Museums Aotearoa

The value of museums and galleries in Aotearoa



MUSEUMS AOTEAROA

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Back: Fou Lion figure, Bronze cast. Collection of Auckland Museum Tāmaki Paenga Hira, 1934.316, M1448, 20762 *(Detail)*



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Aim

This report measured *the value of* Aotearoa New Zealand museums and galleries.

Rather than calculating a single number to define the industry, the approach taken considered the wider context which surrounds the entire ecosystem. The total value of assets, including buildings and collections, were calculated. Further, museums and galleries provide social, cultural, economic and environmental value, calculated based on activities and contributions to tourism, Gross Domestic Product (GDP), employment, and education.

Results

Figure 1

Key findings

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The total assets for museums and galleries were valued at \$5.6 billion for 2021. This value included \$3.6 billion in collections across 45 million items, and \$2 billion in buildings. Museums and galleries received 17.5 million visits, employed 3,365 full-time equivalent (FTE) jobs, and provided education benefits equating to \$24.6 million to students across the country.



In addition to these core findings, this report concluded that museums and galleries relied heavily on government funding to continue operating. Mediumsized museums and galleries were more likely to be operating in a deficit, which indicates a significant risk to their assets.

Tourism was impacted significantly by COVID-19 containment measures. Since March 2020, international tourism has reduced, and for much of this period, limits were placed on large gatherings of people. The tourism industry experienced a harsh reduction in GDP, employment, and business units from 2020 to 2021.

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Table of Contents

Introduction	01			
	UI	1.1	Approach - four dimensions of wellbeing	3
		1.2	Impact of COVID-19 on tourism	4
		1.3	Structure of this report	6
Duorrious ussoanch	0.0			
Previous research	02			7
		2.1	Cultural asset valuation	8
		2.2	International studies	
		2.3	Aotearoa New Zealand focused research	
		2.4	Maori frameworks for value	
		2.5	Key observations from the literature review	21
Understanding the museums	03			22
and galleries sector	05	3.1	Museum Sector Survey	23
		3.2	Grouping museums and galleries into size categories	24
RFRI ecosystem model	0.4			
BERL ecosystem model				
		4.1	Expanded Vecvagars model	
Value of museums and galleries	05	 5.1	Wellbeing indicators	
Economic value	06			
of museums and galleries	00	6.1	Gross domestic product	
_		6.2	Employment	
		6.3	Operating expenditure	
		6.4	Revenue	39
		6.5	Net operating income	
Cultural value	07			40
of museums and galleries	···· 07		Violtara to mucouma and collarias	
		7.1	International tourism	
		72	Collection size	43
		74	Valuation status	
		75	Collection value	
		7.6	Cultural collection typologies	
		7.7	Collections on display	
		7.8	lwi engagement	
		79	Cultural functions	46

Table of *Contents*

Environmental value of	8.1 Bu 8.2 En 8.3 Re	ilding value . vironmental collectionssearch.	47 49 50 50
Social value $\ldots 09$ of museums and galleries	9.1 Ed 9.2 Vo 9.3 Fee	ucation unteers	51 53 53 53
	9.4 Pu	blic amenities	54
	9.5 So	cial collections	54
	9.6 Po	icy	55
Appendix A	Reference	:es	58
Tables	Table 1	Museum operation FTEs, GDP, and AUTs	37
Figures	Figure 1 Figure 2 Figure 3 Figure 4 Figure 5 Figure 6	Key findings Aotearoa New Zealand tourism GDP, 2001-2021 Tourism FTEs, 2001-2021 Vecvagars cultural asset valuation model Vecvagars valuation methods model Ngā hono ōhanga oranga	ii 5 8 11 20
	Figure 7	BERL ecosystem model	31
	Figure 8	BERL wellbeing indicators	32



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Gift of Mrs L Blythe, Auckland, 1966, Collection of Auckland War Memorial Museum, 1966.205, col.1214

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Introduction

Museums Aotearoa commissioned BERL to complete this report on the value of museums and galleries in Aotearoa New Zealand. Valuing cultural institutions, is not a straightforward or easy task. This is because culture is not a product that can be packaged and sold, particularly in the museum and gallery sector. To add complexity, most cultural institutions do not charge, or charge very little, for entry. Many studies have attempted to quantify cultural value by surveying the public to find out how much they would pay to keep museums and galleries in existence. While this method has some merit, it does not capture all the activities that happen behind the scenes in museums and galleries, and it does not capture the collective value of their collections. This value is not a mystery, however, because the institutions themselves are aware of what they do, and what they have. In this report, BERL collected and analysed information provided by 186 members of Museums Aotearoa to estimate the total value of Aotearoa New Zealand's museums and galleries. Total value is what museums and galleries contribute to wellbeing in Aotearoa New Zealand's communities, and so this report looks beyond economic value.

The results presented in this report indicate that the museums and galleries sector maintains upwards of \$5.6 billion worth of cultural assets, and provides widespread contribution towards economic, cultural, social, and environmental wellbeing in New Zealand, through their services and activities. Museums and galleries represent a significant asset for Aotearoa New Zealand, and highlights the importance of protecting and maintaining the sector into the future.

	1.1	Approach - four dimensions of wellbeing
		Aotearoa New Zealand's Local Government Act 2002 requires economic, social, environmental, and cultural wellbeing (the four wellbeings) to be promoted by local authorities. The wellbeings recognise the multi-dimensional way people are impacted from the outcomes of institutions in society. In a similar fashion, the New Zealand Treasury requires the impact on economic, social, environmental, and cultural capital to be considered when considering policy decisions through their Living Standards Framework (LSF). The difference between the wellbeing outcomes framework and the wellbeing capital framework, is that the capital framework influences future wellbeing potential, and the outcomes framework influences current wellbeing potential.
		This report assesses the value of Aotearoa New Zealand's museums and galleries through the wellbeing lens. The wellbeings are considered current, and pertain to the four distinct, but overlapping, areas of economic, cultural, social, and environmental wellbeing, which are defined below.
ril Q	Economic wellbeing	Economic wellbeing is usually the easiest of the wellbeing dimensions to measure, as the indicators of economic wellbeing are often based in market-sourced statistics such as Gross Domestic Product (GDP), employment, and wealth. Economic wellbeing concerns whether the economy can generate the employment and wealth necessary to provide the requirements that make for social wellbeing, such as financial security and equity of opportunity.
ň	Cultural wellbeing	Cultural wellbeing forms the basis of shared beliefs, values, customs, behaviours, and identities reflected through language, stories, visual and performing arts, ceremonies and heritage that make up our diverse communities. Cultural wellbeing is difficult to measure, as much of its value is intangible. This report outlines the various approaches to capture such intangible values, as cultural wellbeing is the driving impact of the museum and gallery sector.
9	Social wellbeing	Social wellbeing involves individuals, their families, whānau, hapū, iwi, and a range of communities being able to set goals and achieve them, such as education, physical and mental health, strength of community networks, security, and rights and freedoms. The core basis of social wellbeing is that no community feels excluded from their peers. Museums and galleries are usually open to the public, and a vehicle for inclusion.
2	Environmental wellbeing	Environmental wellbeing considers whether the natural environment can sustainably support the activities that constitute healthy community life. Areas such as fresh water, uncontaminated land, conservation of biodiversity, and addressing climate change are core values of environmental wellbeing. Heritage is as much about people's relationship with the land as it about their relationship with each other. Museums and galleries outline our historical and present relationship with what surrounds us, to both reflect and move forward. This report considers the contribution to 'place' from museums and galleries, because they often inhabit purpose-built buildings which define an area of significance to the town or city.

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1.2 Impact of COVID-19 on tourism

The Coronavirus pandemic has changed the landscape of the tourism industry. Most notable was the drop in international visitors. This impact can be seen in the Museums Aotearoa National Visitor Survey (NVS) responses pre-pandemic (2019), and during the pandemic (2021). The data was collected from museums and galleries that were members of Museums Aotearoa over six consecutive days during the end of the year's peak summer season. Data was collected through on-site surveys in both interview and self-completed forms.



This difference is consistent with higher rates of domestic tourism during pandemic conditions.

Museums Aotearoa also conducted a survey to their membership during the lockdowns of March 2020 to understand how the museums and galleries sector was faring under the unprecedented pandemic conditions and to understand how they felt about the future.

Many institutions were considering cancelling exhibitions, reducing paid staff, and increasing online presence. Long term changes included downsizing operations to reduce costs.

Some had to put their urgent collection conservation on hold, which increased the risk of damage or deterioration to the condition of their collection. Overall, the sector felt uncertain and vulnerable as the significant downturn in international tourism would impact their revenue and engagement (Museums Aoteaora, 2020).



The impact of COVID-19 on Aotearoa New Zealand's tourism industry was severe (Figure 2), with total GDP generated by the tourism industry falling by approximately \$2 billion from 2020 to 2021.

The decrease observed in GDP and employment shows that the tourism industry has struggled through the COVID-19 period, most notably from the decrease in international visitors. Even though most museums and galleries do not charge for entry, the lack of international visitation has likely impacted their revenue from ticket sales for special exhibitions and funding from central and local government, as visitation numbers are a key performance indicator for funding. The number of unique international visitors to museums and galleries in 2019 was estimated, from the International Visitors Survey (IVS), to be approximately 1.4 million. Before COVID-19, 22.2 percent of visits to museums and galleries was from international visitors. Section 7 examines these numbers in closer detail.

Making sense of the numbers

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The Ministry for Business, Innovation and Employment (MBIE) is developing a Tourism Industry Transformation Plan (ITP), which will aim to address the challenges faced by the industry from the onset of COVID-19. The first phase of the ITP will incorporate a work action plan to address the need for a developmental shift in the tourism industry. The second phase will focus on addressing environmental challenges faced by the industry (MBIE, 2022a). The bulk of the ITP will be informed by recommendations from the Tourism Futures Taskforce, which released their interim report in 2022. The Taskforce aims to develop a sustainable and equitable funding mechanism for businesses and institutions operating in the tourism industry (MBIE, 2022b). Museums and galleries contribute a significant amount of value to international and domestic tourism, most of which is provided to the public for free. It will be important that museums and galleries are not overlooked on Aotearoa New Zealand's journey towards an equitable and sustainable tourism industry.

1.3 Structure of this report

- * Section 2 outlines international and New Zealand based research which measured the value of cultural institutions
- * Section 3 explains the methodology used to analyse the data from museums and galleries
- * Section 4 introduces the BERL value models which are used to interpret the outcomes from the data analysis
- * Section 5 presents the wellbeing indicators which identify the value of the museum and gallery industry
- * Sections 6, 7, 8, and 9 present the value of museums and galleries in the dimensions of economic, cultural, social, and environmental wellbeing, respectively
- * Section 10 concludes this report.

Previous research



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Landscape with settlers, circa 1857, Taranaki, by Messenger Sisters. Purchased 1999 with New Zealand Lottery Grants Board funds. Te Papa (1999-0003-1) (*Detail*)

2.1 Cultural asset valuation

This section reviews the themes, methods, and findings of research that sought to capture value in the global museum and gallery sector. At their core, these studies aimed to paint a complete picture of the "total value" contained in the sector, and the scope of such studies has increased over the last 20 years. This section identifies the key models and methods that have been used to capture this value. The section concludes with key observations from this body of research which informs the method and approach taken by BERL to capture and quantify the value museums and galleries provide to Aotearoa New Zealand.

Common framework for valuing cultural assets

The guiding framework for understanding the typologies of cultural asset valuation originated from Mexican consultant Vecvagars' concept paper, "valuing damage and losses in cultural assets after a disaster" (2006) as shown in Figure 4. The framework has stood the test of time, as it appears in some form across research that measures cultural value (Oxford Economics, 2019; SGS Economics, 2018; Bakhishi, Fujiwara, Lawton, Mourato, & Dolan, 2015; Allan, Grimes, & Kerr, 2013). Vecvagars combined existing typologies from works which economically value use and non-use of assets to develop their framework. The following sections discuss the typologies of this framework and the methods which can be used to measure the typologies.



Value typologies

USE AND NON-USE

The best place to begin understanding how to economically value cultural assets held by museums and galleries is to differentiate between use and non-use value. Most of the time, assets are valued to the extent which they are directly useful, e.g. how much product a machine can produce, the rent price of a building, or the price of an exhibition ticket. From an economic view, such values are straightforward to obtain through observable prices from market transactions. Using cultural assets also creates indirect value, such as the tourist draw of an event bringing wider expenditure to a regional market. Measuring indirect use value is more complex, as it measures the value that might derive from the use of a good, without actually 'using' the good directly or even being in close proximity to the good. It requires more work to obtain indirect values than to obtain direct values, but it can be done with reliable and adequately detailed market data (Vecvagars, 2006).

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Non-use value is much more difficult to collect than any form of use value. If the value of an asset is not tied to its use or trade in a market, its value is derived from its very existence and protection. Cultural and environmental assets share this characteristic of holding strong intangible non-use value. There can be a multitude of reasons why an asset holds non-use value. For instance, a sacred historical site is considered valuable to people who have ties to the site, even if they have never visited or "used" the site. A person's value of a cultural site might be sourced from their spirituality, family history, or from the knowledge that their children will have the ability to visit the site sometime in the future. Another way to think of non-use value is as the inherent value of an asset.

USE VALUES

DIRECT	Economic value				
	The tradeable value of the asset. For instance, some art is useful for investment purposes				
	Labour value				
	The value of the labour time associated with the collection. Employment generated and wages paid				
	Income and revenue				
	Revenues generated from the asset, such as from exhibition ticket prices				
INDIRECT	Aesthetic value				
	Added value of beauty. Public artworks and street art improve their surroundings and can be enjoyed by everyone. This is a typical example of a public good where enjoyment is non-excludable				
	Recreational value				
	Added value of recreational use. For example, some art galleries have workshops where members can create more art in the space. Some museums have meeting rooms and hall				

NON-USE VALUES

Existence value

The existence of a heritage item is inherently valuable. Even people who have never visited the Great Wall of China still value its existence

Option value

People value having the option to engage with something, even if they never take up this option. Having options contributes to the overall vibrancy of a location and the feeling of living somewhere "happening". More options result in more reliable market prices as consumers are able to accurately reflect their preferences through their purchasing power

Bequest value

The value of passing down the ability to interact with a piece of history to descendants. This is particularly important for indigenous cultures who have historically had their assets threatened by colonial powers and conflict. Bequest value also ties strongly to native forests and endangered biodiversity. Descendants do not have to be blood related, but rather people of the future community that will connect with the cultural asset

Spiritual value

Religious or secular philosophy value, for instance in buildings of worship and texts. Spiritual value ties into enlightenment and strengthens cultural understanding between communities

Social value

The value of strengthening social ties to identity and place. Social value can encompass multiple areas. This value is tied to amplifying the voices of societies which were previously hidden or marginalised

Historical value

The innate value of maintaining an understanding and connection to the past. This value is the inverse of bequest value, where people of the present benefit from the conservation efforts of past generations

Symbolic value

The derived meaning from artwork or cultural exhibitions is a subjective experience, and so is the intended meaning of the artist and curator. The sender-to-receiver information transfer holds value as its own unique network. Symbolic value is constantly evolving with new technology and mutating zeitgeists, and can landmark important changes in society

Authenticity value

The value of originality and uniqueness, where something is unable to be replicated or repeated. The value of art and culture is inherently tied to this value

Valuation methods

In addition to constructing the typology framework, Vecvagars (2006) examined the various methods which can be used to measure non-use values to create a valuation framework which is displayed in Figure 5.



Each of these valuation methods has advantages and disadvantages which are relative to the context of cultural assets. After introducing these methods, we examine the results from international and domestic studies.

Stated preference uses surveys or experiments to discern a sample population's preferences for cultural assets. What the preferences reveal is the **consumer surplus** of visiting a collection. Consumer surplus is a core economic principle which assumes that when making a purchase, a consumer values the good at least marginally higher than the price of the good. Therefore, it is rational that the consumer proceeds to purchase the good. The most common Stated Preference valuation method is **Contingent Valuation (CV)**, which draws out a consumer's maximum **Willingness to Pay** (WTP) for access to the good through an interview or survey. Another approach is to measure the **Willingness to Accept** (WTA) the hypothetical loss of the asset. The price of the good (if applicable) is then subtracted from the WTP to discern the consumer surplus. The logic follows that the price plus the consumer surplus is the total, or actual, value of the good. Stated preference is not without its issues, which largely stem from the hypothetical nature of the data (Bakhshi, Fujiwara, Lawton, Mourato and Dolan, 2015). Notable issues include:

- » Free-rider bias: respondents might understate their value if they believe real prices might increase because of the survey
- » Asymmetrical information: respondents might not have complete information about the good they are valuing
- » Hypothetical bias: as the scenario is hypothetical, the respondents might overstate their WTP as there is no actual money on the line
- » Strategic bias: respondents might overstate their value to influence policy decisions



- Anchoring bias: respondents' values might be primed through framing of the questions
- » Environmental bias: pleasantness of location can influence response
- » Scoping effects: sample might not reflect preferences of the population.

Despite the risks, the CV method offers a starting point for collecting non-use values, particularly if the findings are consistent with secondary data and are collected in a consistent manner. The majority of museum and gallery sector value studies use the CV method.

Revealed preference attempts to capture consumer surplus through secondary price signals. For instance, a consumer might travel a long distance to visit a free exhibition. Therefore, it is assumed that the consumer is revealing the true value of the exhibition through their added costs to access the good. Other price indicators are property values in the vicinity of the asset (known as hedonic pricing). Property values around historic sites tend to be worth more which, when all other factors that contribute to property price are held constant, captures aesthetic values of a cultural asset (Vecvagars, 2006). Usually it is difficult to collect accurate revealed preference values. Trips to museums and galleries are often tied together with other travel outings, which makes the travel cost method ineffective as a price substitute. Hedonic pricing assumes heritage value is incorporated into property prices, which needs to hold all other variables that contribute to single out what, if any, effect cultural assets have on property prices. Revealed preference is also limited in capturing non-use values because it requires interaction with the asset.

Cost-based methods estimate value based on substituting, replacing, protecting, and restoring the asset. The method does not draw WTP from consumers but it assumes that consumers will pay for the cost of needed replacement or restoration. Cost-based methods only measure the potential cost damage to the asset, not the value inherent within the asset. Because of this, cost-based methods tend to undervalue assets and are skewed to value older assets at higher amounts, due to the greater maintenance costs associated with age. Vecvagars (2006) proposed an **enhanced replacement cost method** which considers benefits and values of key stakeholders of the asset by asking them to rank options of replacement through their own expertise. The New Zealand Treasury's guidelines for valuing collections (2002) recommends a similar method to be used by museums and galleries when valuing their collections.

The final method of note is **impact studies**, sometimes referred to as **Wellbeing Valuation** (WV). This method measures the correlation, or impact, of cultural assets to social and economic outcomes. Outcomes are measured in the form of indicators such as:

- » Poverty reduction
- » Employment levels
- » Gross domestic product
- » Education level
- » Social inclusion.

Impact studies take a multitude of forms, some of which are examined in the following section. Some impacts are clear to measure, such as additional jobs created and value added to the economy's output through input-output tables. Impact studies look at a wider spectrum than simply costs and inputs, but also at the outcomes in society. This approach has the ability to capture a broader picture of cultural value, however the approach is limited when the input-output-outcome relationship is complex and hard to measure. Correlation is not causation, particularly when assessing trends in an economy from a high level.

2.2 International studies

International studies can be separated into two general approaches. While most studies incorporate the values outlined in Vecvagars (2006) model, approaches to capture these values differ. The first approach is from a demand side (how visitors value collections) and the second approach is from a supply side (how the institutions value their collections). The common theme amongst research is how to best capture the non-use value of cultural assets as a final dollar value, or Benefit-Cost ratio (BCR).

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Canada study

Oxford Economics conducted a value study of Canadian galleries, libraries, archives and museums (GLAMs) in 2019. This study is a valuable place to start, as it showed many of the methods proposed by Vecvagars (2006) in action at a large scale. Through using a national survey with 2,045 Canadian participants, the authors constructed a "bottom-up" approach in measuring museum sector value. The report used:

- » Contingent Valuation method to extract non-use value through asking willingness to pay questions
- » Revealed preference method to extract consumer surplus, by asking time spent and estimating travel costs of accessing GLAMs
- » Valuing indirect educational value through calculating the present value of extra education multiplied by total educational activity hours
- » Multi-Criteria Analysis by ranking attributes of GLAMs by stakeholders and the general public
- » Impact Study measuring the wider impact of GLAMs on wellbeing outcomes
- » Final calculation of a BCR to identify the return of one dollar of investment in the sector.

Oxford Economics (2019) made a distinction between three kinds of economic value: economic welfare, economic impact, and wider benefits. Their figure for total economic value incorporated economic welfare and economic impact. Economic welfare was captured by consumer surplus and non-use value, and economic impact was captured by GDP, employment and other expenditure. The study estimated that Canada gains \$8.6 billion CAD of total value from the sector, most of which was sourced from the monetised education benefits of GLAMS to children and students.

Wider benefits were not captured in economic welfare as the authors argued they were not known to users and non-users. Wider benefits included economic spill-over effects such as informal education benefits, overall quality of life and improvements to social cohesion.

Australian study

SGS Economics (2020) conducted a similar project which measured the value of public libraries in South Australia. User values were drawn from travel costs, and a questionnaire which asked library users to estimate the costs they would incur if they were not able to access library resources. CV surveys were used to obtain WTP values from users and non-users of libraries. SGS Economics (2020) found the non-use value was almost half of the accrued user benefits of libraries.

SGS Economics found similar results using the same methods in their previous study of Victorian libraries in 2018. Net community welfare contribution was estimated to be \$848 million AUD and libraries generated \$328 million AUD in economic activity, which indicated the benefits of such institutions are concentrated in their benefits to the community, rather than the direct economic stimulus associated with their activity.

Wellbeing Valuation method

United Kingdom

A popular approach is the Wellbeing Valuation (WV) method, spearheaded by UK economist Daniel Fujiwara in 2013. The WV method is an Impact Study which estimates the value of a good by looking at how that good impacts on a person's wellbeing to find the monetary equivalent of this impact. The advantage of this method is that any dataset that measures wellbeing (including income) can be used. Fujiwara (2013) analysed the UK survey Taking Part to find the wellbeing value of visiting a museum. The study found people valued visiting museums at approximately £3,200 per year.

UK economic consultancy firm Simetrica-Jacobs (associated with Daniel Fujiwara) conducted several cultural valuation studies for the UK museum and arts sector, building on Fujiwara's 2013 research. Bakhshi, Fujiwara, Lawton, Mourato and Dolan (2015) used CV and WV methods to measure the economic value of cultural institutions in the United Kingdom. The authors used a hypothetical survey scenario where respondents were instructed to imagine that the government had ceased funding towards museums. Then, respondents indicated how much they would be willing to donate per annum to ensure the museums could continue operating.

Bakhshi et al (2015) then used an Impact Study that employed the WV method, which analysed happiness surveys to determine what the effect of visiting a cultural institution was on self-reported wellbeing. The change effect of the visitation was divided by the effect of a change in income (approximately 120 percent) to determine the monetary impact of visiting an institution.

Finally, Bakhshi et al (2015) combined the WV and CV methods together. They asked respondents directly how much monetary compensation they would require if they were not able to visit the institution for one year due to a hypothetical closure, such that their life satisfaction would remain unaffected. Compensation was only offered to those that indicated their life satisfaction would decrease. In this sense, the authors combined the hypothetical CV approach with the subjective wellbeing theories that drive the WV approach.

This study found that WTP values were higher for users of institutions than non-users, and a respondent's income was strongly correlated with higher WTP values. The authors noted that priming effects can skew WV and CV surveys, because respondents can be reminded of the importance of institutions when completing the survey which inflates their sense of wellbeing at that time. Wellbeing valuation is therefore better suited for valuing engagement with the museum and gallery sector over time, than regarding specific institutions or sub-sectors. The authors concluded that the hybrid approach is more likely to deliver plausible values.

To test the robustness of the CV method, Fujiwara, Bakhishi, Mourato, Hotopp, Lawton, Lagarde, and Davies (2018) took the average WTP values from users and non-users of four cultural institutions in the UK. The values they collected were broadly in-line with entry fees charged by similar institutions (six to seven pounds per person on average). The authors noted that the following factors correlate with a higher WTP in users and non-users of cultural institutions:

- » Income
- » Resident of city (users only)
- » Distance to museum (users only)
- » Level of cultural engagement
- Attitudes to culture (non-users only)

A recent cultural value study by Simetrica-Jacobs, Lawton, Fujiwara, Sydlowska, Lagarde, Radosevic, Arber, and van Emmerik (2021) examined how aspects of "place" were affected by heritage sites in the UK. The authors grouped sites into four categories: pre-industrial historic high street, industrial historic high street, historic library, and historic town hall. The results were then pooled into one sample to test if the findings could be transferred to one, or all, of the categories. The report found that WTP values for pre-industrial high streets and historic libraries could be transferred to historic sites with similar characteristics throughout the UK. WTP values for town halls could be transferred to other locations, but only if they were adjusted to account for demographic differences between local populations.

Austria

Other studies have explored the characteristics of value assigned to the museums and galleries sector by the public. Through an online survey, Grüb and Martin (2020) found that the public valued museums in Austria for the following reasons:

- » The creation of new knowledge and awareness
- » Development of society
- » Establishing cultural capital
- » Individual social development
- » Diverse economic contributions.

By ranking these values, Grüb and Martin (2020) found that respondents rated individual and societal values as more important than economic values. The study proposed that public value in the museum and galleries sector has to be approached as a set of interrelated values, rather than as isolated estimation values.

Supply side approach

Valuing collections

The other side of the equation is the value of the collections themselves, which is recorded by most cultural institutions for accounting purposes. The financial value of collections is usually unknown by the public, and there has been controversy towards assigning dollar values to cultural collections in principle (Ferri, Sidaway & Carnegie, 2021). In many ways, the challenge of valuing collections from an institutional perspective is similar to estimating how much the public values cultural institutions.

Italy

Imperiale, Adamo, and Luperto (2016) examine if the methods used in the Italian insurance market can shed light on valuing heritage assets. The aim of their research was to determine if the insurance value of heritage assets (the loss value) can be considered a reliable measure of a heritage value.

For their survey, Imperiale et al (2016) surveyed 88 companies and seven managers operating in the Italian fine arts and jewellery sectors. Insurance companies, through an external or internal appraiser, would assess the value of the heritage assets on the following characteristics:

- » The auction price (23%)
- » Preservation status (18%)
- Author reputation (14%)
- » Area/volume (8%)
- » Location conditions (4%)
- » Quantity, antiquity, attractiveness, cadastral value, and "other" made up the remaining parameters.

Interviews with sector managers indicated that the preferred method of appraisal was to follow a tailor-made procedure using the advice of a team of professionals to quantify value on a case-by-case basis. The valuation approaches included the consideration of:

- » Authenticity by assessing existence value and history of its preservation
- » Commercial value use of valuation provided by auction prices, gallery prices and author reputation
- » Historical value focus on historical significance and importance, with consideration of costs of restoration, repair, and replacement. Also includes depreciation value
- » Cultural value affinity of the item at a given historical and cultural context. Includes educational and scientific value in its use
- » Emotional value intensity of the sentimental relationship between stakeholders and the item. Restoration efforts can be used as an indicator.
- » Financial settlement the capability for the asset to be sold in a market, in other words, an assessment of potential market demand for the item.

Imperiale et al (2016) concluded that while insurance estimates were useful in obtaining an indicative value for an asset, an insurance assessment does not entirely capture all of the non-use value of an asset, and does not account for future use of the asset. Because fine arts insurance was not a rated field in Italy, there were no reliable benchmarks for quality and consistency in attaining cultural asset value.

Australia

Ferri, Sidaway, and Carnegie (2021) provided a longitudinal approach to the valuation of heritage assets. Their report conducted a qualitative analysis of Australian heritage institutions' annual reports and auditing notes from 1992 to 2021 to construct the evolution of heritage financial accounting practices for each institution. The authors tested for a "paradox" in valuation attitudes which occurs when notes to the financial reports account for a process of revision to valuation procedures, when changes to collection value were justified in the review. Often changes to valuation in reporting was due to disagreements between accounting professionals and heritage professionals as to what was an appropriate approach to value a heritage item. Ferri et al (2021) identified four phases in the valuation narrative:

- » The first phase of valuation was identified in the 1992-2002 period, where institutions began to contemplate and attempt to value their collections. Many partial valuations were present, and some institutions noted the tension surrounding placing a value on heritage, particularly between accounting professionals and heritage professionals (Ferri et al, 2021)
- » The second phase (2002-2010) noted that tensions between accounting and heritage professions became latent. Revaluation slowed down, as initial values were accepted as given
- » The third phase (2011-2016) opened the debate again, and Ferri et al (2021) noted the first instances of "write downs", where evaluators conducted a new assessment of collections and declared that the value was less than what was previously estimated.
- » The fourth phase (2017-2019) outlined a mutual adjustment: directors of Australian institutions formed a group to develop a national guidance framework to provide consistency to valuation in the sector. As it stands, it was not clear if the new framework has drastically changed how institutions approach valuing their collections.

The takeaway from efforts to value culture show that ultimately, value can only be estimated. While Aotearoa New Zealand has many institutions for the country's size, the richness of data available from the museums and galleries sector, provided by Museums Aoteaora, allows for a broader picture. The following section outlines what has previously been examined in the museum sector of Aotearoa, which leads to our approach of analysing the value of museums and galleries as an ecosystem, informed by the institutions' understanding of their own value and activities.

2.3 Aotearoa New Zealand focused research

The last significant research into the museum and galleries sector was undertaken by Museums Aotearoa in 2018. The research aimed to capture the value museums, art galleries and heritage properties contribute to New Zealand by collating available revenue, employment, visitor data, and Gross Domestic Product (GDP) contributions for large, medium, small, and micro institutions. Then, the characteristics of non-tangible value of collections were examined from the National Visitor Survey (NVS) to articulate common benefits collections provide to the public, and which of these benefits are prioritised by respondents.

This research concluded that:

- » Admission to most museums, art galleries and heritage properties was free, although most respondents charged for special exhibitions, and a third of respondents suggested voluntary donations or koha to visitors as an admission fee
- » New Zealand museums, galleries, and heritage properties generated a total revenue of just over \$200 million NZD. A quarter of this revenue was self-generated, and the rest was provided by local and central government
- » Over 11 million visits to galleries, museums and heritage properties were reported in 2018
 - Over three quarters of visits were from Aotearoa New Zealanders, and a quarter were international visitors. Locals from the town or region made up half of total visits

• Large collections received 5.8 million annual visits, 25 percent of which were interregional, and 24 percent were international

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- Medium collections received 3 million annual visits, 17 percent of which were interregional, and 15 percent were international
- Small collections received 2 million annual visits, 31 percent of which were interregional, and 27 percent were international
- Micro collections received 292,000 visits, 48 percent of which were inter-regional, and 35 percent were international.

The second part of the Museums Aotearoa report (2018) research explored the characteristics of the value of collections to communities. The report grouped the responses under themes to draw its conclusions. 95 percent of the 2,000 plus respondents to the 2018 National Visitor Survey (NVS) believed their visit to a collection benefited them in some way. 76 percent of respondents identified multiple benefits.

The following benefits are listed in order of priority:

- » Learning new things
- » Gaining a new or deeper understanding of the world and events
- » Providing opportunities for reflection
- » Providing relaxation and rejuvenation
- » Providing a different perspective
- » Connecting to identity
- » Arousing or inspiring an interest
- » Enabling or reinforcing social connection
- » Commitment to social or environmental issues
- » Clarifying values or belief.

Finally, the Museums Aotearoa report (2018) identified areas for improvement and attention in the sector. Areas included boosting advocacy and communication to communities, improving professional practice and retaining talent, growing manaakitanga (ethics of care) and community engagement, creating robust action plans for future scenarios, and building new funding streams.

Value of libraries

Hutt City Council conducted a return-on-investment analysis for public libraries in the Hutt City district, located in the Wellington region, in 2015. To develop an average benefit-cost ratio (BCR) for one extra dollar of investment, the analysis used:

- » Travel cost method (time spent travelling to, and at, the library)
- » Financial savings (respondents' estimated cost if they had to pay for library services from private providers)
- » Willingness to Pay (CV method).

Responses were obtained through a mail survey which could also be completed online. The total sample size was 464 responses. The results were varied:

» The travel cost BCR equalled \$1.23 of benefit for every \$1 spent

- » Financial savings BCR equalled \$2.4 of benefit
- » WTP equalled 0.69 for every \$1 spent
- » Average BCR equalled \$1.44 of benefit for every \$1 spent.

The results highlighted the inconsistencies between perceived and actual benefits of using libraries. Interestingly, the WTP of users was \$49.46, while average non-user WTP was \$69. Only 11 percent of respondents of the survey were non-users, so the higher WTP of non-users could be attributed to the smaller sample size (Hutt City Council, 2015). The strongest BCR came from financial savings, which is the impact of libraries on financial wellbeing. The discrepancy between financial costs and WTP suggests respondents did not consider, or could not quantify, all benefits when estimating a value.

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2.4 Māori frameworks for value

Māori are indigeonous to Aotearoa New Zealand and have a distinct language, culture, traditions, and conceptualisation of the world. Mika, Dell, Newth, & Houkamau (2022) identified that there were broad principles of value that linked indigenous cultures, which were also present in te ao Māori (the Māori worldview). The first principle was that everything is connected with everything else, and these connections are valued. The second principle was of balance, where reciprocity was valued and maintained through mutual exchange. The third principle was of the transfer of energy from one form to another, which represented the circular flow of time, for instance the cycle of a forest, or the transfer of knowledge from ancestor to descendant.

Colonial paradigms of value contained significant limitations and bias towards colonial systems. The classic western economic idea of value has been tied to how much enjoyment a consumer extracts out of a good with monetary value (known as hedonistic value). This concept of hedonistic value is narrowed in two ways: value-in-use (exploitation), and value-in-exchange (trade), with the goal of maximising one's own sense of value (Mika et al, 2022).

Utilitarian approaches to value do not coherently align with cultural assets and activities, as can be seen previously in this section, when attempts to quantify value as a clean cost-benefit figure required capturing a plethora of non-use values which were difficult, to impossible, to price. Particulary when the cultural assets in question relate to indigineous history, culture, and knowledge, the use of purely colonial approaches to value is problematic, because colonial systems have historically prioritised colonial interests over indigenous interests. Throughout the 1800-1900s, colonial collectors valued indigenous items for international souvenir markets, which stripped such items of their original context and intention. It has been argued that most colonists assigned value to indigenous items under the belief that the items were artifacts of 'vanishing' cultures under modernity, so the objects would appear exotic and rare overseas to attract a high market price (Harrison, 2006). Therefore, when conceptualising cultural value in Aoteaora, given the context of the country's colonial history, Māori concepts of value are better suited to inform which values should be captured and measured.

The intangibility and encompassing nature of te ao Māori is signposted by the fact that there is no Māori word equivalent to 'value'. What comes closest is 'taonga' or 'taonga tuku iho' which translates to 'treasures handed down from one generation to another'. Aotearoa New Zealand's national museum, Te Papa Tongarewa, also translates to "container of treasures", which exemplifies the purpose of the museums and galleries sector.

Mika et al (2022) proposed the concept of Manahau as a first step towards a Māori theory of value. 'Mana' is status, prestige and credibility which manifests as behaviour which maintains balance between communities and individuals. 'Hau' is the intrinsic spirit of gift exhange and the ethic of generousity imbued within taonga (Mika et al, 2022). When put

together, Manahau is what Māori entreprenuers use to negotiate cultural and commerical imperatives to achieve wellbeing. This concept of value demands the consideration of a whole picture of outcomes, rather than emphasising parts of a whole (Hēnare, 2021).

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Another framework was proposed by Wolfgramm, Spiller, Henry, and Pouwhare (2020) called Ngā hono ōhanga oranga – which describes Māori relational economies of wellbeing. Wolfgramm et al's framework incorporates the following concepts:

- » Ngā hono: the principle of linking, which informs the basis of relational, multidimensional wellbeing
- » Öhanga: the ecosystem of identities which drive ohaoha, the Māori interpetation of economic activity
- » Ora: the value-driven transformative "superstructure", ultimately to to be well, healthy, and flourishing. Flourishing communities and societies are reflected in mauri ora
- » Whakapapa: relational linkages of individial and community identity, which is both present and historical.

These concepts were also described in The Treasury's living standards approach to measuring wellbeing, which was informed by the He Ara Waiora framework. The framework's latest edition is displayed in Figure 6:



The Treasury's approach was developed to differentiate between individual and collective wellbeing, and to differentiate between institutions and governance. The first change recognises the inherent mana of the individual and the mana of the community. Mana in this context is relational, as it is influenced by external effects of economic behaviour (externalities), and collective action. The second change examines the role of institutions and how they influence behaviour and outcomes for the community (Te Puni Kōkiri and the Treasury, 2019). Both of these changes allow for museums and galleries to be captured in the framework, because cultural institutions provide public access to history, and uphold, restore, and recognise the mana of individuals and communities.

Figure 6 Ngā hono ōhanga oranga

Source: The Treasury, 2022. The inclusion of Tiakitanga is unconfirmed at the time of writing.

2.5 Key observations from the literature review

The museums and galleries sector is an ecosystem of activity, not a factory

The value of the museums and galleries sector lies in its impact on society, some of which is experienced or noticed by the public, and some of which goes unseen. It is evident from the literature review that the total impact of museums and galleries should be derived from not only the collections themselves but also the activity which upholds their protection and conservation.

This is an ecosystem where some areas are priced, and most are not priced. The sector should be thought of as a "stock", which consistently grows with activities around it (the flow). Simply asking the public how much they would pay to keep it does not adequately value this stock and the ecosystem around it.

'Culture' is not a product

The literature review provided a consistent view that the value of museums and galleries is not entirely captured by revenue, profits, and employment. Most of the activity does not occur in a traditional sense of a market that can be measured and valued.

Information is asymmetrical

One of the measures that has been used in various places, is the concept of willingnessto-pay. Willingness-to-pay surveys can only capture what the sample values, based on the information which respondents possess. In simple terms, people only know museums' and art galleries' collections and activities at face value. Willingness to pay assumes ability to pay, which means the method is likely to prioritise voices with higher incomes.

The value of culture cannot be captured by a single number, nor should it be

What culture means to people is highly subjective. This also varies from country to country, as evident through the literature review. Value, whether estimated by the public or institutions, can only be an estimation. Often, these estimations are conservative, and favour items which can be priced in markets. As the total value cannot be captured cleanly, a BCR is likely to understate the value of the sector. Similarly, if all the value was captured in a BCR, it would be so high (due to the number of priceless items) that it would be incomparable to ratios from other sectors.

Indigenous perspectives have not been considered by most researchers

There is a growing, but still limited, body of evidence on indigenous perspectives. The definition of cultural value is euro-centric, which is highlighted by the fact that non-use value does not translate easily into a number. Māori approaches to value consider use and non-use value, and have done so since before colonisation. Despite this, economic frameworks to value culture attempt to quantify the value of culture into market value, which is drawn from exploitation, production, and trade.

Understanding the museums and galleries sector

Image credits

berl

Gerrit Dou, The Physician (detail), 1653. Oil on copper. Collection of Christchurch Art Gallery Te Puna o Waiwhetū, Heathcote Helmore bequest, 1965. *(Detail)*

Understanding the museums and galleries sector

The methodology was designed to answer the question "what is the value of museums and galleries to Aotearoa New Zealand?" To answer this question, the size and composition of the sector needed to be understood. The survey results from the Museums Aotearoa surveys conducted in 2012, 2014, and 2017 were used to understand the sector. This data formed the baseline for populating indicators for each of the wellbeings.

3.1 Museum Sector Survey

In 2012, 2014, and 2017, Museums Aotearoa surveyed a selection of museums and art galleries from across the sector in the Museum Sector Survey (MSS). In total, 186 unique museums and art galleries were surveyed across these three time periods. Across all three surveys, Museums Aotearoa asked these 186 museums and art galleries a wide variety of questions which included

- * the value of their collection
- * the size of their collection
- * the value of their building if owned by the museum or art gallery
- * the total number of people employed
- * the total number of volunteers
- * their annual operating expenses.

These questions provided the variables needed to estimate the overall value of collections, the overall value of buildings, the overall collection size, and total employment and volunteers for the museums and art galleries sector.

The Aotearoa New Zealand museum and art gallery sector was estimated to have a total of 476 museums and art galleries as of 2022 (Museums Aotearoa, 2022). The 186 surveyed museums and art galleries represented approximately 40 percent of the total number of museums and art galleries within the sector. For the purposes of this report, the dataset of surveyed museums and art galleries contained a large enough sample size that it could be considered representative of the sector. This provided a high level of confidence that any results arising from the analysis of the survey findings will be representative of the sector.

Within the MSS dataset, the 186 museums and art galleries were split into five size categories, ranging from the Museum of New Zealand Te Papa Tongarewa, to large, medium, small and micro. Because of its unique size, the Museum of New Zealand Te Papa Tongarewa was assigned its own size category. Separating the Museum of New Zealand Te Papa Tongarewa from other large museums and art galleries was done in order to ensure it did not create a bias in estimates that determined the overall results for large museums and art galleries.

3.2 Grouping museums and galleries into size

Using the data available in the Museums Aotearoa dataset, the categories in the five stated sizes were defined. The categories included revenue, employment, volunteers, and collection size, as follows:



Creating five size profiles enabled all the museums and art galleries within the surveyed dataset, that had not already been defined, to be classified. More importantly, these size profiles enabled accurate estimates for the overall collection value, building value, collection size, and total employment and volunteers for the sector. These size profiles provided a more robust approach for estimating these variables for the museums and art galleries that are not covered in the Museums Aotearoa dataset.

Categorising museums and galleries into the size profiles

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The overall number of museums and art galleries in each of the size categories across the entire sector needed to be estimated. The Museum of New Zealand Te Papa Tongarewa had a single museum in its size category. For large museums, 90 percent of all large museums were included in the Museums Aotearoa dataset.

This information enabled the total number of large museums, given that 90 percent were already included in the dataset, to be estimated. With 17 large museums and art galleries already included in the dataset, it could be calculated that two large museums and art galleries were missing from the dataset. Overall, there were a total of 19 large museums and art galleries in this category, alongside the Museum of New Zealand Te Papa Tongarewa.

This left 456 museums and art galleries remaining in the overall sector. These remaining museums and art galleries were allocated to either medium, small or micro size profiles. To determine the total number in each category, it was assumed that the ratio of medium, small and micro museums and art galleries in the overall sector would be consistent with the ratio of medium, small and micro museums in the surveyed dataset. Using this assumption, the following number of museums and art galleries was estimated by size category:

Museum of New Zealand Te Papa Tongarewa	
Large	
Medium	
Small	
Micro	

Estimating the value of collections, buildings, employment and volunteering

With the overall number of museums and art galleries in each size category within the overall sector now determined, the information in the MSS dataset could be used to estimate the overall value of collections, the overall value of buildings, total employment, and the number of volunteers for the sector, using a two-step approach. The first step was to update all known collection values and building values to a 2021 value. While the Museum of New Zealand Te Papa Tongarewa 2021 annual report could be accessed to get an accurate collection and building value, this approach was not possible for the other 475 museums and art galleries, due to limits on the availability of up-to-date annual report information for each museum and art gallery, and the limits of the amount of time required to manually collect and assess that number of annual reports.

A randomised approach was used to select at least five museums and art galleries from each of the large, medium, small and micro size categories from the dataset of 186 museums and art galleries. For each of the selected museums and art galleries, their 2012, 2014, 2017, and 2021 annual reports were obtained from either the charities register or from their own websites. If any selected museum or art gallery was missing any of the annual reports, or their annual reports could not be found, then a new museum or art gallery was randomly selected from the available list. In addition, if the annual reports did not have a collection or building value, they were eliminated. This process continued until there were collection and building values for at least five museums and art galleries, for each of the large, medium, small and micro size categories. Using the data from the annual reports, an average collection and building value for each size of the four size categories (large, medium, small and micro) was created for 2012, 2014, 2017 and 2021. This enabled the average percentage change between 2012 and 2021, 2014 and 2021, and 2017 and 2021 for each size category to be calculated, for both variables. The percentage changes for each variable were used to update the collection and building values presented in the MSS dataset to the 2021 year.

In the second step of this approach, the updated 2021 collection and building values for each size category was used to calculate the average collection value and building value in 2021 for the museums or art gallery of that size. Using average collection and building values, the museums and art galleries within each size category that did not have a known collection or building value were assigned the average value of that size category. Once this was done, the collection and building values by each size category could be aggregated to estimate the overall collection and building value of the sector.

Overall, this methodology provided an estimated total collection value of \$3.6 billion as of 2021, with the Museum of New Zealand Te Papa Tongarewa contributing almost 30 percent of that value with a collection value of \$1 billion. In addition, the overall building value of the sector was estimated to be \$2.0 billion as of 2021, with the Museum of New Zealand Te Papa Tongarewa contributing 15 percent of that value with a building valued at \$305 million.

To determine overall collection size, visitor, volunteer and employment numbers for the sector, the second step of the approach used to determine collection and building values was repeated. Effectively determining the averages from the dataset, and then applying that average to the museums and art galleries within each size category where the values were unknown. In order to do this, the collection size, as well as the level of museum and art gallery employment and volunteer numbers, was assumed to remain relatively stable over time. It was assumed that a museum or art gallery employed the same number of people, and had the same number of volunteers, in 2021 as in 2012, 2014 or 2017. Analysis of annual employee counts data from Statistics New Zealand for the museum operations industry showed that employee numbers between 2012 and 2021 increased by a small amount, but otherwise remained relatively stable across New Zealand. Visitor numbers were kept as 2018 estimates, due to the significant effect of COVID-19 on international and domestic tourism.

Estimating the value of formal education visits

To calculate the education value added by museums and galleries, the methodology used to calculate the same value for Canadian museums and galleries in 2019 by Oxford Economics was applied in this report.

The value added by education was based on the assumption that when a person spends more time in education, they will possess a higher skill level, which is reflected in higher future wages over their working life. This assumption was supported by a report released by Education Counts New Zealand in 2020.

To find the value of a student's visit to a museum or gallery, the assumption was made that a day spent at the museum or gallery was equivalent to an extra day of formal education. To draw out the value of an extra education day, the difference in lifetime earnings from spending an extra year in school was calculated. The uplift from completing NCEA level 2, was compared to only completing NCEA level 1. The data was sourced from the Education Counts report, Education and Earnings (2020). With a discount rate of five percent, which is recommended by Treasury in calculating Net Present Value, this added value of an additional education year over a working life of 45 years was approximately \$131,000.

As it was not known if a student's visit to a museum or gallery was for a full day, or for part of a day, it was assumed that all students visited for a half day to generate a conservative number. The number of half days in the New Zealand school year was 386. The value of an extra half day of education was therefore \$131,000 divided by 386, or \$340. Because the uplift in wages from an extra year in schooling was fuelled by the cumulative effect of students' total time in schooling, this value was divided by 12.5 (the average number of years a student spends in primary and secondary schooling in New Zealand). This also reflects the assumption that a student will likely visit and receive benefits from museums and galleries at least once a year for every school year, across all school years, rather than receiving the full education value every time the student visits a museum or art gallery. So, the average education value added by a student's half day visit to a museum or gallery was approximately \$26.

From the 2018 MSS, the total number of student visits for 2018 was estimated to have been approximately 906,000. Given that in 2021, there were 826,572 students enrolled in primary and secondary education, it is likely that there were repeat student visitors. So, applying the value of a half day visit granted a total education value, through uplifts in future incomes, of approximately \$24.6 million per year from formal student visits to museums and galleries.

Treasury guidelines on valuing collections

For the collections that have been valued, this report assumed that the institution follows the Treasury guidelines on valuing collections. The New Zealand Treasury (2002) outlined the best practice methods for valuing cultural and heritage assets. Assets included, but were not limited to:

- » General and heritage collections in libraries
- » Museum collections
- » Art gallery collections
- » Historical documents, monuments, and assets held in local authority trusts.

The general process follows:

- » If an active market existed for the same asset or a similar asset, market prices can be used to value the asset
- » If there was no active market, value should be determined using other market-based evidence
- » If there was no market-based evidence, depreciated replacement cost (DRC) should be used. If the asset had an indefinite life (e.g. a fossil or antique) no depreciation charge should be applied to the valuation.

FAIR VALUE

Fair value for an asset could be located in its active market, if such a market existed. If a market for a functionally similar asset existed, this secondary active market could be used as a reference price in valuing the asset. A final market mechanism was recent auction prices and dealer catalogues.

Depreciated Replacement Cost (DRC) was the most appropriate basis for determining fair value when a reliable determination is unable to be made for the item in a market. An important aspect of DRC valuation, particularly in the area of culture and heritage, was that the purpose for which the items were held played into how the item should be valued. If the item served a purely informational purpose, then the cost of acquiring a replacement item would be appropriate. However, if the item was from a specific location or period, or the activity of acquiring another would incur significant time and expense, the item's DRC value would be much higher as there was no appropriate substitute for its replacement. This concept could also be applied to building assets. Unrealisable, or irreplaceable items, such as the Treaty of Waitangi, should be given a financial value, even if it was a best estimate. Only in 'impossible to define' cases should no value be used, and such instances should be noted in the collection's financial statement.

Depreciation was also applied on a case-by-case basis. For most heritage, cultural, and artistic items, their useful life was indefinite if they were properly cared for. If physical assets could be replaced by digital assets, the useful life of the physical asset may be reduced. It was noted that collections should not be blanket exemplified from depreciation.

The most cost-effective method was to value appropriate samples of a collection, then extrapolate the sample valuation to the whole value of the collection. Sampling should be done through selecting high value items to be individually valued, then, following a strict sampling methodology, the remainder of the collection under the identified value threshold can be estimated. As collections are rarely homogenous, stratified sampling should be used for groups and sub-groups of assets.

Te Papa Tongarewa valuation approach and case study

Te Papa Tongarewa is Aotearoa New Zealand's national museum. Before the pandemic, Te Papa was the 17th most visited museum in the world. The museum has an extensive collection of cultural assets, and facilitates a wide range of activities that support artists, historians, and other collections around the country.

To value their collection in 2021, Te Papa Tongarewa used the following approaches which were all undertaken by an independent valuer:

- » Art based on market values from auctions, and for numerous items on a sample basis
- » Library combination of market values and replacement cost across samples
- » History market values where possible. Irreplaceable items are compared to similar items
- » Mātauranga Māori based on domestic sales prices from auction catalogues
- » Natural history valued in lots based on replacement costs. Where applicable, auction catalogues were also used
- » Philatelic based on reputable stamp catalogues
- » Pacific and international based on local and international sales from auction and dealer catalogues
- » Photography based on auction and dealers catalogues.

Te Papa Tongarewa also undertakes reparation activities with iwi. Reparation involves returning taonga and ancestors, such as Toi moko, that were stolen by European colonists, back to iwi, whānau, and hapū. Te Papa Tongarewa recognises its responsibilities under Te Tiriti o Waitangi (Treaty of Waitangi), to support iwi and hapū with cultural development, such as assisting with mana taonga loan requests. Stolen taonga that were part of the Ko Rongowhakaata exhibition, which included a marae (meeting house), have been returned over the last few years, with significant returns being made in 2022.

BERL ecosystem model

Image credits

berl

Strigops habroptilus Collection of Auckland Museum Tāmaki Paenga Hira. : LB4168

4.1 Expanded Vecvagars model

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BERL's model, presented in Figure 7, expands Vecvagars' (2006) model to include the activities undertaken by museums and galleries. This model frames the "ecosystem" in which museums and galleries operate. "Value of cultural assets" signifies the stock value of the sector. The value of the stock is derived from the values presented by Vecvagars, and expanded by values identified by BERL. The stock, however, does not exist in isolation. Various activities are required to maintain the value of the stock, such as conservation. Other activities, for example artist workshops and education programmes, lead to projects that add more assets to the stock. What this model demonstrates is that the value of the sector is broad and far-reaching, and can only be understood through quantifying where these assets are concentrated, and where these activities are happening.

Figure 7 BERL ecosystem model

Museums and Galleries Sector



4.2 Wellbeing model

The outcome of the ecosystem is value delivered to the four dimensions of wellbeing. Figure 8 presents the indicators that represent the value of the museums and galleries sector under the four wellbeings. These indicators are measurable, and presented in the remaining sections of this report.

Figure 8 BERL wellbeing indicators



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Value of museums and galleries













Image credits

Case, card. Collection of Auckland Museum Tamaki Paenga Hira, 1937.203, 23495 (*Detail*)

Value of museums and galleries

5.1 Wellbeing indicators

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The following four sections present the indicators which highlight the value of museums and galleries in Aotearoa New Zealand. The indicators were derived from measurable values from the BERL ecosystem model, which is explained in section 4.1 of this report. The indicators are:



Economic value of Museums and Galleries



Image credits

Gift of Ministry of Finance, Sir Robert Muldoon, 1967, Collection of Auckland Museum, Tāmaki Paenga Hira, 1967.188.1.6

06 Economic value of Museums and Galleries

Economic wellbeing looks to whether the economy can generate the employment and wealth necessary to provide the requirements that make for social wellbeing, such as financial security and equity of opportunity. Indicators for economic wellbeing are based in market-sourced statistics, for example GDP and employment.

.....

Snapshot 3,365 Full time equivalent (FTE) employees \$6.4 million Combined average revenue \$3.3 million Combined average expenditure \$272 million GDP generated for 2021 by the museums and galleries sector

Museum Operation

6.1 Gross domestic product

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The following data presented in Table 1 and 2 shows high-level figures for museum operation and the tourism industry, which was sourced from Statistics New Zealand (Stats NZ).

	•	•••••	
	FTEs	GDP(\$m)	AUTs
2000	1,349	168	183
2001	1,398	168	171
2002	1,700	198	198
2003	1,615	200	195
2004	1,646	234	198
2005	1,682	235	216
2006	1,899	247	225
2007	1,871	238	219
2008	1,855	230	222
2009	2,017	220	234
2010	2,300	242	240
2011	2,352	237	237
2012	2,272	229	228
2013	2,146	236	225
2014	2,187	240	210
2015	2,049	238	222
2016	2,370	280	228
2017	2,714	295	237
2018	2,730	324	234
2019	2,894	329	246
2020	2,852	316	246
2021	2,923	272	231
Per annum growth (%)	3.8	2.3	1.1

In addition to GDP, the number of FTEs and business units (AUTs) was also estimated for the sector. From the data sources from the MSS, this report estimates the number of FTEs to be higher than Stats NZ's estimate. This is because the number of business units is higher than 231, due to the number of small, micro, and informal institutions indicating that the total number is upwards of 476 institutions. Table 1 presents the growth of museum operation from 2000 to 2021. GDP grew by an average 2.3 percent per annum, and employment grew by 3.8 percent per annum on average.

Table 1Museum operationFTEs, GDP, and AUTs

06

Source: Stats NZ.

6.2 Employment

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Statistics NZ estimated the total FTEs employed by the sector was 2,923 in 2021. After analysing the results from the MSS, this report estimates museums and galleries employ closer to 3,365 FTEs.

This figure consists of 2,358 full time employees, and 3,051 part-time (including casual and fixed term) employees.



6.3 Operating expenditure

The average operating expenditure was \$2.7 million for large institutions, \$537,000 for medium institutions, \$46,000 for small institutions, and \$2,000 for micro institutions.

The range observed in operating expenditure was significant for each size of institution. For instance, the maximum operating expenditure for large institutions was \$14.1 million, while the minimum expenditure was \$142,000.

Expenditure pays for the activities which occur in and around the sector, for example supporting employees, contractors, artists, and conservation, restoration, and reparation activities. A key response to the COVID-19 pandemic was for institutions to direct expenditure into investments where possible, in order to mitigate the decrease in visitor revenue (Museums Aotearoa, 2020). Therefore, this report does not estimate the total expenditure of the sector, as the response to the pandemic varies significantly between institutions.

6.4 Revenue

The estimated average revenue for large museums and galleries for 2021 was \$4 million, \$1.5 million for medium institutions, \$887,000 for small institutions, and \$52,000 for micro institutions.

Funding from central and local government accounted for an average of 68 percent of revenue for large institutions, 94 percent for medium institutions, 45 percent for small institutions, and 11 percent for micro institutions.

6.5 Net operating income

Net operating income is revenue minus operating expenditure. While this might not be "profit" in the classical sense, as most institutions do not charge for most of their services, surplus allows for reinvestment and improvements to collections, their storage, and displays. It is important to note that over the 2021 period, some institutions were able to access additional COVID-19 support from central government.

- » The average net operating income for large institutions was \$89,000, which indicates a marginal surplus considering the scale of large institutions' operations
- » For medium institutions, the net operating income was a \$277,000 deficit. Small institutions saw a relatively large surplus of \$103,000
- » Finally, micro institutions had a surplus of \$26,000

These estimates indicate that medium institutions were in the most precarious position in terms of funding their operations. Medium sized institutions are large enough to require full-time paid staff and regular expenditure on asset maintenance, compared to small and micro institutions which generally rely on volunteers and part-time employees for most of their operations. However, medium institutions are not big enough to attract the high-profile ticketed events and government funding which large institutions can attract.

Cultural value of Museums and Galleries



Image credits

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Unknown; carver; 19th Century, Tauihu (canoe prow), Te Papa. ME000187

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Cultural value of Museums and Galleries

Cultural wellbeing forms the basis of shared beliefs, values, customs, behaviours, and identities reflected through the language, stories, visual and performing arts, ceremonies and heritage that make up our diverse communities. Cultural wellbeing is the driving value of the museums and galleries sector, because museums and galleries maintain the stock of Aotearoa New Zealand's cultural assets, and therefore safeguard a significant proportion of the country's cultural history.

Snapshot

07

Visits to museums and galleries across Aotearoa New Zealand

Collection size - Number of objects held in museum and gallery collections

Collection value

17.5 million

45 million

\$3.6 billion

Percentage of museums and galleries valued < 10 % of their collection

50%

Percentage of museums and galleries were engaging with iwi

Percentage of museums and galleries valued < 90 % of their collection

Percentage of museums

and galleries contained

a function space

(Cultural facilities)

15%

32%

berl

7.1 Visitors to museums and galleries

Approximately 17.5 million visits were made to museums and galleries in 2018.

These visits were recorded both manually and electronically from participating museums and galleries, then estimated for all museums and galleries. These visits are not unique visitors; therefore, this number represents people being able to visit multiple museums, multiple times. These estimates are from 2018 numbers, so reflect visitation when international tourism was widespread in Aotearoa New Zealand, and there were no containment measures restricting domestic tourism.

Museum of New Zealand Te Papa Tongarewa

1.4 million

Estimated No. of Visits

.....

Large museums and art galleries

5.5 million

Estimated No. of Visits

290,000

.....

Average visits per institution

Average visits per institution

.....

Medium museums and art galleries

6.2 million

Estimated No. of Visits

Small museums and art galleries

4.1 million

Estimated No. of Visits

Micro museums and art galleries

340,000

Estimated No. of Visits

21,000

87,000

Average visits per institution

Average visits per institution

000 1,766

Of these visits, 22.2 percent were from international visitors, and 77.8 percent were from domestic visitors.

7.2 International tourism

International visitation to museums and galleries was measured by the International Visitors Survey (IVS), which asked international visitors leaving New Zealand if they had visited a museum or gallery on their journey. Since the onset of COVID-19 in early 2020, the IVS has not been used due to the virtual disappearance of international tourism. The data up to 2019 provides insight into what international visitation looked like in the sector, and the data is useful to paint expectations of what visitation could look like when international tourism returns to Aotearoa New Zealand.

- » There were an estimated 3.9 million visits to museums and galleries, from approximately 1.4 million unique international visitors in 2018
- » The most visited institution was the National Museum of Aotearoa New Zealand Te Papa o Tongarewa, followed by Auckland Museum
- » Canterbury Museum in Christchurch was the most popular institution in Te Waipounamu, Aotearoa New Zealand's South Island
- » Country of origin data showed that visitors from Australia, Europe, and China were the most frequent visitors to museums and galleries. Visitors to Auckland museums and galleries were observed in greater numbers than to institutions further south.

7.3 Collection size

At least 45 million objects are held in museums and galleries. Each of these objects signify a piece of New Zealand's cultural history. BERL did not calculate an average price per item, as the relative value varied too greatly between institutions. For instance, one small institution had only ten items, but these were all steam trains, while another lists thousands of items, but the majority of these were books. Therefore, BERL calculated the average value of collections for large (excluding Te Papa), medium, small, and micro institutions. These values are drawn from what the institutions reported in the 2018 MSS and their 2021 financial reports.

Based on the estimated total of 45 million objects in Aotearoa New Zealand galleries and museums in 2021, there were:

- » 2 million of these objects in the collection held at Te Papa
- » 13 million objects held at large institutions, with an average of 700,000 objects
- » 24 million objects held at medium institutions, with an average of 343,000 objects
- » 4 million objects held at small institutions, with an average of 20,000 objects
- » 1.3 million objects held at micro institutions, with an average of 6,800 thousand objects.

7.4 Valuation status

There were observable trends in what proportions of collections were valued across the sizes of institutions. There were two key groups. 49 percent of institutions had valued between 0 and 9 percent of their collection, and 15 percent of institutions had valued between 80 and 89 percent of their collections. The remainder were within this range, or did not respond to the survey question.

- » Te Papa had valued between 80 and 89 percent of their collection
- » 29 percent of large institutions had valued under 10 percent of their collections, and 41 percent of large institutions had valued up to 89 percent of their collections
- » 42 percent of medium institutions had valued under 10 percent of their collections, and 27 percent had valued up to 89 percent of their collections
- » 42 percent of small institutions had valued under 10 percent of their collection, and 18 percent had valued up to 89 percent of their collection. seven percent had valued up to 79 percent of their collection
- » 63 percent of micro institutions had valued under 10 percent of their collections. 3 percent had valued up to 19 percent, and only three percent had valued more than 20 percent of their collection. The remainder did not answer the question.

The numbers indicate that the smaller the institution is, the less likely they are to have valued a large proportion of their collection. A significant proportion of large and medium institutions had not valued most of their collection as well. Comments on the MSS indicate that capability to accurately document and value collections is limited, particularly for smaller museums and galleries.

7.5 Collection value

The total value of museum and art gallery collections in Aotearoa New Zealand was \$3.6 billion for 2021. Due to the proportion of collections that have been valued as mentioned in Section 8.2, this figure should be taken as a conservative estimate.

- » \$1 billion of this value was attributed to the collection held at Te Papa
- » \$1.6 billion was attributed to collections at large institutions, which had an average value of \$83 million
- » \$436 million was attributed to medium institutions, which had an average value of \$6 million
- » \$378 million was attributed to small institutions, which had an average value of \$1.9 million
- » \$182 million was attributed to micro institutions, which had an average value of \$1 million.

7.6 Cultural collection typologies

The cultural value of collections is intertwined with the context that the items are connected to. The proportion of institutions which hold collections relating to typologies is described below. Respondents were able to record as many of the typologies as were relevant to them, so the percentages do not add up to 100 percent. The collection value outlined above is not exactly representative of the proportions below, but rather the total collection value is constructed from various combinations of collection typologies across institutions.

Māori

42 percent of museums and galleries held collections relating to Māori, which can be broken down into 72 percent of large institutions, 58 percent of medium institutions, 40 percent of small institutions and 30 percent of micro institutions

Pacific

23 percent of institutions held collections relating to the Pacific and Pasifika cultures. This proportion is made up of 61 percent of large institutions, 42 percent of medium institutions, 19 percent of small institutions and nine percent of micro institutions

Visual

41 percent of museums and galleries contained visual collections, in other words, physical and digital art. Visual collections were held at 61 percent of large institutions, 65 percent of medium institutions, 47 percent of small institutions, and 21 percent of micro institutions

Photographs and books

Photography is an important link to history, people, and places. In the same vein, books record events and thoughts over time. Photographs and books are the two most likely items for institutions to have in their collection: 68 percent of institutions had photographs in their collection, and 62 percent had books in their collection.

- » 78 percent of large institutions have photographs in their collection, 77 percent of medium, 63 percent of small, and 69 percent of micro institutions
- » For books, 78 percent of large institutions, 69 percent of medium, 58 percent of small, and 59 percent of micro contain books in their collection

Archaeology

32 percent of institutions had archaeological items in their collection. This was made up of 56 percent of large, 50 percent of medium, 33 percent of small, and 19 percent of micro institutions

Clothing and decoration

Clothing and decorations are markers of culture, and are therefore important to preserve as they tell the story of families and communities.

- » 42 percent of institutions recorded clothing in their collections, including 78 percent of large, 38 percent of medium, and 39 percent of small and micro institutions
- » 43 percent of institutions recorded decorations in their collections, including 78 percent of large, 62 percent of medium, 46 percent of small, and 24 percent of micro institutions.

Ethnography

16 percent of institutions listed ethnography in their collections, which was made up of 56 percent of large, 35 percent of medium, and 7 percent of small and micro institutions

Other

16 percent of institutions listed unspecified items in their collections, including 17 percent of large, 19 percent of medium, and 15 percent of small, and 16 percent of micro institutions.

7.7 Collections on display

The public is generally only aware of what they see, which is why BERL did not conduct a willingness to pay survey. The proportion of institutions' collections which are on display reveals that what is available to see only represents a small part of what an institution contains. 19 percent of institutions had under 10 percent of their collection on display. 11 percent of institutions had over 90 percent of their collections on display, which was made up of 20 percent of micro institutions and 10 percent of small institutions.

- » 72 percent of large institutions, including Te Papa, had under 10 percent of their collections on display. A further 12 percent had under 29 percent of their collections on display
- » 35 percent of medium institutions had under 10 percent of their collections on display. eight percent had up to 79 percent of their collections on display
- » 14 percent of small institutions had under 10 percent of their collections on display, while 10 percent had at least 90 percent of their collections on display.

7.8 Iwi engagement

20 percent of institutions noted a form of iwi engagement within their operations. This was usually in the form of a Kaihautu, or equivalent staff, board, or executive member.

7.9 Cultural functions

- » The most common primary function identified by museums and galleries was as a social history institution, which was reported by 45 percent of respondents. The second most common function was as an art institution, reported by 17 percent of institutions. Special theme was the third highest reported function at 13 percent
- » 22 percent of large institutions identified as multidisciplinary, while only four percent of medium and small institutions, and one percent of micro institutions identified as multidisciplinary
- » six percent of institutions listed their primary function as being a historic site.

7.10 Cultural facilities

Museums and galleries also contain additional facilities that provide value to cultural wellbeing, such as theatres, art studios, and function spaces. 32 percent of institutions contained a function space, 15 percent contained a theatre, and 5 percent contained an artist studio.

- » 83 percent of large intuitions (including Te Papa) contained a function space, while 42 percent of medium institutions, 30 percent of small institutions and 17 percent of micro institutions contained a function space.
- » 56 percent of large institutions, 19 percent of medium, 16 percent of small, and 1 percent of micro institutions contained a theatre
- » 6 percent of large institutions contained an artist studio, 4 percent of medium, 9 percent of small, and 1 percent of micro institutions contained an artist studio.

Environmental value of Museums and Galleries

Image credits

Pohutukawa - Metrosideros Tomentosa, 1888, New Zealand, by Sarah Featon. Purchased 1919. Te Papa (1992-0035-2277/67)

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08 Environmental value of Museums and Galleries

Environmental wellbeing considers whether the natural environment can sustainably support the activities that constitute healthy community life. Areas such as fresh water, uncontaminated land, conservation of biodiversity, and addressing climate change are core values of environmental wellbeing. Heritage is as much about people's relationship with the land as it is about their relationship with each other. Museums and galleries outline our historical and present relationship with what surrounds us, to both reflect and move forward. Museums and galleries also reside in buildings which contribute to the beauty and identity of their surrounding area, which signifies their unique relationship with places.

Building value	\$2 billion
Percentage of museums and galleries with natural items in their collection.	30%
Percentage of museums and galleries with scientific items in their collection.	20%
Percentage of museums and galleries with online access to their research.	12%
	Building value Percentage of museums and galleries with natural items in their collection. Percentage of museums and galleries with scientific items in their collection. Percentage of museums and galleries with online access to their research.

8.1 Building value

.....

The total value of the buildings used by museums and galleries in Aotearoa New Zealand was \$2.026 billion. This is distributed as follows:

Museum of New Zealand Te Papa Tongarewa

\$305 million

is attributed to the Te Papa building located on the Wellington waterfront

Large museums and art galleries

\$845 million \$

Attributed to large institution buildings

Medium museums and art galleries

\$258 million

Attributed to medium institution buildings

Small museums and art galleries

\$577 million

Attributed to small institution buildings

Micro museums and art galleries

\$40 million

Attributed to micro institution buildings

\$3.6 million

\$44 million

Average value

Average value

\$3 million

Average value

\$208,000

Average value

8.2 Environmental collections

Nature

.....

08

30 percent of institutions contained nature-themed items in their collection, which equated to 53 percent of large, 52 percent of medium, 27 percent of small, and 28 percent of micro institutions

Science

20 percent of institutions contained scientific items in their collections, equating to 47 percent of large, 48 percent of medium, 15 percent of small, 16 percent of micro institutions

Agriculture

38 percent of institutions contained agricultural items. This was 35 percent of large, 48 percent of medium, 33 percent of small, and 50 percent of micro institutions

Technology

39 percent of institutions contained technology in their collections. This equalled 53 percent of large, 67 percent of medium, 39 percent of small, and 36 percent of micro institutions.

8.3 Research

12 percent of institutions allowed access to research on their website. This equalled 44 percent of large, 12 percent of medium, 7 percent of small, and 10 percent of micro institutions.



Image credits

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Samoan House, Apia, Kava-Making, 21 July 1884, New Zealand, by Burton Brothers, Alfred Burton. Purchased 1943. Te Papa (C.017457)

Social value of Museums and Galleries

Social wellbeing involves individuals, their families, whānau, hapū, iwi, and a range of communities being able to set goals and achieve them, such as education, physical and mental health, strength of community networks, security, and rights and freedoms. The core basis of social wellbeing is that no community feels excluded from their peers. Museums and galleries are usually open to the public, and provide education and volunteer experiences that strengthen the social ties of communities.

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Snapshot

Education - Number of visits to museums and galleries by students.

Value of education impact to future productivity by visits to to museums and galleries by students

Volunteers utilised by museums and galleries in 2021

Percentage of museums and galleries that do not charge for entry

.....

Percentage of museums and galleries offering free Wi-Fi to the public

Percentage of museums and galleries had policies for disaster recovery

906,000

\$24.6 million

11,065

49%

museums and galleries offering computers for the public to access

Percentage of

28%

9.1 Education

There were an estimated 906,000 visits to museums and galleries by students in 2018. The value of these visits is approximately \$24.6 million, which is attributed to future wage benefits from improved productivity from an extra half day of education at a museum or gallery. This figure is derived from formal student visits, so this number does not capture informal education benefits. In addition to accommodating student visits, museums and galleries also offered various educational programmes:

- » 26 percent of institutions held holiday programmes, which equated to 59 percent of large, 42 percent of medium, 31 percent of small, and nine percent of micro institutions
- » 25 percent of institutions held curriculum activities, equating to 50 percent of large, 42 percent of medium, 29 percent of small and six percent of micro institutions
- » 38 percent of institutions hosted school groups, equating to 67 percent of large, 50 percent of medium, 60 percent of small, and 46 percent of micro institutions.

9.2 Volunteers

Volunteering impacts wellbeing in the form of improving social bonds between people, as the activity functions as "gifting" time, which otherwise could be spent in paid employment or leisure.

The total number of volunteers in the Aotearoa New Zealand museums and galleries is 11,065. Of these volunteers,

- * 300 were utilised by *Te Papa*
- * 1,706 were utilised by *large institutions*
- * 1,191 were utilised by *medium institutions*
- * 4,314 were utilised by *small institutions*
- * 3,553 were utilised by *micro institutions*

9.3 Fees

17 percent of institutions did not charge for entry. 32 percent of institutions asked for voluntary donation, or koha, for entry. 31 percent of institutions had tiered admission charges. The remaining 20 percent only charged for special services, exhibitions, or just for tourists and non-locals.

9.4 Public amenities

Facilities

- » Six percent of institutions contained a public library. 39 percent of large institutions, and three percent of small and micro institutions offered a public library
- » Four percent of institutions hosted an information centre (i-site) alongside other services. These consisted of six percent of large, eight percent of medium, and seven percent of small institutions
- » 23 percent of institutions provided other community facilities. 22 percent of large, 31 percent of medium, 23 percent of small, and 21 percent of micro institutions.

Technology

- » 20 percent of institutions offered public Wi-Fi. This was broken down into 67 percent of large, 42 percent of medium, 18 percent of small, and three percent of micro institutions
- » Nine percent of institutions offered computers for visitors to access. This equated to 39 percent of large, eight percent of medium, and six percent of small and micro institutions

9.5 Social collections

Archives

56 percent of institutions recorded archives in their collections. Archives are an important resource for accessing past records. 78 percent of large, 73 percent of medium, 49 percent of small and 51 percent of micro institutions contain archives

Social history

60 percent of institutions recorded social history as included in their collections. This was broken down into 73 percent of large, 62 percent of medium, 57 percent of small, and 59 percent of micro institutions

Military

Conflict, and how people respond to it are markers of culture, and this was particularly poignant for New Zealanders during the first and second world wars. 29 percent of institutions recorded military items in their collections, including 67 percent of large, 31 percent of medium, 24 percent of small, and 24 percent of micro institutions

Transport and maritime

The history of Aotearoa New Zealand's culture is intertwined with how people have navigated the lands and oceans. 38 percent of institutions recorded transport featuring in their collections and 30 percent of institutions recorded maritime items featuring in their collections.

- » Transport items were recorded in the collections of 50 percent of large and medium, 29 percent of small, and 40 percent of micro institutions
- » Maritime items were recorded in the collections of 50 percent of large, 42 percent of medium, 26 percent of small, and 23 percent of micro institutions.

9.6 Policy

Policies decrease the risk of collections being lost, which means future generations are able to access collections. 28 percent of institutions had disaster recovery policy, 63 percent had collection management policy, 65 percent had acquisition policy, 59 percent had deaccessioning policy, and 22 percent had digitisation policy.

Disaster recovery

56 percent of large, 38 percent of medium, 32 percent of small, and 13 percent of micro institutions had disaster recovery policy

Collection management

83 percent of large, 77 percent of medium, 65 percent of small, and 50 percent of micro institutions had collection management policies in place

Acquisitions

83 percent of large, 73 percent of medium, 74 percent of small, and 49 percent of micro institutions had acquisitions policy in place

Deaccessioning

83 percent of large, 69 percent of medium, 68 percent of small, and 39 percent of micro institutions had deaccessioning (disposal) policies in place

Digitisation

39 percent of large, 25 percent of medium, 17 percent of small, and 26 percent of micro institutions had digitisation polices in place.



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Conclusion

10

This report has gathered the evidence for the significant value which is provided to communities across Aotearoa New Zealand by museums and galleries. The value of the sector lies in its impact on society, some of which is experienced or noticed by the public, and some of which goes unseen. It was evident from the literature and data that the total value of museums and galleries should be derived from not only the collections themselves, but also the activity which upholds their protection and conservation. Total value could not be entirely captured by financial indicators like revenue, operating income, and expenditure.

It was also important to provide both the context for the ecosystem that surrounds the care of inherently valuable collections, and the impact of the unique education offered by museums and galleries. This report found a significant asset base of \$5.6 billion, which was maintained by 3,365 employees, visited 17.5 million times, and provided formal education benefits equating to \$24.6 million. The data showed medium-sized institutions are likely to be under significant financial pressure to continue maintaining their assets.

There is still more to explore in this space, most notably around the value of taonga Māori in collections, and the value of returning indigenous taonga back to their whānau, hapū and iwi. As Aotearoa transitions back into receiving international visitors, it is important that museums and galleries are recognised for their contribution to the tourism industry, and that they are not left under-resourced. While visitor numbers may not return to old figures straight away, collections and buildings still require maintenance and care.

Appendix

Image credits

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Rythme/3., 1938, France, by Robert Delaunay, Atelier Arcay. Bequest of Judge Julius Isaacs, New York, 1983. Te Papa (1983-0032-251/3-16)

Appendix A

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