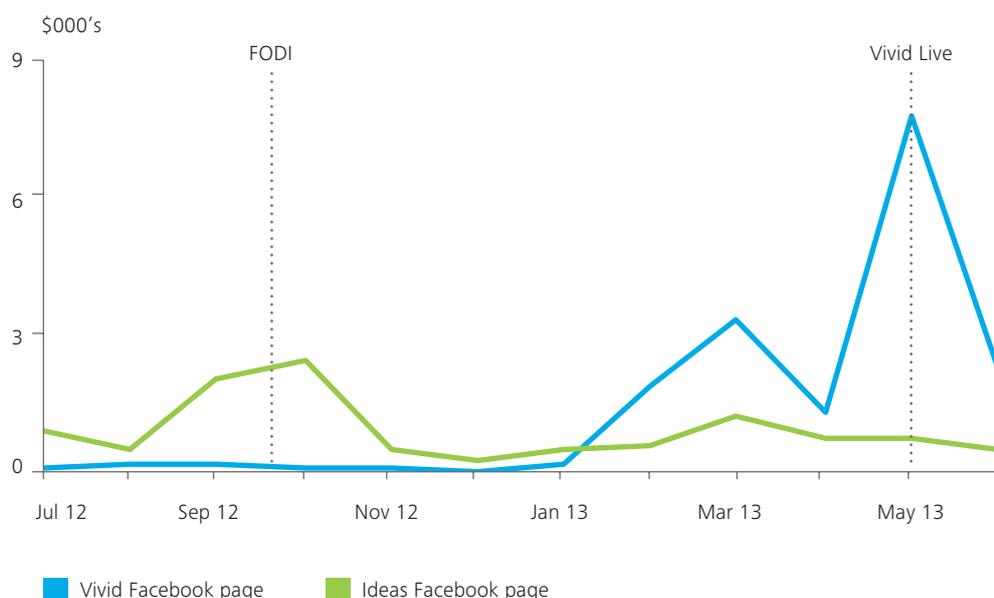
During the Vivid Live festival, a single photo of the Sydney Opera House rose to become the top-most post on reddit, attaining over 32.5k upvotes. This was generated entirely organically by the power of the SOH brand and the Vivid Live festival.

5.3.2 Global and local appeal

The arts and creative festivals that SOH hosts attract many visitors, both digitally and physically, and are particularly effective at driving engagement with SOH. **Figure 3** shows the peak in ‘people talking about this’ (a Facebook measure for engagement) for both Vivid Live and FODI on their respective Facebook pages with other social platforms showing a similar spike in engagement around festivals. Growth in Twitter followers rose to 9% during the three months of Vivid Live, compared with 1% monthly growth in the six months prior. Unique visitors to the FODI blog doubled during the September festival in 2012.

Across SOH’s four active blogs in FY13, total unique visitors averaged 5,000 a month in FY2013, with notable peaks of up to 10,000 during the Vivid Live and FODI festivals (see **Figure 4**). Total baseline page views have shown an overall increase in the last two years, from around 2,000 to just less than 8,000. Engagement (as reflected in the frequency of comments) also spikes significantly during major festivals.

Figure 3: People talking about this (PTAT)



Source: SOH monthly reporting

Figure 4: Unique visitors per month to SOH blogs



Source: SOH monthly performance reporting

5.4 The video vanguard

5.4.1 Platform ready

The rise of affordable, higher speed internet and the rapid growth in smartphone penetration have together encouraged online video consumption in Australia.

The scene is now set for a new age of culture and entertainment which has already begun to take shape. People are now actively selecting, engaging and interacting with hitherto restricted cultural experiences through easy to use on-demand services. Digital (in particular OTT) video services offer arts institutions, often subject to criticism for elitism, the opportunity to promote cultural inclusion.

Since its launch in Australia on October, 2007, YouTube has emerged as the country's most popular video platform. Despite its reputation (and origin), as a platform for user-generated content, it has transformed into a mixed ecosystem where different types of content are distributed and monetised globally.

5.4.2 Beyond the walls

Perhaps the biggest digital strides made by SOH in recent years are in video. Since 2009, over 600 pieces of video content have been created, from exclusive interviews, behind-the-scenes footage, live streamed and recorded full performances – to the production of award-winning music video.

Video has enabled SOH to break the constraints of location and bring its performances, artists and iconic venue to audiences beyond the walls of the building. Audiences continue to experience content wherever they are, but also have the choice of what, when, where and how they have that experience.

A key part of this strategy has been in the development of community viewing, allowing users to subscribe, share and engage in conversation around a piece of video. SOH is also encouraging users to curate their own video experiences, and to curate the experience for other visitors.

5.4.3 For content lovers only

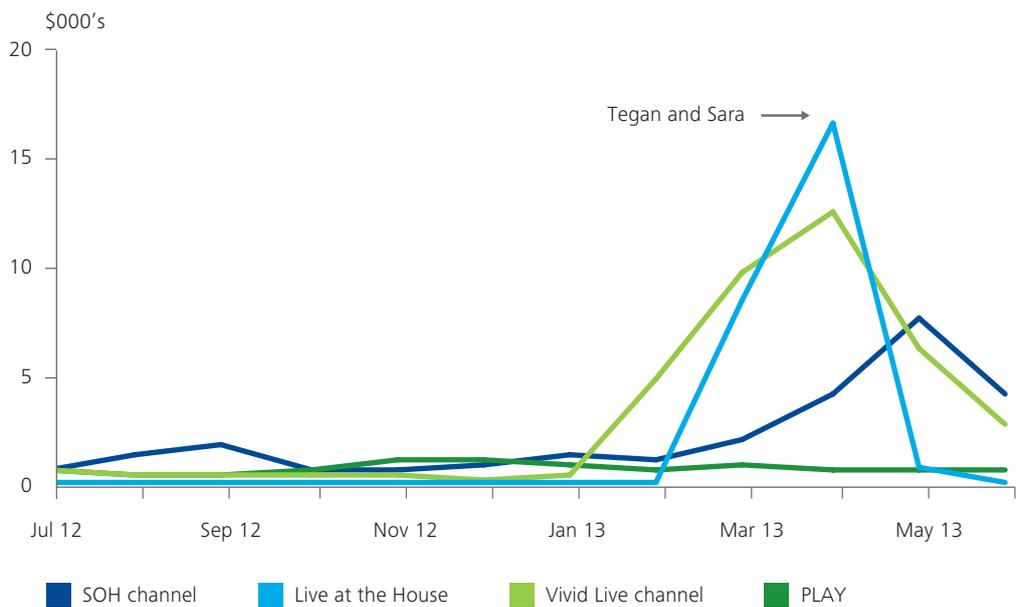
SOH has two video platforms – YouTube and its own PLAY website – which stream video content digitally.

PLAY is the video platform hosted on the SOH website, providing performance and behind the scenes content from a wide variety of program genres. The PLAY channel generated a steady baseline of about 25,000 views a month in FY2013, peaking over the summer period at nearly 50,000 views. Interestingly, around 20% of views across the year were accessed from mobile devices. Popular content was a mix of famous artists – such as Macy Gray and Gotye – as well as talks from notable personalities such as comedian Noel Fielding.

YouTube is used as a social medium. On YouTube, fans can engage with the content and each other by subscribing, commenting and sharing videos. With substantial engagement and growth across three separate YouTube channels; Sydney Opera House, Live At The House and Ideas At The House, the future of video content on YouTube is an important prospect for SOH.

Live At The House is the home of the live streaming partnership of SOH live and Google, with nearly 1 million playbacks on the six streams of 2013 and over 2 million views of on-demand content. The channel is becoming a place of content creation for the YouTube generation. One live stream in April for popular indie rock duo Tegan and Sara alone attracted over 604k views, doubling viewership for that month (see **Figure 5**). Across the two platforms YouTube and PLAY, SOH had a yearly high of 4.2 million views.

Figure 5: Monthly video views for selected channels



Source: SOH monthly performance reporting

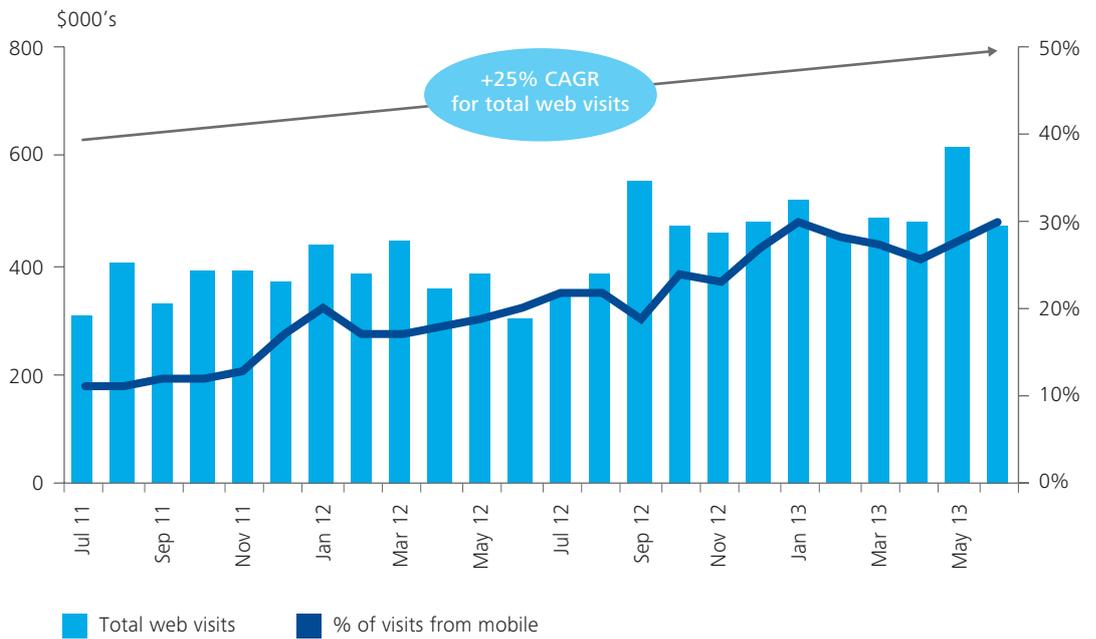
5.5 Mobile

5.5.1 Mobile matters

The rise in mobile technology and use across Australia has allowed audiences to connect their physical and digital selves, and the popularity of this type of interaction is demonstrated by the high volume of social media check-ins at the Opera House. As more and more customers get access to mobile technology, this type of interaction will come to be expected by audiences.

This trend has been seen in the rising percentage of mobile visitors. From 10% of visitors in July 2011, mobile visitors now appear to be plateauing at around 30%. This means nearly one in three people are accessing the SOH website on the move (see **Figure 6**).

Figure 6: Total web visits and % mobile/tablet



Source: Google Analytics

5.5.2 SOH app

SOH has developed and launched a proprietary mobile app to help people engage with the venue. It provides functionality such as booking tickets, guided tours and on-sell content for other Opera House products. Since its launch in mid-2012, the SOH app has had around 26,000 downloads. Monthly downloads have been steady at approximately 2,000 (see **Figure 7**), with a peak in the summer months of up to 3,000 peak programming periods at SOH and public holidays. Suggesting downloads are highly correlated with 30% of downloads are international (20% outside the UK and the US).

While the application has been moderately successful, high development costs relative to engagement are driving a focus toward optimising the website for mobile devices.

5.5.3 Mobile opportunities

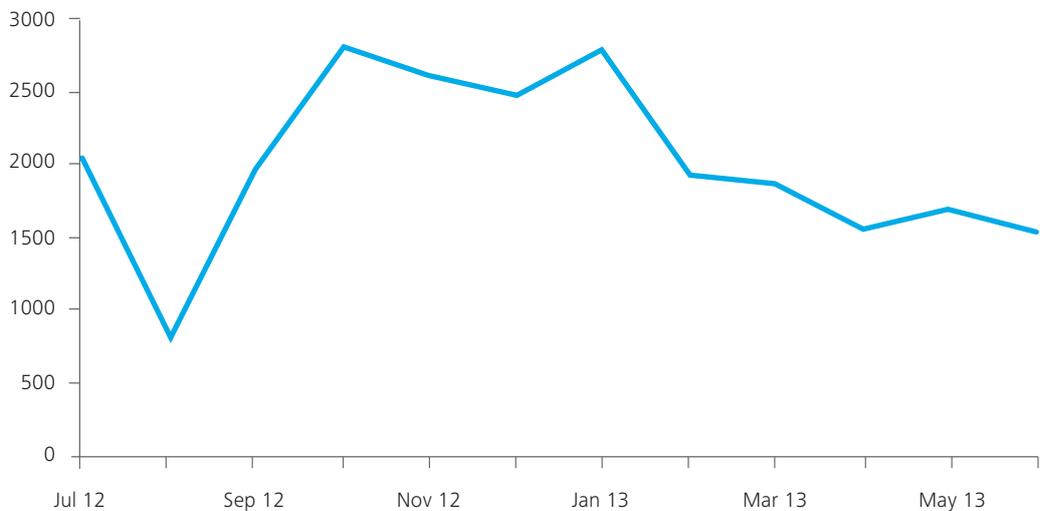
Mobile undoubtedly offers a huge opportunity for SOH to foster deeper connections with visitors.

First, the combination of location information with demographic profiling allows it to speak to visitors in a more relevant way.

Second, major infrastructure developments in near field communication (NFC) and mobile payments will 'close the loop' with visitors. It will allow the full process – from contextual, real-time communication through to transaction (ticket or tour purchase) and experience (video stream or download) – to be conducted entirely on a mobile device.

Third, the intersection of mobile, social and events offers a creative opportunity. Smartphones make every moment a content production or sharing opportunity, and curation by SOH of large volumes of shared photo and video content from performance-goers has the potential to generate significant earned media. This would open up events and performances to far larger audiences.

Figure 7: Monthly downloads of the Opera House app



Source: SOH monthly performance reporting

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Appendix A:

Previous literature on contingent valuation of cultural assets

Contingent Valuation (CV) is a method to ascribe a market value to non-market goods, using survey data. While CV is primarily used to value environmental goods, there is extensive literature using contingent valuation methodology to value cultural assets. This appendix presents a selection of the literature relevant to the valuation of the Sydney Opera House.

Throsby and Withers (1986) performed an initial survey of the 'Sydney arts and cultural scene'. Their goal was to establish whether public spending on the arts was justified, accounting for strategic bias from the 'free rider effect' – when users wish to have their cost cross-subsidised by others. The authors found public spending is justified, even once the strategic bias is taken into account. One criticism of this methodology by Noonan (2003) and others, is that the good was poorly defined, which may lead to mis-estimation of the overall value. Building on this research and its critique, care was taken to remove users of SOH from the non-use valuation calculation, to avoid this strategic bias. Similarly, the role of SOH as a presenter of a number of shows, and a host of others, was explained to survey respondents, such that the SOH activity was clearly defined.

Trine Bille Hansen (1997) used CV methodology to estimate the non-use value of the Royal Denmark Opera House. This was achieved by asking individuals how much they would be willing to pay, through taxes, to the RDOH. While users comprise only 7% of the Danish population, the other 93% of residents responded that they would be willing to pay a significant amount to the RDOH. Importantly, the author quantified the 'information effect' of whether respondents had prior information of existing funding levels. The prior information was found to reduce the variability, but not the central tendency, of the value responses. Hence the SOH questionnaire informed all respondents of current SOH funding levels, as well as the funding levels of similar organisations, including national/state libraries, national/state art galleries, the NSW Institute of Sport, and Australian Sports Commission.

Hansen also identified an "overstatement of desired behaviour", where respondents indicate that they attend more overall than the actual attendance figures. While this effect does not impact the SOH results for non-use value, they may explain high reported future take-up of digital streaming content.

Carson (2001) is a meta-analysis of the CV literature, including a review of relevant biases, and strategies to overcome them. Besides the strategic and information effects previously discussed, the proposed strategy to overcome hypothetical bias is to reinforce the budget constraint of making funding decisions, and also simply including a 'Don't know' option for respondents, if they feel they are not able to give a reasonably informed response.

Choi, Papandra and Bennett (2010) develop a choice modelling methodology to value marginal changes in several attributes of the Old Parliament House, in Canberra. This revealed that only some of these attributes are valued positively: extending the period of temporary exhibitions, hosting various events, and having dining and retail options. This approach was deemed not to be suitable in the context of SOH, as the relative cost of operations, such as maintenance of the exterior versus running educational programs, could not be reasonably judged by a random sample of Australian residents. Again, aspects of the choice approach were alluded to by including the funding levels of similar organisations, rather than different activities within SOH.

Appendix B:

Questionnaire and results

Q1A Where do you usually live?

Western Sydney	.7%
Greater Sydney (Exclude Western Sydney)	.12%
NSW (Outside Sydney)	.19%
Elsewhere In Australia	.40%
Australia	.79%
New Zealand	.4%
UK	.4%
USA	.4%
China	.8%
Total sample	3,184

Q1B What is your approximate annual household income before tax, including pensions and benefits?

Nil income	.1%
\$1 to \$20,000	.8%
\$20,001 to \$40,000	.20%
\$40,001 to \$60,000	.15%
\$60,001 to \$80,000	.12%
\$80,001 to \$100,000	.11%
\$100,001 to \$120,000	.8%
\$120,001 to \$140,000	.5%
More than \$140,000	.8%
Prefer not to answer	.13%
NET	100%
Base: Total sample	2,503

Q1C Please describe your attitude to the Opera House... The Sydney Opera House is an iconic Australian landmark that contributes to Australia's national identity and international standing.

Strongly disagree	.1%
Somewhat disagree	.1%
Feel neutral	.5%
Somewhat agree	.21%
Strongly agree	.71%
Don't know	.0%
NET	100%
Base: Total sample	3,184

Q2 Please describe your attitude to the Opera House... The Sydney Opera House offers a high quality venue for performances and events.

Strongly disagree	.1%
Somewhat disagree	.1%
Feel neutral	.9%
Somewhat agree	.33%
Strongly agree	.55%
Don't know	.2%
NET	100%
Base: Total sample	3,184

Q3 Please describe your attitude to the Opera House... The performances at the Sydney Opera House would be as good if held elsewhere.

Strongly disagree	.9%
Somewhat disagree	.24%
Feel neutral	.28%
Somewhat agree	.24%
Strongly agree	.12%
Don't know	.4%
NET	100%
Base: Total sample	3,184

Q4 Please describe your attitude to the Opera House... The Sydney Opera House offers a unique range of performances and events not shown elsewhere in Sydney.

Strongly disagree	.1%
Somewhat disagree	.3%
Feel neutral	.18%
Somewhat agree	.41%
Strongly agree	.31%
Don't know	.6%
NET	100%
Base: Total sample	3,184

Q5 Please describe your attitude to the Opera House... How much does the Sydney Opera House contribute to a unique culture in Australia?

Very small contribution	.1%
Small contribution	.4%
Moderate contribution	.15%
Significant contribution	.43%
Very significant contribution	.33%
Don't know	.4%
NET	100%
Base: Total sample	3,184

Q6 Which of the following best describes your use of the Sydney Opera House precinct?

Have never visited the Opera House precinct	.17%
Have not visited the Sydney Opera House precinct in the past 12 months	.36%
Have visited the Sydney Opera House precinct in the past 12 months but have not attended an event or performance	.25%
Have attended an event or performance at the Sydney Opera House in the past 12 months	.16%
I am a regular attendee of the Sydney Opera House but do not hold a subscription to a resident company	.4%
I am a regular attendee and hold one or more subscriptions to resident companies	.2%
NET	100%
Base: Total sample	3,184

Q6b Which resident companies do you hold a subscription to?

The Australian Chamber Orchestra	.46%
Bangarra Dance Theatre	.34%
Bell Shakespeare	.34%
Opera Australia	.56%
Sydney Symphony	.66%
Sydney Theatre Company	.54%
The Australian Ballet	.54%
Sydney Philharmonic Orchestra	.46%
Don't know	.2%
NET.	100%

Base: Regular attendee (holds one or more subscriptions to resident companies) 50

Q7 How much approximately did you spend during your visit, including show or tour tickets, shopping, food and beverages, per person?

(unique answer)

Q8 Would you consider your most recent Opera House experience good value?

1 Worth less than what I paid for it	.1%
2	.5%
3 Worth about what I paid for it	.33%
4	.37%
5 Worth more than what I paid for it	.23%
Don't know	.1%

Base: Attended performance at Opera House . . 686

Q9 Based on your response to the previous question, what is the maximum you would have been willing to spend on your most recent Sydney Opera House experience?

(unique answer)

Q10 How similar are performances and shows programmed by the Opera House itself to those offered by other cultural and entertainment centres in Australia?

1 Identical to other programs/performance	.1%
2	.5%
3	.19%
4	.40%
5 Programs/performance are unique	.31%
Don't know	.4%
NET.	100%

Base: Attended performance at Opera House . 686

Q11 As a venue for shows and performances programmed by others, how similar is the Opera House to other theatres and cultural and entertainment venues?

1 Identical to other venue	.1%
2	.4%
3	.15%
4	.35%
5 A unique venue	.42%
Don't know	.2%
NET.	100%

Base: Attended performance at SOH 686

Q12 How often do you attend an event or performance at the Sydney Opera House?

More than once a week	4%
Once a week	2%
Once every two weeks	3%
Once a month	8%
Once every three months	14%
Once every six months	22%
Once a year	23%
Less than once a year	21%
Don't know	1%
NET	100%

Base: Attended performance at Opera House . 686

Q13 How often do you visit the Sydney Opera House precinct for non-show activities?

More than once a week	2%
Once a week	3%
Once every two weeks	3%
Once a month	6%
Once every three months	11%
Once every six months	18%
Once a year	22%
Less than once a year	32%
Don't know	3%
NET	100%

Base: Visited precinct/attended performance at Opera House . 1,478

Q14 What are the reasons for which you have visited the Opera House precinct, aside from attending a show or performance?

Eating or drinking at a bar or dining onsite	54%
Organised Opera House tours	20%
The view of Sydney	69%
The iconic nature of the Opera House	58%
An outdoor event, such as Vivid Live festival	33%
Shopping at one of the stores in the precinct	30%
Other	6%
NET	100%

Base: Visited precinct/attended performance at Opera House . 1,478

Q15 What makes a visit to the Sydney Opera House different from a visit to another cultural or entertainment venue?

Quality of the performance	41%
Experience of the Sydney Opera House generally	69%
Quality of food and beverage offering	27%
The view of Sydney	72%
Outdoor events, such as Vivid Live festival	31%
Shopping from one of the stores in the precinct	18%
Other	2%
There is no difference	2%
NET	100%

Base: Visited precinct/attended performance at Opera House . 1,478

Q16 Where do you go to find more information about the Sydney Opera House (including events and ticketing)?

Sydney Opera House website	.53%
Sydney Opera House social media (including Facebook, Twitter, and YouTube)	.16%
Sydney Opera House app for iPhone or Android	.09%
Printed Sydney Opera House brochures or guides	.21%
Onsite information kiosk	.16%
Other print media (newspapers, magazines)	.22%
Third party websites (including artists, promoters or ticket vendors)	.25%
Other	.03%
None of these	.22%
NET	100%
Base: Total sample	3,184

Q17 In what way have you used a digital channel (e.g. online, social media or apps) to engage with the Sydney Opera House?

To research an event or performance	.29%
To buy a ticket to an event or performance	.18%
To watch an online video or live streaming of a show	.15%
To share a Sydney Opera House experience via social media	.14%
Never used a digital channel to engage with Sydney Opera House	.57%
NET	100%
Base: Total sample	3,184

Q18 What kind of devices have you used to access the Sydney Opera House website?

Computer (desktop or laptop)	.77%
Smartphone	.29%
Tablet	.24%
None of these	.13%
NET	100%
Base: Used SOH website	2,064

Q19 How would you rate your experience with the Sydney Opera House website?

Very dissatisfied	.0%
Quite dissatisfied	.1%
Feel neutral	.19%
Quite satisfied	.57%
Very satisfied	.21%
Don't know	.2%
NET	100%
Base: Used devices	1,795

Q20 How often do you access Sydney Opera House online resources (e.g. website, Facebook page, Twitter account, or YouTube channel)?

More than twice per week	.4%
Twice a week	.4%
Once a week	.5%
Once every two weeks	.5%
Once a month	.10%
Once every three months	.14%
Less often	.41%
Never	.18%
NET	100%
Base: Used online resources	1,896

Q21 How often do you view Sydney Opera House performances digitally (i.e. streamed over the internet)?

More than twice per week	12%
Twice a week	11%
Once a week	12%
Once every two weeks	10%
Once a month	15%
Once every three months	16%
Less often	23%
Never	1%
NET	100%
Base: Watched live streaming	470

Q22 If more Sydney Opera House performances were available digitally (i.e. streamed over the internet and connected to your television), how often would you view performances digitally?

More than twice per week	4%
Twice a week	3%
Once a week	7%
Once every two weeks	6%
Once a month	12%
Once every three months	12%
Less often	14%
Never	12%
Don't know	29%
NET	100%
Base: Total sample	3,184

Q23 If more Sydney Opera House performances were available digitally (i.e. streamed over the internet and connected to your television), how much would you be willing to pay for a digital performance?

Nothing	26%
AUD\$1-5	19%
AUD\$6-10	23%
AUD\$11-20	19%
More than AUD\$20	1%
Don't know	12%
NET	100%
Base: Would watch streamed performances	1,882

Q24 What to you is the main benefit of performances at the Opera House being streamed online or to your television or mobile device?

Being able to watch a performance at the time you prefer	58%
Being able to watch a performance more cheaply	49%
Being able to watch a performance from anywhere	62%
Other	4%
NET	100%
Base: Would watch streamed performances	1,882

Q25 How valuable do you think it is for the Sydney Opera House to expand its education programs digitally to more school children and others (i.e. online content about the building or the history of performing arts in Australia)?

1 Not valuable at all	1%
2	3%
3	20%
4	36%
5 Very valuable	34%
Don't know	6%
NET	100%
Base: Total sample	3,184

Q25B In the future, if there was an option for you to hire a tablet (such as an iPad) to watch digital content as you moved through the building, how much would you be willing to pay for this?

Nothing	17%
AUD\$1-5	19%
AUD\$6-10	19%
AUD\$11-20	12%
More than AUD\$20	0%
Would not go on a tour of the Opera House	8%
Would not use it as part of a tour	14%
Don't know	11%
NET	100%
Base: Total sample	3,184

Q26 How much funding do you think the Sydney Opera House should receive per person?

More than the current amount	27%
The same as the current amount	43%
Less than the current amount	10%
Don't know	10%
NET	100%
Base: NSW residents	1,223

Q27 How much funding should the Sydney Opera House receive per NSW resident?

(unique answer)

Q28 Do you think the Sydney Opera House should receive funding from the federal government?

Yes	71%
No	29%
NET	100%
Base: From elsewhere in Australia	1,280

Q29 How much funding should the Sydney Opera House receive per person?

(unique answer)

Q30 If the government had \$100 per resident and they could only choose between funding a Sydney Opera House refurbishment and providing tax cuts, what proportion would you want for each?

\$100 for Sydney Opera House + \$0 for tax cuts	. . . 9%
\$90 for Sydney Opera House + \$10 for tax cuts	. . . 3%
\$80 for Sydney Opera House + \$20 for tax cuts	. . . 4%
\$70 for Sydney Opera House + \$30 for tax cuts	. . . 3%
\$60 for Sydney Opera House + \$40 for tax cuts	. . . 3%
\$50 for Sydney Opera House + \$50 for tax cuts	. . 22%
\$40 for Sydney Opera House + \$60 for tax cuts	. . . 5%
\$30 for Sydney Opera House + \$70 for tax cuts	. . . 6%
\$20 for Sydney Opera House + \$80 for tax cuts	. . . 9%
\$10 for Sydney Opera House + \$90 for tax cuts	. . 19%
\$0 for Sydney Opera House + \$100 for tax cuts	. . 17%
NET.	. . . 100%
Base: Australia	. . . . . 2,503

Q31 What was your purpose of travel to Sydney?

Business	. . . . . 24%
Holiday	. . . . . 82%
Visiting friends and relatives	. . . . . 43%
Other	. . . . . 2%
NET.	. . . . . 100%
Base: Overseas visitors	. . . . . 681

Q32 Was the opportunity to see or visit the Sydney Opera House a factor in your decision to visit Sydney?

Yes	. . . . . 73%
No	. . . . . 27%
NET.	. . . . . 100%
Base: Overseas visitors	. . . . . 681

Q33 Was the opportunity to see or visit the Sydney Opera House the main factor in your decision to visit Sydney?

Yes	. . . . . 74%
No	. . . . . 26%
NET.	. . . . . 100%
Base: Code 1 at Q32	. . . . . 496
*Caution low base	

Q34 If you attended a performance at the Sydney Opera House, did you book this in advance of your arrival in Sydney?

Yes	. . . . . 57%
No	. . . . . 43%
NET.	. . . . . 100%
Base: Overseas visitors	. . . . . 681

Appendix C:

Economic contribution studies

Economic contribution studies are intended to quantify measures such as value added, exports, imports and employment associated with a given industry or firm, in an historical reference year. The economic contribution is a measure of the value of production by a firm or industry.

Value added

Value added is the most appropriate measure of an industry's/company's economic contribution to gross domestic product (GDP) at the national level, or gross state product (GSP) at the state level.

The value added of each industry in the value chain can be added without the risk of double counting across industries caused by including the value added by other industries earlier in the production chain.

Other measures, such as total revenue or total exports, may be easier to estimate than value added but they 'double count'. That is, they overstate the contribution of a company to economic activity because they include, for example, the value added by external firms supplying inputs or the value added by other industries.

Measuring the economic contribution

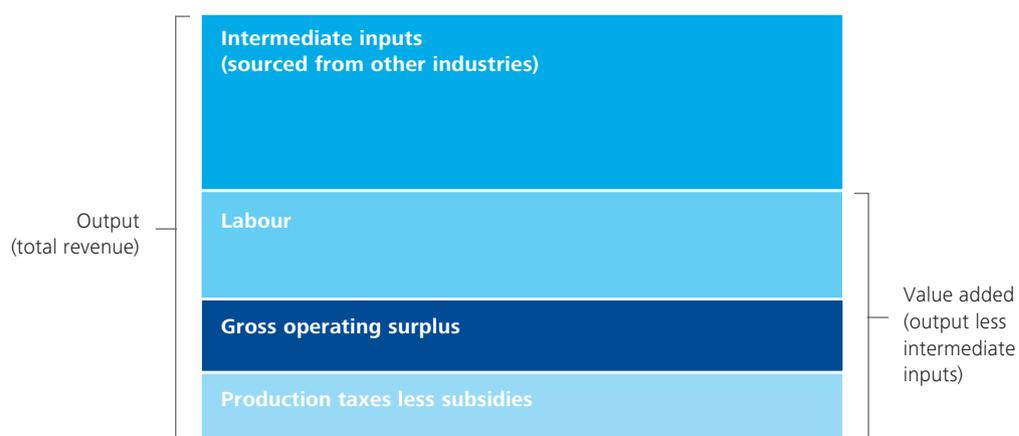
There are several commonly used measures of economic activity, each of which describes a different aspect of an industry's economic contribution:

- **Value added** measures the value of output (i.e. goods and services) generated by the entity's factors of production (i.e. labour and capital) as measured in the income to those factors of production. The sum of value added across all entities in the economy equals gross domestic product. Given the relationship to GDP, the value added measure can be thought of as the increased contribution to welfare

Value added is the sum of:

- Gross operating surplus (GOS) – GOS represents the value of income generated by the entity's direct capital inputs, generally measured as the earnings before interest, tax, depreciation and amortisation (EBITDA)
- Tax on production less subsidy provided for production – This generally includes company taxes and taxes on employment. Note: Given the returns to capital before tax (EBITDA) are calculated, company tax is not included or this would double count that tax
- Labour income is a subcomponent of value added. It represents the value of output generated by the entity's direct labour inputs, as measured by the income to labour
- **Gross output** measures the total value of the goods and services supplied by the entity. This is a broader measure than value added because it is an addition to the value added generated by the entity. It also includes the value of intermediate inputs used by the entity that flow from value added generated by other entities
- **Employment** is a fundamentally different measure of activity from those above. It measures the number of workers employed by the entity, rather than the value of the workers' output.

Figure C.1: Economic activity accounting framework



Source: Deloitte Access Economics

Figure C.1 shows the accounting framework used to evaluate economic activity, along with the components that make up gross output. Gross output is the sum of value added and the value of intermediate inputs. Value added can be calculated directly by adding the payments to the primary factors of production, labour (i.e. salaries) and capital (i.e. gross operating surplus (GOS), or profit), as well as production taxes less subsidies. The value of intermediate inputs can also be calculated directly by adding up expenses related to non-primary factor inputs.

Direct and indirect contributions

The **direct** economic contribution is a representation of the flow from labour and capital in the company.

The **indirect** contribution is a measure of the demand for goods and services produced in other sectors as a result of demand generated by SOH. Estimation of the indirect economic contribution is undertaken in an input-output (IO) framework using Australian Bureau of Statistics input-output tables that report the inputs and outputs of specific sectors of the economy (ABS 2010).

The total economic contribution to the economy is the sum of the direct and indirect economic contributions.

Limitations of economic contribution studies

While describing the geographic origin of production inputs may be a guide to a firm's linkages with the local economy, it should be recognised that these are the type of normal industry linkages that characterise all economic activities.

Unless there is significant unused capacity in the economy (such as unemployed labour) there is only a weak relationship between a firm's economic contribution as measured by value added (or other static aggregates) and the welfare or living standard of the community. Indeed, the use of labour and capital by demand created from the industry comes at an opportunity cost as it may reduce the amount of resources available to spend on other economic activities.

This is not to say that the economic contribution, including employment, is not important. As stated by the Productivity Commission in the context of Australia's gambling industries:⁶

Value added, trade and job creation arguments need to be considered in the context of the economy as a whole ... income from trade uses real resources, which could have been employed to generate benefits elsewhere. These arguments do not mean that jobs, trade and activity are unimportant in an economy. To the contrary they are critical to people's well-being. However, any particular industry's contribution to these benefits is much smaller than might at first be thought, because substitute industries could produce similar, though not equal gains.

In a fundamental sense, economic contribution studies are simply historical accounting exercises. No 'what-if', or counterfactual inferences – such as 'what would happen to living standards if the firm disappeared?' – should be drawn from them.

The analysis – as discussed in the report – relies on a national input-output table modelling framework and there are some limitations in this modelling framework. The analysis assumes that goods and services provided to the sector are produced by factors of production that are located completely within the state or region defined and that income flows do not leak to other states.

The IO framework and the derivation of the multipliers also assume that the relevant economic activity takes place within an unconstrained environment. That is, an increase in economic activity in one area of the economy does not increase prices and subsequently crowd out economic activity in another area of the economy. As a result, the modelled total and indirect contribution can be regarded as an upper-bound estimate of the contribution made by the supply of intermediate inputs.

Similarly, the IO framework does not account for further flow-on benefits as captured in a more dynamic modelling environment like the CGE model.

Input-output analysis

Input-output tables are required to account for the intermediate flows between sectors. These tables measure the direct economic activity of every sector in the economy at the national level. Importantly, these tables allow intermediate inputs to be further broken down by source. These detailed intermediate flows can be used to derive the total change in economic activity associated with a given direct change in activity for a given sector.

A widely used measure of the spill-over of activity from one sector to another is captured by the ratio of the total to direct change in economic activity. The resulting estimate is typically referred to as 'the multiplier'. A multiplier greater than one implies some indirect activity, with higher multipliers indicating relatively larger indirect and total activity flowing from a given level of direct activity.

The input-output matrix used for Australia is derived from the Australian Bureau of Statistics 2008–09 Input-Output Tables (2012). The industry classification used for input-output tables is based on ANZSIC, with 111 sectors in the modelling framework.

⁶ Productivity Commission (1999), *Australia's Gambling Industries*, Report No. 10, AusInfo, Canberra (page 4.19).

Appendix D:

Economic contribution of SOH

The three parts that make up the onsite economic activity of SOH directly contribute to GDP in two main ways. The first is through the wages and benefits they provide to their employees. The second is through the gross operating surplus (or return on capital) they generate from their activities. Conceptually this can be thought of as the additional value these entities add after taking into account all intermediate inputs and wages paid.⁷

To capture the direct value added to GDP by SOH it is necessary to add up the total wages and gross operating surplus of the SOHT, resident performing companies and onsite retailers.

The value added by these other entities should be calculated net of any transfers between them and the SOHT (such as rent and commissions) to avoid double counting and should only include the value added by these entities which can be reasonably attributed to SOH. For example, the value added by performances of the Sydney Symphony at venues other than SOH should not be included as part of the economic contribution of SOH.

Direct economic contribution

To determine the direct economic contribution of the SOHT, the total labour income in 2011 (including employees involved in statutory asset maintenance) was added to the GOS. GOS was calculated as the difference between total income and expenses after excluding any depreciation and amortisation expenses and interest income.

Estimating the economic contribution of the resident performance companies at SOH was more complicated as no detailed financial information was available on each performance company's operations at SOH. Total revenue was estimated by adding ticket revenue at SOH to the value of other income (e.g. government grants, donations and sponsorship) which could be reasonably attributed to SOH. These revenue sources were included based on the proportion of each company's total ticket revenue attributable to the SOH.⁸ In the case of state government grants, all NSW Government grants for 2011–12 were included in the estimate of revenue attributable to SOH if it was the primary NSW performing venue for the company.

Information from the resident company's annual reports was used to estimate the value of labour income and gross operating surplus as a proportion of their total revenue. This was then used to estimate the direct economic contribution of the resident performing companies attributable to SOH.

For the bars, shops, restaurants and cafes in the SOH precinct, information on total revenue was available from the SOHT's financial reports. Information on labour income for these entities was also provided by SOH. This revenue was then be used to estimate the direct value added by these companies using the ABS Input-Output tables. Estimates of employment were also calculated for the onsite retailers and performance companies using input-output tables.

A final adjustment was made to value added to account for transfers back to SOH (for venue and equipment hire etc.) by the performance companies and food and beverage outlets. This was based on an estimate of total revenue flowing between these companies and SOH, based on segment reporting in the SOH financial accounts.

⁷ Where information is available on production taxes paid net of subsidies this should also be counted as part of an economic entity's economic contribution (see Appendix A for further details).

⁸ This calculation involved multiplying the ratio of other revenue to ticketing revenue for a company in 2011–2012 by their ticketing revenue at SOH in 2012–13. Financial information for 2012–13 was not yet available for the performing arts companies.

Total economic contribution

To measure the SOH precinct's total economic contribution (both direct and indirect), Deloitte Access Economics analysed the structure of the economy using input-output tables from the Australian Bureau of Statistics for 2008–09.

The indirect contribution was estimated for the SOHT and resident performing arts companies by examining the amount of intermediate inputs and then determining the value added, labour income, gross operating surplus associated with this purchase of intermediate inputs using input-output tables.

The multipliers for the heritage, creative and performing arts sector and the retail sector are shown in Table D.1, below. The gross output multipliers are used to determine the total (both direct and indirect) value added, labour income and employment of an entity or industry from information about gross revenue.

These were used to estimate the value added by the purchase of intermediate inputs by the SOHT and the resident performing arts companies. The total value added was then calculated as the sum of direct and indirect value added.

The ratio of total to direct contribution compares the total value added, labour income or employment created by a sector with the direct value added, labour income or employment it supports. In the case of the retail sector multipliers (shown in Table D.1), if the direct value added contribution was \$100, the indirect value added would be \$55 since the value of the ratio of total to direct value added is 1.55. In terms of employment, if there were 100 FTEs directly employed, the ratio suggests 29 indirect FTEs would be employed on the basis of the flow on demand generated by the industry, since the employment total to direct ratio is 1.29.

Table D.1: Multipliers used

Gross output multipliers	Heritage, creative and performing arts	Retail trade
Value added	0.85	0.92
Labour income	0.46	0.58
Employment (FTE)	11.44	11.57
Ratio of total to direct contribution		
Value added	1.94	1.55
Labour income	2.07	1.46
Employment (FTE)	1.43	1.29

Source: ABS Cat. No. 5209.0 (2012) and Deloitte Access Economics estimates

Note: Gross output is a definitional term and is often referred to as operating revenue – as in this report – or turnover
The multipliers shown here are for the heritage, creative and performing arts sector

In the case of the onsite retailers, no detailed information was available on purchases of intermediate inputs. Information on revenue was converted into total value added, employment and labour income using gross output multipliers. To determine the direct value added, labour income and employment from the total figures, the total to direct multipliers for the retail sector were used. Indirect value added was calculated for the onsite retailers as the difference between total and direct value added.

Box D.1: Previous studies of the economic contribution of SOH

Two recent studies have considered the economic contribution of SOH. The older of the two studies was commissioned by the Department of Environment, Water, Heritage and the Arts (DEWHA) and undertaken by Gillespie Economics and BDA Group in 2008, while Deloitte Access Economics completed a report in 2012. The latter report followed an earlier report on the economic contribution of SOH by Access Economics in 2007.

The 2012 Deloitte Access Economics report considered the contribution of activity undertaken at the SOH precinct and induced tourism activity. Overall, the report found that the total economic contribution of SOH was \$734 million, \$534 million coming from increased tourism and \$200 million from the SOHT, resident performing companies, and food and beverage outlets.

The DEWHA study considered the economic contribution of World Heritage-listed sites in Australia, with SOH becoming a World Heritage-listed site in 2007. The results for SOH indicated \$95 million in annual value added from management activities and \$1 billion in annual value added from the impact of visitors. The annual value added from management activities was similar to the value added by the SOHT in the 2012 Deloitte Access Economics report.

The difference in findings between the two reports can be attributed to their different treatment of visitor expenditures. Based on the methodology described in the DEWHA report, all expenditure of visitors to SOH was attributed to SOH. This approach would likely have been appropriate for isolated World Heritage listed sites (such as Kakadu National Park or Lord Howe Island) but does not take into consideration that SOH forms one part of the bundle of attractions offered by Sydney. That is, visitors to SOH would be likely to also visit the Sydney Harbour Bridge, The Rocks, Sydney's beaches and so on. It is therefore likely that ascribing their total expenditure to SOH would overstate the tourism contribution of SOH.

Appendix E: Sydney tourism data

We relied on two main data sources for this report. The first covers general tourism in Australia, with a particular focus on Sydney being used in this report. The second data source covers visitors to SOH in particular.

Visitor surveys

The data on general tourism in Australia is sourced from Tourism Research Australia and is based on surveys of both international and domestic tourists.⁹ The interviewer asks the respondent for factual details about factors such as:

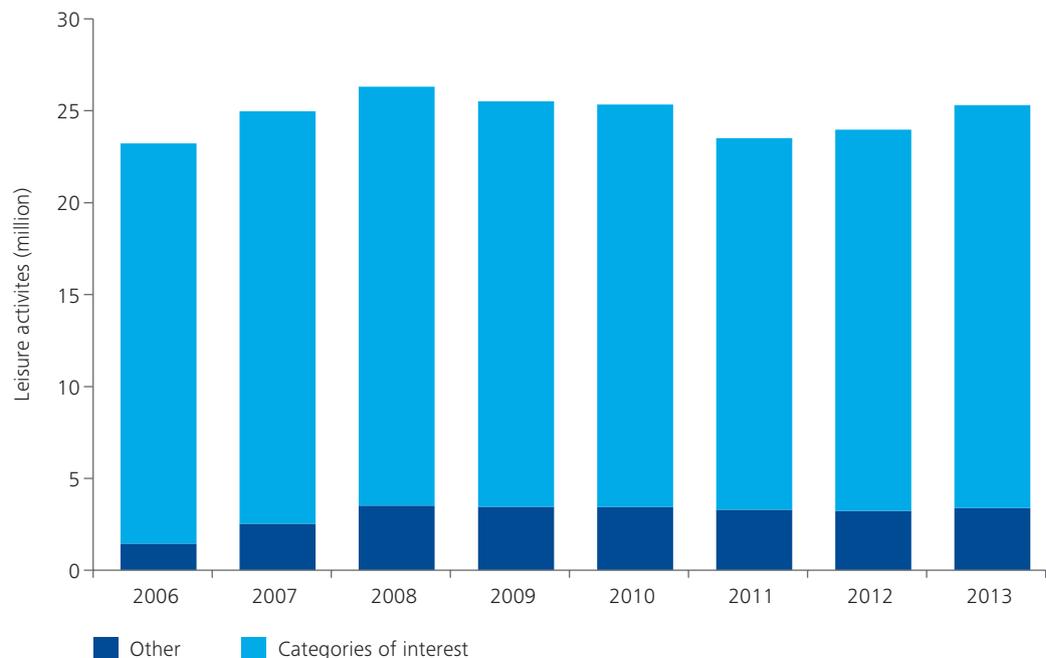
- The number of nights in Australia
- Travel arrangements
- Reasons for visiting
- Income earned
- Expenditure on the trip (among other things).

More detailed data is also available on the activities undertaken by visitors. Of these activities, three are particularly relevant to SOH:

- Attend theatre, concerts or other performing arts
- Visit history/heritage buildings, sites or monuments
- Sightseeing.

For international visitors these three categories tend to make up a relatively small but stable proportion of the total tourist activities undertaken in Sydney. Since 2008, these three activities have accounted for 13–14% of all tourism activity in each year. A similar pattern is evident with domestic travellers, with the proportion generally falling 10–13% during the past few years.

Chart E.1: Activities of interest as a proportion of total activities, international visitors



Source: Tourism Research Australia (2013)

⁹ The international survey has been operating since the early 1970s and contains over 70 questions. The survey samples 40,000 departing, short-term international travellers over the age of 15 years who have visited Australia and is conducted in the departure lounges of the eight major international airports: Sydney, Melbourne, Brisbane, Cairns, Perth, Adelaide, Darwin and the Gold Coast (DRET, no date).

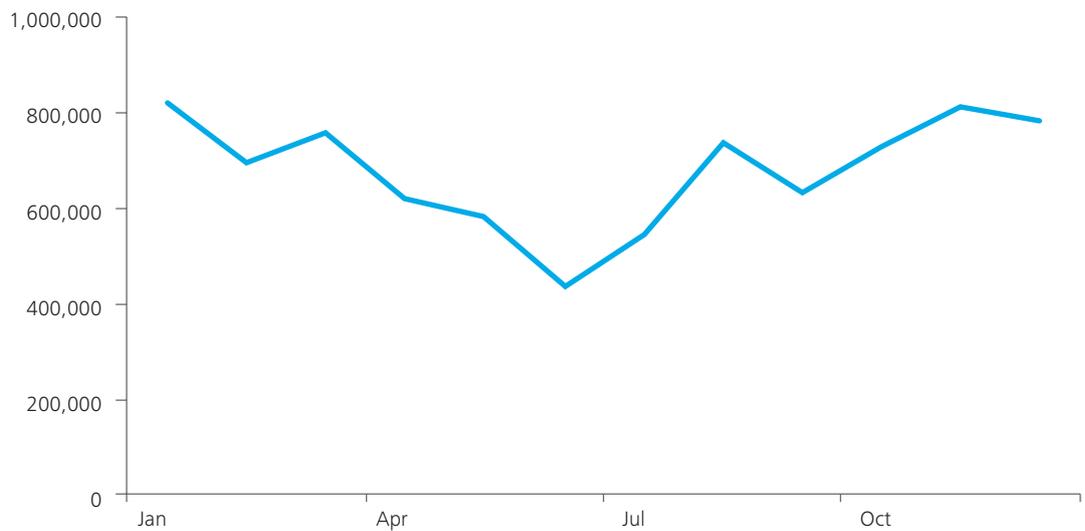
SOH data

The second source of data used in this report consists of analyses of visitors undertaken by SOH itself: first, a survey of visitor experience conducted by Kiran Analytics for SOH, and second, demographic information gathered by SOH on those who attend tours and performances.

The Kiran Analytics report tracked the entries, exits and movements of visitors within the SOH precinct and developed estimates of total visitor numbers, shown in the figure below. Overall it was estimated that around 8.2 million people visited the SOH precinct in 2010.

The estimate of total precinct visitors by Kiran Analytics is much larger than both the number of people who attend performances (1.4 million) and those who purchased a tour (around 300,000). This suggests that a large number of visitors, possibly more than 6 million, simply approach the site without making any direct expenditure within SOH.

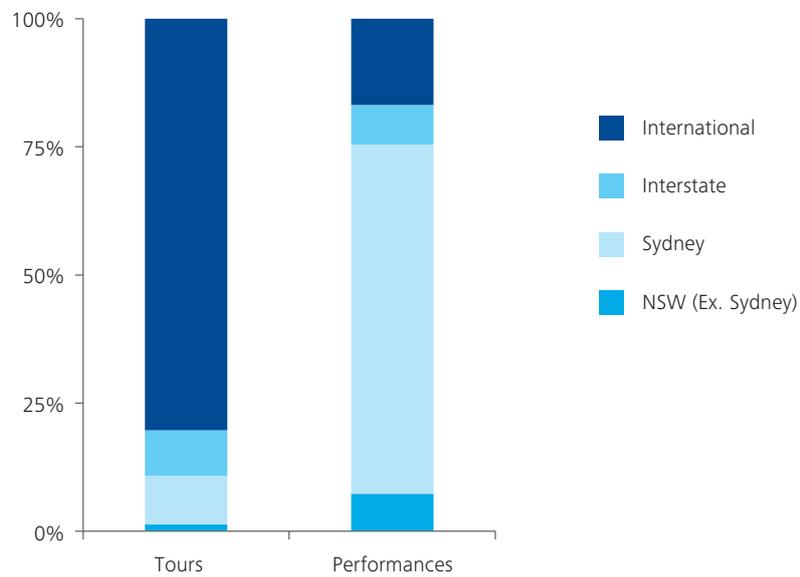
Figure E.1: Modelled monthly visitor numbers, 2010



Source: Kiran Analytics (2010)

The second source of data from SOH is on the demographic characteristics of those taking a tour or attending a performance. An example of the available data is shown below. This indicates that attendees at performances are much more likely to be local residents than those taking tours.

Figure E.2: Demographic characteristics of visitors



Source: SOH

Information from these data sources is drawn on to allow for an allocation of tourism expenditure to SOH. The methodology used is explained in **Appendix F**.

Appendix F: Estimating SOH's contribution to tourism

Estimating overall tourism expenditure

Top-down approach

Tourism Research Australia provides a detailed breakdown of destination expenditure by category for NSW and modelled data on overall tourism expenditure in Sydney. This data is summarised in the following tables.

Table F.1: Tourism expenditure in NSW, by category, year ending June 2012

Category	Expenditure (\$m)	%
International		
Holiday	1,925	31%
Visiting family and relatives	865	14%
Business	722	12%
Education	2,003	32%
Other	656	11%
Total	6,171	100%
Domestic (day visitors)		
Holiday	2,885	58%
Visiting family and relatives	969	20%
Business	409	8%
Other	690	14%
Total	4,953	100%
Domestic (overnight)		
Holiday	6,473	54%
Visiting family and relatives	2,583	22%
Business	2,289	19%
Other	535	5%
Total	11,879	100%

Source: Tourism expenditure in NSW, by category, year ending June 2013
Tourism Research Australia (2013) National and International Visitor Surveys for June 2013

Data is also available on total tourism expenditure in Sydney. By applying the proportion of holiday expenditure in NSW, identified in the table above, to the total tourism expenditure in Sydney, an estimate of holiday expenditure in Sydney can be calculated.

This approach suggests that a total of \$6.1 billion in holiday tourism expenditure was generated in Sydney in the year ending June 2013.

Table F.2: Total tourism expenditure in Sydney, based on NSW data

	Total expenditure (\$m)	Estimated holiday expenditure (\$m)
International	5,544	1,840
Domestic (day visitors)	2,075	1,209
Domestic overnight	5,539	3,018
Total	11,610	6,066

Source: Deloitte Access Economics based on Tourism Research Australia (2013) National and International Visitor Surveys for June 2013

Note: Domestic overnight expenditure includes airfares and long-distance transport costs

Estimating SOH's share of expenditure

The next step in estimating SOH's contribution to tourism expenditure is to identify the proportion of tourism expenditure that can reasonably be attributed to SOH. The general approach that will be used in estimating the contribution of SOH to tourism in Sydney is based on the following relationship:

Figure F.1: Tourism expenditure production chain



Source: Deloitte Access Economics

In this case the tourist attractions can be considered to be SOH and all other attractions in Sydney. Following the input approach to assigning value in team production, the tourism activities are the main input that we will use to identify SOH's contribution. For our purposes the tourism activities can be defined as:

- Attend theatre, concerts or other performing arts
- Visit history/heritage buildings, sites or monuments
- Sightseeing
- All other activities.

Data on activities is taken from both the exit interview data available from the Department of Resources, Energy and Tourism, the Kiran Analytics report for SOH and other general information on SOH. Combining these data sets will give an indication of the proportion of tourism activities that SOH is responsible for generating. The estimated tourism activities generated by SOH are shown in the table below.

This analysis indicates that SOH could be responsible for around 10.55% of tourist activity in Sydney in 2010 (the year in which Kiran analytics completed its survey). This figure is slightly higher than the 10.4% reported in the previous Deloitte Access Economics (2012) report because domestic visitors who indicated that they had participated in none of the activities listed in the National Visitor Survey were excluded from the analysis.

Table F.3: Tourist activities generated by SOH

	Visitors (million)	Tourist activities (million)
Sight-seeing	6.4	6.4 ^a
Tours	0.3	0.6 ^b
Performances	0.4	1.3 ^c

Source: Deloitte Access Economics based on TRA data (2013)

Notes: a. Each visitor was assumed to create a 'sightseeing/looking around' tourist activity.

b. Each tour was assumed to create a 'sightseeing/looking around' and a 'visit history/heritage building' tourist activity.

c. Each performance attendance was assumed to create a 'sightseeing/looking around', a 'visit history/heritage building' and a 'attend theatre, concerts or other performing arts' tourist activity.

Appendix G: The SOH's digital future

5.6.1 Looking ahead

SOH's act charges it with:

- Promoting artistic taste and achievement
- Encouraging innovation.

SOH's 2013 Enterprise Strategy recognises the crucial role of digital and states a commitment to:

"embed digital-content creation at the heart of what we do [...] taking Opera House experiences to people wherever they are in the world."

In this regard, the SOH has come a long way in recent years. However, opportunities to further engage the public digitally continue to grow at a fantastic rate. To keep pace, SOH will need to draw on its strong network of partners and stakeholders to find new ways to entertain and inspire digitally.

In a full-day visioning workshop, senior leaders at SOH gathered with partners from the business community to discuss the next steps in the digital journey. Participants considered opportunities to deepen the public's engagement with the Opera House as both a destination and a performance venue.

Four themes (shown in **Figure 9**) emerged from the workshop and all use digital technology to bridge the gap between the SOH's physical and digital experience.

5.6.2 Theme 1: Edgeless experiences

For very practical reasons, traditionally both musical and theatrical performances have been created within long-standing constraints (stage size, audience seating, entry and exit points) and protocols (curtain up/down, intermission, signals for audience response, applause, encores, etc.). Contributors to the Digital Futures session saw an opportunity for digital technology to redefine these creative parameters.

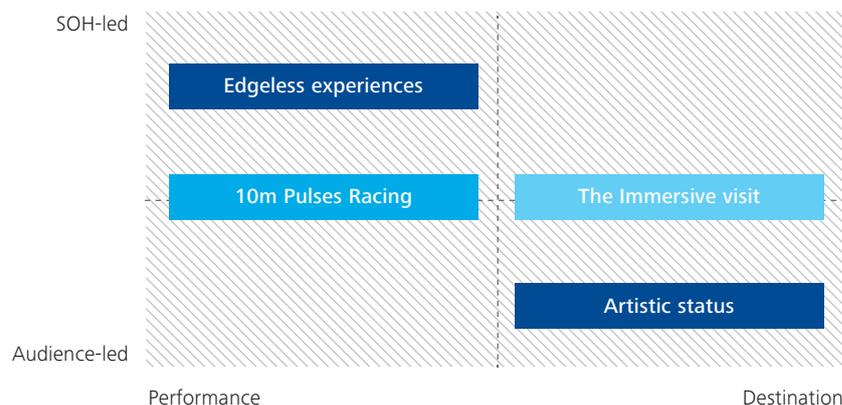
For example, the performance no longer needs to start when an audience is seated and the lights go down, nor does it have to end when the last encore is played. Similarly, audience interaction need not be limited to applause.

A partnership with resident companies was envisioned where SOH would digitally enable the creation of 'edgeless' experiences.

Arts venues are already dabbling in this space. The Royal Shakespeare Company, in collaboration with Google, created a physical performance of *A Midsummer Night's Dream* that enabled audiences around the world to digitally interact with it live.

Other examples include the UK's Royal Opera House, which broadcasts its performances on outdoor screens and encourages participation on Twitter during the event.

Figure G.1: Digital opportunities for the future of SOH



Source: Designing Sydney Opera House's Digital Future: workshop

5.6.3 Theme 2: 10 Million Pulses Racing

The belief that every SOH experience should take visitors on an emotional journey generated a series of ideas relating to the quantified self.

If part of the magic of attending a performance is the sense of shared emotional experience, workshop participants discussed what it might mean to make that emotional experience more transparent or more visible. One potential example is installing a backdrop to an orchestra showing the collective brain of the audience in which synapses are firing as the symphony progresses. It was felt that perhaps capturing and visualising such biometric data could be a means of connecting virtual audiences and generating a more meaningful digital experience.

Collective experiences that engage on an emotional level are not new. In 2012, Earth Hour brought 6,950 cities across 152 countries together for a moment of darkness to engage collectively around climate change. However, visualising that emotional connection is new.

5.6.4 Theme 3: Artistic status

While edgeless and emotional engagement will attract and build an audience of content lovers, SOH also has a following that engages with it as a landmark – either as tourists or proud Sydneysiders.

An incredible number of people interact with SOH as an architectural icon every day, and seek to capture and personalise the landmark (typically through a status update), in visual form. Contributors to the Digital Futures session saw an opportunity to draw on the collective creativity of the public to create something new. One suggestion involved visitors building a virtual SOH, with each tile being a digital image of their experience. Others suggested ‘gamifying’ the visitor experience.

The possibility for the public to take greater (digital) ownership of the SOH, and to extend the ubiquitous status update into a more creative connection, was seen by contributors as worthy of exploration.

5.6.5 Theme 4: The immersive visit

Because SOH is a landmark for tourists, engagement with it typically involves taking a tour. Many people follow this with a social media check-in and a Facebook post.

However many people are unable to take advantage of scheduled tours or attend performances because of time or affordability constraints.

Many arts venues globally offer self-guided and/or virtual tours of their venues, which remove many of these barriers. The potential for digital to allow visitors (both physical and virtual) to explore SOH and the experiences it offers on visitors’ own terms prompted some interesting ideas during the workshop.

SOH might offer an augmented reality tour guide to Sydney, or provide visitors with an opportunity to assume the role of prima ballerina or orchestra conductor in a virtual experience. Visitors could be given archive content and digital tools to create their fantasy performances. All these digital ideas warrant further examination.

Limitation of our work

General use restriction

This report is prepared solely for the use of the Sydney Opera House. This report is not intended to and should not be used or relied upon by anyone else and we accept no duty of care to any other person or entity. The report has been prepared for the purpose of examining the economic and social value of the Sydney Opera House, along with the current digital footprint and digital potential. You should not refer to or use our name or the advice for any other purpose.

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