Demonstrating Wider Museum Impact

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ABSTRACT

Unknown to many, museums provide value beyond their exhibitions. To conceptualize the value provided by the Research and Collections Division of Museums Victoria, this project measured and visualized the impact of the division's stakeholder engagements. The engagements, including research collaboration and collection access, were analyzed to determine impact in terms of benefits, stakeholder satisfaction, and outcomes. Data collected by surveying the Research and Collections Division's stakeholders and its staff were used to create graphs which demonstrate strong impacts in all three categories. To measure impact across other divisions, we recommend that our reproducible guide is distributed. The guide explains our survey, focus group, and graphing methodologies and provides links to reference our work. We also recommend that our drafted centralized form is utilized. This centralized form will assist Museums Victoria's divisions in tracking future stakeholder engagements.

ACKNOWLEDGEMENTS

MEET THE TEAM

Hi! I'm Deborah and I'm from Athens, Alabama. I'm a mechanical engineering major. I loved getting involved in the community and meeting many Melburnians who helped immerse me in the culture!

Hello! I am Elene. I am from Tbilisi, Georgia. I am a Computer Science major. I have greatly enjoyed my time in Australia and will miss the amazing coffee greatly.

Hi, I'm Xiaoyue. I come from Qingdao, China. I have very enjoyed my time in Melbourne, especially for their weather and coffee!

Hi! I'm Emma, I am from Atkinson, New Hampshire and I am a Junior chemical engineering major. I am the Vice President of Risk Management for Alpha Phi and am an avid coffee drinker.

EXECUTIVE SUMMARY

0.1 PROJECT GOAL

There is much debate about what value museums provide beyond their exhibitions. Unknown to many, museums are hubs for artifact storage, research, and historical and scientific knowledge. Museums Victoria, an organization in Melbourne, Australia, seeks to show its value through the impact it has in stakeholder engagements. In particular, the Research and Collections Division wants to understand its impact on its stakeholders: partners, donors, sponsors, etc., who often bring support and resources to the organization. The division wants to show this measured impact to board members, government officials, and others to, for example, justify funding. Therefore, the goal of this project was to measure and visualize the impact the Research and Collections Division has in its engagements with stakeholders.

0.2 OBJECTIVES & METHODS

To successfully achieve our goal of measuring and visualizing impact through stakeholder engagements, we completed the following objectives:

1. *Define impact.* A combination of dictionary definitions and project description analysis led us to the definition of impact concerning stakeholder contact as: what an individual or organization received and accomplished because of contact with the Research and Collections Division.

2. *Collect information regarding engagements from the Research and Collections Division's stakeholders and staff.* We composed surveys and received feedback from staff focus groups to refine the survey. The surveys were sent to the division's external stakeholders and staff to understand their perspectives of the engagements and resulting impacts.

3. *Measure and visualize the information we obtain to provide clear explanations of the engagements.* We coded and categorized the data from the surveys and represented the data in terms of benefits, satisfaction, and outcomes. A pros and cons list was created to choose the most effective software to visually represent the results.

0.3 FINDINGS

0.3.1 STAKEHOLDER AND STAFF SURVEY SAMPLE SIZES AND RESPONSE RATES

We had a 12% response rate for the stakeholder survey, receiving 156 responses out of 1,261 recipients, and a 37% response rate for the staff survey, receiving 56 responses out of 151 recipients. Further details regarding the surveys can be seen in Appendices 6 and 8, respectively. The highest selected occupation from stakeholder responses was "academic/student researcher" (48%). In terms of purpose for their engagement

with the Research and Collections Division, 54% of the 287 selections made related to "access to collection." The response charts for other individual questions in the stakeholder and staff surveys can be seen in Appendices 7 and 9, respectively.

0.3.2 IMPACT GRAPHS FROM SURVEY RESPONSES

The data from the surveys were used to produce multiple graphs that visualize impact. The graphs that follow are examples of how we assessed the impact for three key factors: benefits, satisfaction, and outcomes. In Figure 0.1, the y-axis categorizes the stakeholders' occupations; the x-axis concatenates the average reply for benefit ratings. Each colored bar, within the total stacked bar, represents a different type of benefit; the stakeholders were asked to rate each benefit from 0–10 in terms of both the "importance" to the stakeholder and the division's "performance." In Figure 0.1, the total stakeholder score of the division's "performance" is 76.3 out of 90 (seen by the blue star).

The benefit the stakeholders believe the division has the best "performance" in is "expertise/trusted knowledge," with a rating of 9.02 out of 10 (seen by the white star in Figure 0.1). Comparing stakeholder and staff responses in terms of benefits in Figure 0.1, no substantial difference appears. In the full benefits graph, there are no stakeholder occupation scores that are below 70 out of 90.
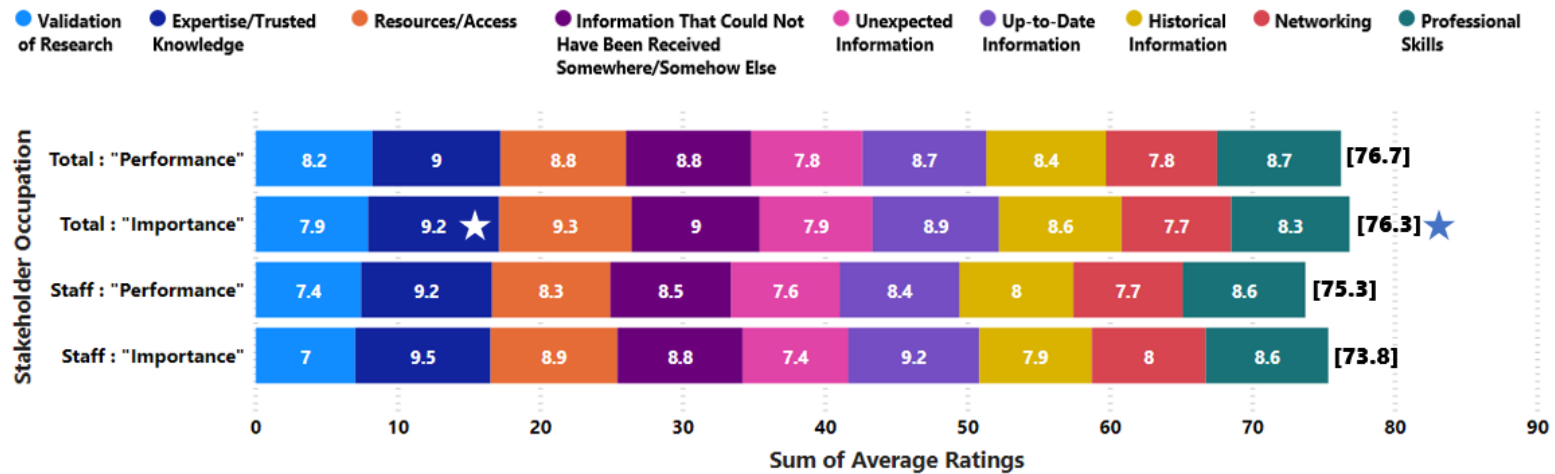
Figure 0.1: Benefit ratings comparing total stakeholder ratings with staff ratings. The stars are next to values that are referenced in the chapter. Total scores are noted next to each stacked bar in brackets.

With a gap analysis of "importance" and "performance," it was found that each occupation, along with staff, fall closely along an equality line (where the "importance" and "performance" ratings are equal); this means that the division adequately performs to the stakeholders' importance ratings.

Figure 0.2 shows how the stakeholders, grouped by occupation, rated their satisfaction with the division from 0-10 in five categories. The average ratings are relatively high with an overall score of 45.1 out of 50 across all categories (seen by the green star in Figure 0.2). The highest-rated satisfaction category is the division's "professionalism," with a rating of 9.2 out of 10 (seen by the yellow star in Figure 0.2). Therefore, the impact, through satisfaction, is very positive. This high satisfaction can be further demonstrated by one of the written responses we received from the stakeholder survey: *"Wonderful and friendly people, but professional and useful as well. Top notch."*
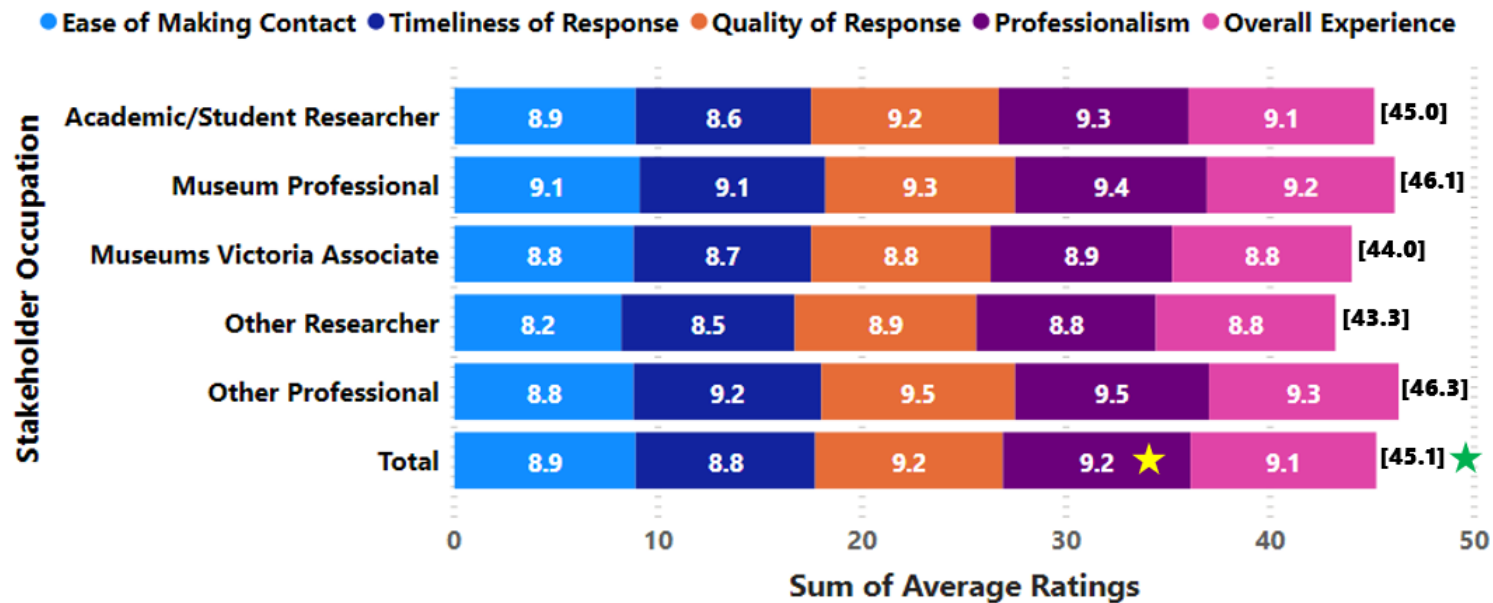
Figure 0.2: Satisfaction graph based on stakeholder occupation. *The stars are next to values that are referenced in the chapter. Total scores are noted next to each stacked bar in brackets.*

The responding stakeholders also had meaningful outcomes from their engagements with the division, validating that the division provides impactful contributions to its stakeholders. Seen in Figure 0.3, the division's engagements with these stakeholders led to at least 101 papers/journal articles and 32 other publications according to the data (seen by the red stars in Figure 0.3). Only 9 respondents (5.8% of total respondents) selected that "the contact did not lead to anything" (seen by the black star in Figure 0.3). A stakeholder survey response related to their outcome says, "I was able to complete a research project/chapter of my PhD that I otherwise would not have been able to do."
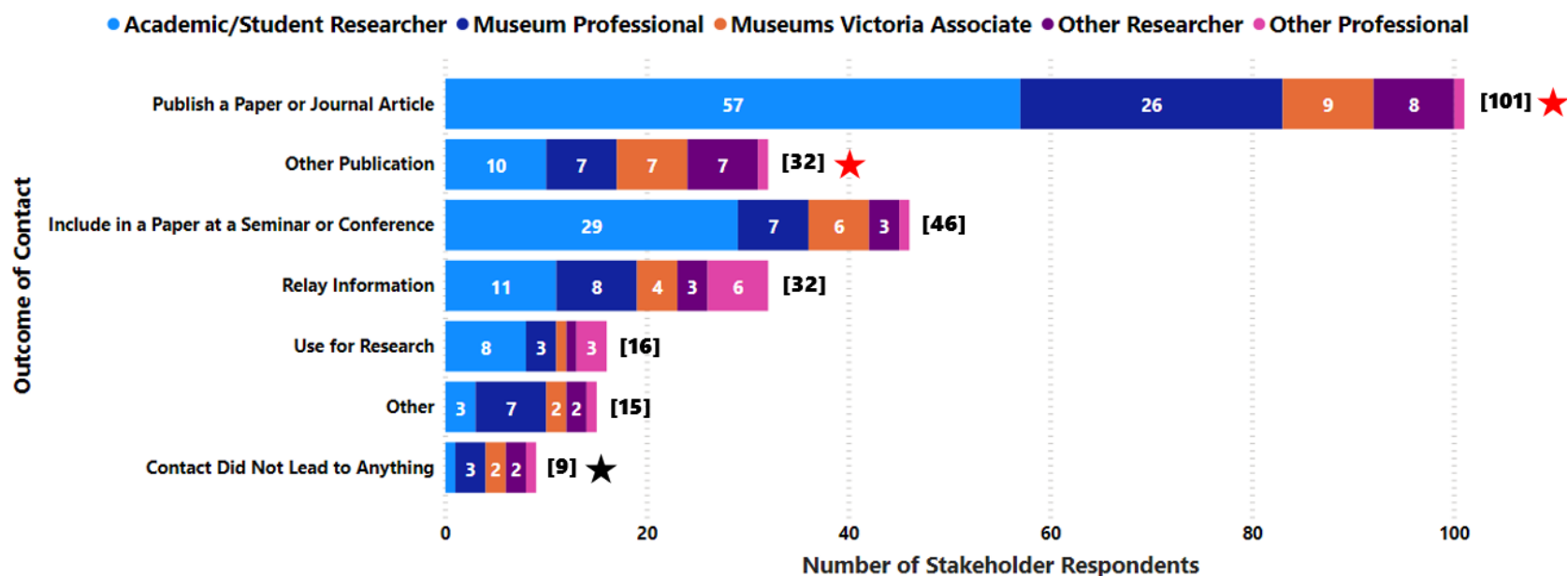

Figure 0.3: *Number of respondents that selected each outcome of contact.* *The stars are next to values that are referenced in the chapter. Total number of stakeholders are noted next to each stacked bar in brackets.*

0.3.3 REACH

We also analyzed the reach of the Research and Collections Division. From the division's outgoing loans data, we found that the reach of the division extends to every inhabited continent and over 30 countries. This shows that the division's impact stretches far outside of Australia.

0.4 RECOMMENDATIONS

Reflecting on our work, we compiled the following recommendations for Museums Victoria and the Research and Collections Division specifically:

- Track stakeholders continuously through a habitual division-wide form, similar to the one seen in Appendix 5, to understand the full scope of its engagements.

- Distribute our guide on impact analysis, seen in Appendix 4, to all division managers so all divisions can measure and graph their impacts on stakeholder engagements.

0.5 CONCLUSIONS

The research conducted within the Research and Collections Division provided insight into the impacts the division currently has on its stakeholders. Positive responses for stakeholder perceptions on benefits, satisfaction, outcomes and staff ratings support a great impact. The division's engagements span over 30 countries. Our survey reveals that

the recorded engagements resulted in over 140 publications. Comments from survey respondents (e.g., "Working with the [museum] Dept has made the last 12 years some of the most exciting and satisfying in my life.") show that the division fulfills most of the stakeholders' academic and scientific needs as well as personal interests.

CONTRIBUTIONS

By the nature of our project, three main contributions were completed by our project: creating surveys, writing the report, and analyzing data/producing graphs. For the surveys, we all worked together with our sponsor to brainstorm questions and formatting. Elene Kavtaradze inserted the questions into the survey tool, and we all gave feedback and edited. To complete the written report, Deborah Fontanez and Emma Geary took the lead in writing chapters. Xiaoyue Lyu and Elene Kavtaradze took the lead in producing graphs needed for the report and presentation. For the report, the whole team revised and edited the drafts in "suggestion mode" on Google Docs. For the graphs, the whole team contributed feedback. The whole team analyzed the data and contributed to conducting staff focus groups.

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1. INTRODUCTION

Museums provide knowledge and new experiences to many people; they encourage learning through facts, visual aids, and engagements. Museums Victoria is an organization in Melbourne, Victoria, Australia providing experiences to multiple audiences by operating the Melbourne Museum, the Immigration Museum, Scienceworks, and the Royal Exhibition Building ("Our Museums," 2019).

Many individuals engage with Museums Victoria. Specifically, within the Melbourne Museum, there are two types of audiences, ticketed and non-ticketed audiences, that visit the museum and contribute to the museum's success. The ticketed audiences buy a ticket to the museum and use its services. Non-ticketed audiences do not buy a physical ticket; they engage with the museum in other ways. Specific to the Research and Collections Division at the Melbourne Museum, engagements with non-ticketed audiences include the donation of collection items or back-of-house tours of the collections (e.g., tours of collections not available to the general public). These audiences are less understood because many of their engagements with the division are not formally recorded.

Our project focuses on the engagements between the Research and Collections Division and its non-ticketed audiences. Museums Victoria considers these audiences to be stakeholders because they can be partners, donors, sponsors, etc. who often bring/receive support and resources to/from the organization. For our project, the stakeholders of the Research and Collections Division are the external people who have contacted a staff member for a specific purpose(s).

The Research and Collections Division is currently striving to learn more about its specific stakeholders so it can better understand how to improve its engagements. Likewise, the division can have a deeper understanding of its impact on its stakeholders and how far its impact extends.

We collected information about the Research and Collections Division's stakeholders through surveys and analyzed the data to understand who these stakeholders were, why they contacted the organization, and how they were impacted through their engagement. Additionally, visual representations of these data were created in the form of graphs; these graphs show the characteristics of engagements between two parties. The characteristics (i.e., purpose, satisfaction, outcome) are represented through use of color, size, etc.

To ensure our work would be useful and distributed in years to come, we shared our process with the division staff. We created a guide that described our surveying and graphing processes and can be distributed to division managers. If other divisions conduct similar studies using this guide, the impact of Museums Victoria as a whole can be better understood. We also drafted a division-wide form to continuously track the information regarding stakeholder engagements. This form can also be used for other divisions within Museums Victoria.

2. BACKGROUND

2.1 INTRODUCTION

In this chapter, we discuss the general need for organizations to constantly improve their work and strengthen their mission. Next, we share the roles of stakeholders, how understanding stakeholders brings valuable information to an organization, and the importance of productive organization-stakeholder relationships. Then, we examine two tools, surveys and graphs, as ways to learn and understand the impact of stakeholder engagements. We conclude by presenting the Museums Victoria's Research and Collections Division's needs for stakeholder analysis.

2.2 IMPROVING AN ORGANIZATION

Constant adaptations are necessary for an organization to remain successful. Druckman et al. (1997) state that "organizations must adapt quickly enough to maintain their legitimacy and the resources they need to stay viable." Therefore, many organizations continuously strive to improve. To achieve improvement, organizations require feedback related to the services they provide. As a highly studied process, analyzing an organization's stakeholders provides insight into stakeholder engagements and its impact on its stakeholders. All of the information the organization gains from this process allows them to reassess, improve, and/or modify services and initiatives, as well as understand the value of their work.

2.3 STAKEHOLDERS AND THEIR ROLES IN ORGANIZATIONS

An organization's stakeholders include individuals, groups, organizations, and institutions that are affected by or are interested in affecting an organization. In general, stakeholders can have financial investments and community and social impacts (Encyclopedia of Small Businesses, 2011). These investments can be direct or indirect, meaning they can intentionally or unintentionally influence an organization's decisions (Vergeront, 2012).

Stakeholders can be categorized as external or internal. External stakeholders are customers or public shareholders; they are those who use the organization for its services or products. They come in the form of sponsors, donors, partners, researchers, etc. Internal stakeholders are those who are directly involved in the organization as a board member or an employee; they are those who are directly associated with the organization (Encyclopedia of Small Businesses, 2011). These external and internal stakeholders bring invaluable support and resources to ensure the organization's projects and activities are successfully undertaken.

Productive organization-stakeholder relationships mutually impact the organization and its stakeholders; it is a give-and-take relationship (Myllykangas et al., 2010). Stakeholders are needed to "define and review [an organization's] requirements and outputs and to deliver successful outcomes" (Pryor, 2015). Without the stakeholders'

feedback on engagements, the organization has limited understanding of their success and impact. Stakeholders typically gain invaluable benefits from their engagements with the organization. Examples of such benefits include access, expertise, validation of ideas, support, and knowledge. Therefore, it is important to learn how both the organization and its stakeholders impact one another. With the understanding of shared impacts, both parties can learn to adapt to satisfy one another in their relationship.

2.4 SURVEY COLLECTION TO DETERMINE IMPACT ON STAKEHOLDERS

Surveys are research tools that seek to analyze the actions, attitudes, or opinions of a specific population (Brandl-Bredenbeck & Kämpfe, 2012). Therefore, they are an important tool to obtain information regarding stakeholders. Surveys collect data through close-ended questions as well as open-ended questions that allow respondents to provide additional information. Answers from stakeholder surveys can help an organization understand the stakeholders' experiences and its impacts in these engagements.

2.5 VISUALIZING IMPACT WITH GRAPHS

Another common process for understanding impact is visualizing the impact with graphs. These graphs involve identifying, analyzing, and categorizing stakeholders and their interests concerning an organization (Patton, 2018). The objective of visualizing impact with graphs is to determine stakeholders, assess key characteristics, and present the

assessments in a clear fashion to elicit deep insight (Bourne & Weaver, 2010). This strategy helps an organization understand how it interacts with its stakeholders. These graphs can represent stakeholders' values, relationships, engagements, involvements, areas of interest, and areas of expertise regarding an organization.

2.5.1 USING GEPHI SOFTWARE TO PRODUCE STAKEHOLDER MAPS

In 2018, Li et al. (2018) created a map to identify and display knowledge flow between Port Phillip EcoCenter in Melbourne, Australia and its stakeholders. They used Gephi software (The Gephi Consortium, https://gephi.org/) to produce knowledge flow maps, seen in Figure 2.1, to capture the types of information exchanges, effort levels, and relationship interactions between EcoCenter and its stakeholders based on shared values. The legend describes how the characteristics of each line and circle represent different engagements between the Port Phillip EcoCenter and its stakeholders. With this software, there are lines connecting the EcoCenter and its stakeholders. These lines represent the flow of benefits the stakeholders give to the organization, the benefits the organization gives to the stakeholders, and the mutual benefits. This program is a notable tool, as it visualizes the impacts and benefits in both directions and is highly customizable.
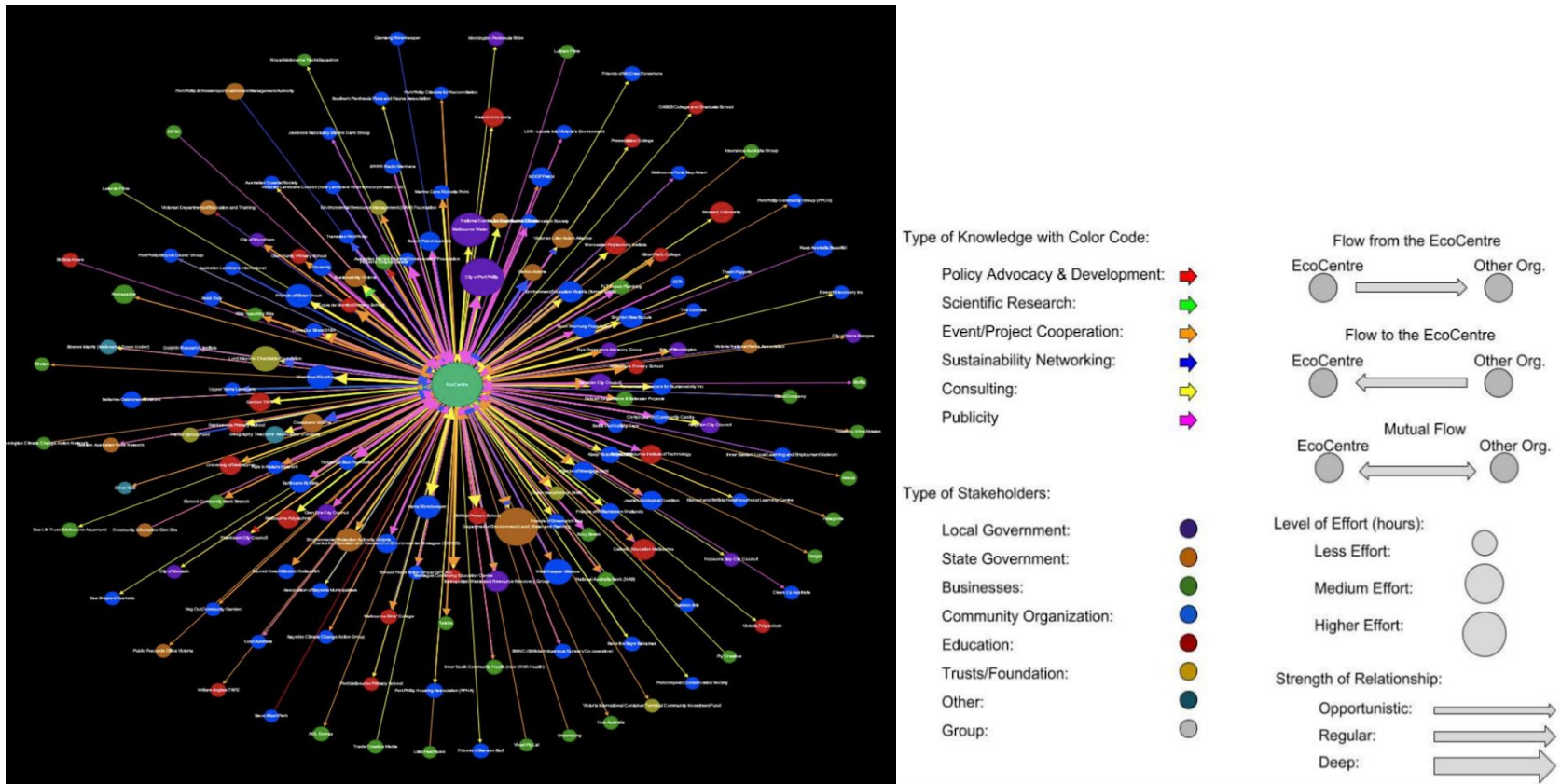
Figure 2.1: Knowledge flow map and legend of EcoCenter and all partnering organizations using Gephi software (Li et al., 2018).

2.5.2 USING MICROSOFT POWER BI SOFTWARE TO PRODUCE GRAPHS

Another software tool is Microsoft Power BI. Microsoft Power BI is a business analytics tool designed for maximum end-user friendliness. The software allows collaboration and sharing within Microsoft organizations as well as lets users export their visuals to different websites and applications. The free trial version of the Power BI application, Microsoft Power BI Desktop, allows the users to visualize their data through different types of charts and graphs (e.g., bar and pie charts) ("What is Power BI: Microsoft Power BI", n.d.). To demonstrate the features of this software and its compatibility, Figure 2.2 uses source data provided by a 2019 WPI junior project (Bitsos et al., 2019).

This figure graphs the weight, or score, of the benefits provided by each stakeholder of Museums Victoria's Education Team through stacked bars. The y-axis displays the stakeholder organizations and the x-axis displays the weight of each individual benefit as a distinctly colored bar within the total stacked bar. Color codes for the individual benefits can be seen in the legend at the top of the figure, consisting of expertise, innovation, profile, reach, reputation, and resources. Within each individual benefit bar, the average rating is shown for each stakeholder on a 0–10 scale. The total length of the bar shows the overall weight of the benefits. The total weight consists of six different benefits and has a minimum value of 0 and maximum value of 60. In this example, University of Adelaide perceives the most gained benefits because it has the highest overall benefit weight. Displaying the data in this form provides a different perspective from the Gephi tool.

Legend: ●Expertise ●Innovation ●Profile ●Reach ●Reputation ●Resources

Stakeholders	Expertise	Innovation	Profile	Reach	Reputation	Resources
University of Adelaide (CSERG)	10.0	10.0	10.0	8.0	10.0	10.0
Department of Education and Training	9.0	8.5	9.5	10.0	10.0	10.0
DET Strategic Parnership Program (SPP)	8.0	8.0	9.0	10.0	10.0	10.0
Ardoch Youth Foundation	5.0	8.0	10.0	10.0	10.0	10.0
Australian Council for Education Research (ACER)	9.0	9.0	9.0	7.0	10.0	7.0
Victorian Curriculum and Assesment Authority	10.0	9.0	9.0	10.0	10.0	2.0
Catholic Education Commission of Victoria (WeSTEM)	6.0	7.0	9.0	10.0	7.0	10.0
TAC	7.0	9.0	7.0	8.0	8.0	10.0
Playgroups Victoria	7.0	8.0	9.0	8.0	7.0	8.0
Upwelling Festival	10.0		10.0	9.0	10.0	6.0
Digital Learning and Teaching Victoria (DLTV)	10.0	9.0	8.0	8.0	10.0	
Deakin University	4.0	6.0	9.0	8.0	8.0	9.0
Maternal Child Health Nurse Network	8.0	6.0	10.0	8.0	10.0	2.0
RMIT	7.0	8.0	8.0	8.0	8.0	5.0
DATTA Vic	9.0	8.5	8.5	8.0	8.5	
Kids Teaching Kids	8.0	7.0	5.0	8.0	9.0	5.0
Aurecon	7.0	5.0	6.0	6.0	8.0	7.0
Melbourne City Experience	8.0	7.0	7.0	7.0	8.0	2.0
Monash University	6.0	6.0	6.0	7.0	8.0	5.0
Wodonga Children's Fair	2.0		10.0	9.0	10.0	6.0
Gowrie Broadmeadows	8.0	6.0	6.0	5.0	10.0	2.0
Hobsons Bay Libraries	7.0	5.0	7.0	6.0	7.0	5.0
Mildura Arts Center	2.0		10.0	5.0	10.0	9.0
Virtual Learning Victoria	4.0	5.0	9.0	9.0	5.0	2.0
ACHPER	4.0	3.0	5.0	6.0	5.0	4.0

Weight of the benefits (x-axis: 0, 10, 20, 30, 40, 50)

Figure 2.2: Clustered bar chart using previous junior project research data in Microsoft Power BI software.

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2.6 THE ORGANIZATION OF INTEREST: MUSEUMS VICTORIA

Museums Victoria is the largest public museum organization in Australia. The organization came into existence in 1854, provides services for 2 million visitors each year, and houses over 17 million items ("Museums Victoria: About Us," 2019). The Museums Board of Victoria is the governing body for Museums Victoria and is established under the Museums Act of 1983 (1983).

Museums Victoria has responsibility over the Melbourne Museum, Scienceworks, Immigration Museum, and Royal Exhibition Building ("Museums Victoria: About Us," 201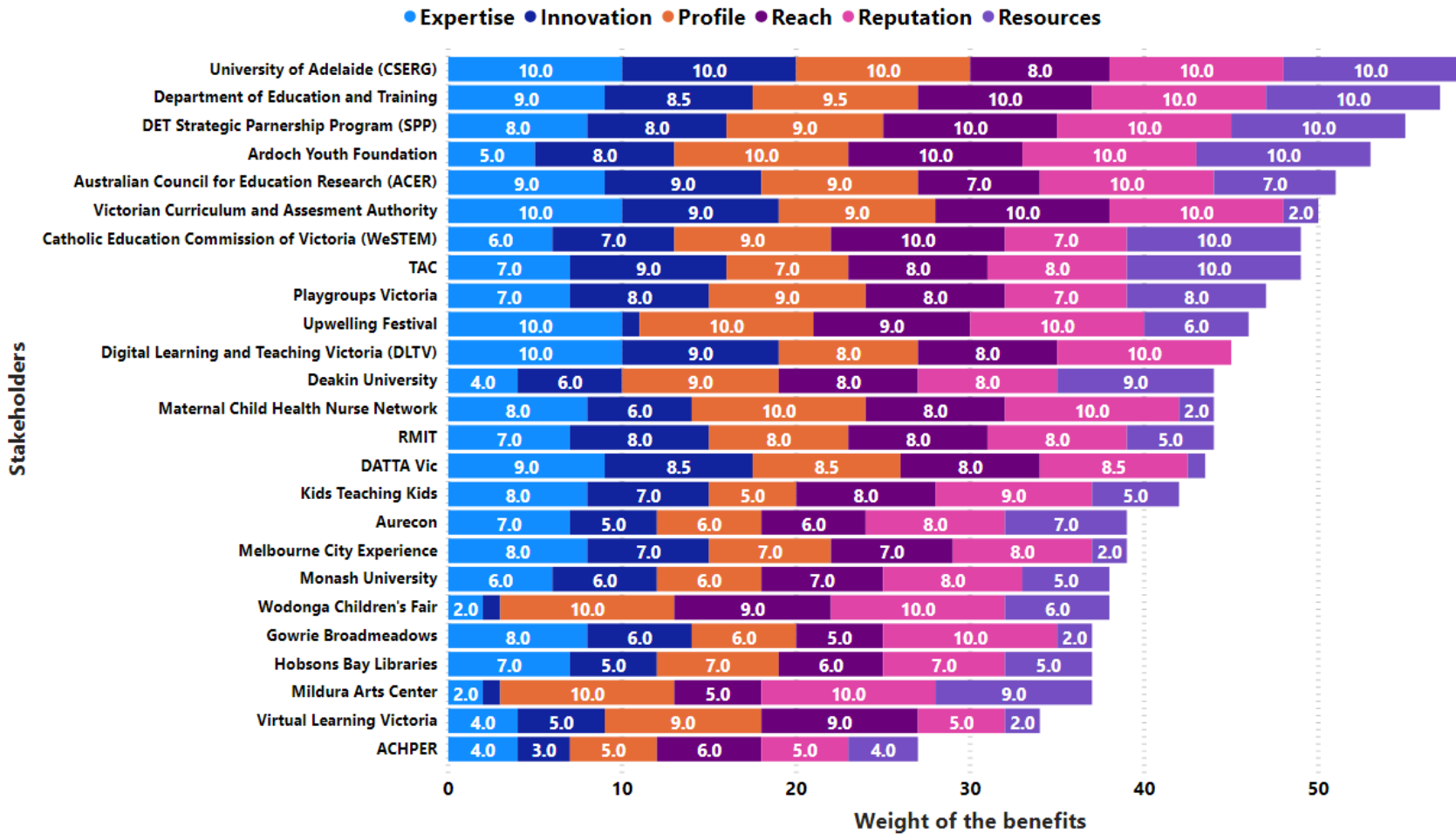9). The Melbourne Museum engages its visitors with its interactive dinosaur walk, the Forest Gallery, the Bunjilaka Aboriginal Cultural Centre, and IMAX ("Melbourne Museum: Forest Secrets," 2019; "Melbourne Museum: What's On," 2019; "Museums Victoria: About Us," 2019). Scienceworks captivates visitors in scientific discovery by utilizing a planetarium as well as other hands-on exhibitions ("Scienceworks: What's On," 2019). The Immigration Museum educates audiences about Victoria's resident's diversity and immigration history through immersive exhibitions ("Immigration Museum: What's On," 2019). The Royal Exhibition Building is the oldest standing exhibition hall from the Great Exhibition Era and is currently used to house galas, community events, fashion shows, and tours telling its history ("Royal Exhibition Building: About," 2019).

Within Museums Victoria, the Research and Collections Division is primarily located in the Melbourne Museum. This division directs and oversees all of the museum's items and information relating to natural sciences, history, technology, and indigenous cultures in Australia ("Explore Our Collection," 2019). People can access collections in the division through the Museums Victoria Library and Archives, its website, or by direct staff contact. These collections can be used in exhibitions, borrowed or lent, and/or assist in research projects ("About Museums Victoria Collections," 2019).

2.7 THE SIGNIFICANCE OF VISUALIZING THE IMPACT OF MUSEUMS

There is much debate about what value museums provide beyond their exhibitions. Generally, museums are seen as places to see original, interesting objects and to learn novel information. Although true, museums provide more to their community than people realize. Because museums are increasingly viewed as more of a commodity than a necessity, it is paramount to show the importance of museums, so they receive proper funding and recognition. These funds, that come primarily from the government and/or sponsors, are needed to support the unseen impacts of museums. Unknown to many, museums are hubs for artifact storage and historical knowledge relevant to the present-day world and its regions.

Currently, Museums Victoria seeks to show the impact of their lesser known functions. Many interactions with their audiences are through their "front-of-house" facilities—those accessible to the general public such as exhibitions. However, new projects focus on understanding the audiences and stakeholders that interact with Museums Victoria through their "back-of-house" facilities—those the general public cannot access but sometimes interact with. These "back-of-house" areas and functions can include collections, research projects, exhibition materials, etc.

There is a large amount of interest in stakeholder impact analysis for the Research and Collections Division in particular. Originally, the division was created to collect and present objects and information. Now, they strive to learn more about their impact and how they are supporting and contributing to a greater future. They want to show evidence of this impact to board members, government officials, etc. to, for example, justify funding.

3. METHODOLOGY

3.1 INTRODUCTION

The goal of this project was to measure and visualize the impact Museums Victoria has on those they work with. We specifically focused on the impact of the engagements between the Research and Collections Division and its stakeholders. To successfully achieve our goal, we completed the following objectives:

1. Define impact

2. Collect information regarding engagements from the Research and Collections Division's stakeholders

3. Collect information regarding engagements from the Research and Collections Division's staff

4. Measure and visualize the information we obtain to provide clear explanations of the engagements

5. Create a guide for other divisions within Museums Victoria to use

Methods for each objective will be explained in the following sections.

3.2 DEFINE IMPACT

To determine the impact of the engagements between the Research and Collections Division and its stakeholders, we brainstormed how to define impact. Original considerations for the definition of impact for the Research and Collections Division included Museums Victoria's vision: "People enriched by wondrous discovery and trusted knowledge; Society compelled to act for a thriving future" (Museums Victoria, 2017). Although using the vision statement would have been sensible, the phrasing of the vision was too equivocal to formulate into survey questions. Therefore, a combination of dictionary definitions and the project description led us to the following definition of impact: what an individual or organization received and accomplished because of contact with the Research and Collections Division. Since our purpose was to understand the engagements between the division and its stakeholders, a definition of impact that requires contact between people made the most sense. Defining impact as such helped to produce survey questions that were sensible to the participants. Including our definition prompted the participant to think of a specific contact with the division.

3.3 COLLECTING ENGAGEMENT INFORMATION FROM STAKEHOLDERS

To measure the impact of the engagements between the Research and Collections Division and its stakeholders, we collected information about the individual engagements from the stakeholders through a survey. The survey was designed to gather enough relevant information while still being easy for the respondents to complete.

3.3.1 CONTACTING STAKEHOLDER SURVEY PARTICIPANTS

We were provided a list of all the division staff's external contacts over the last five years. The five-year time frame included recent contact while also allowing for a large sample size. The information collected included the stakeholders' names, emails, institutions they were from, and countries of residence. We used this list to send direct emails to the contacts.

3.3.2 STAKEHOLDER SURVEY

The survey was designed to collect data for measuring the impact the Research and Collections Division had on its stakeholders. The survey asked the stakeholders to provide some general information about themselves, what type of contact they had with the division, the purpose(s) of their contact, the outcome(s) of their contact, the "importance" and "performance" of the division's provision of multiple benefits (expertise, access to collection, validation of research, etc.) as well as how well they think the division operates and how the division could improve. Focus groups with the division staff helped shape the survey.

To ensure privacy for the respondents, we made the survey anonymous. The emphasis on anonymity encouraged honest responses so as to receive the most accurate data. Additionally, knowing the identities of stakeholders was not necessary for understanding the division's general interactions. Rather, we were able to group the stakeholders based on their

occupation or title e.g. "academic/student researcher," "professional working specifically in a museum/cultural organisation," "Museums Victoria associate," etc.

Although we felt the survey contained necessary information for proper and inclusive analysis, its length, about ten minutes long, may have lowered the initial response rate. Our survey software recorded a significant number of unfinished responses. To address this problem, reminder emails were sent out a week after the initial survey to increase response rate.

The tool we used to create and distribute the survey was Qualtrics. With this survey tool, we were able to insert custom messages, images, and links, as well as distribute and track the survey responses. The invitation and survey questions can be seen in Appendix 1.

3.4 COLLECTING INFORMATION FROM RESEARCH AND COLLECTIONS DIVISION STAFF

Our third objective was to obtain stakeholder engagement information from the Research and Collections Division staff. Their opinions allowed us to measure and compare the impact of the engagements between the division and its stakeholders. Focus groups with staff helped shape the survey.

3.4.1 STAFF SURVEY

The survey created and sent to the staff was virtually identical to the stakeholder survey, except it was rephrased for the staff's perspective. Using the same type of questions allowed us to compare the answers between the stakeholders and the staff. It was perceivably easier to receive responses with the staff survey because we were able to personally follow up after the survey was sent. Additionally, we had met a lot of the staff prior to sending the survey, so they might have felt apt to respond. Reminder emails to increase response rate were sent out two days after the initial email. The invitation and survey questions can be seen in Appendix 2.

3.5 FOCUS GROUPS

Focus groups were held with each department within the Research and Collections Division to share information about stakeholder/staff engagements through an interactive approach. Prior to sending out the surveys, we had meetings with our sponsor and the various departments within the division to discuss question selection, wording, and formatting. The feedback we received from the staff helped us revise the surveys to have broader topics, clearer response options, and consistency.

Joanne Taylor, PhD, Natural Science Collections Manager, provided our team with a list of possible candidates for focus groups. The contact list included three categories with eight people each. Although all were invited, not all were able to attend. The categories were Loans and Exhibition, Research, and Community, the primary areas the staff members work in. The focus group invitations resulted in five meetings over the course of two days, consisting of two focus groups, two individual meetings, and one phone interview. The first day, we focused on asking the staff members about the stakeholder survey (N = 7 interviewees). The second day, we asked about the staff survey (N = 3 interviewees). We provided the interviewees with lists of answer selections directly from our surveys to make sure the options were accurate for each department. The specific discussion questions, survey lists, and participation details can be seen in Appendix 3. As moderators, we created and encouraged a supportive and inclusive environment to allow all members to share their honest perceptions.

We received great insight on the stakeholder engagements within the different departments. For example, within the Sciences department, many of their interactions are solely oriented around short, professional transactions. On the other hand, engagements with the First Peoples department require the development of personal skills to adapt to different cultures. Learning about the differences in the types of interactions across the departments resulted in more representative survey options.

3.6 VISUALIZING THE IMPACT OF ENGAGEMENTS BETWEEN THE STAKEHOLDERS AND DIVISION

Our fourth objective was to visualize the impact of the engagements between the Research and Collections Division and its stakeholders. We used the data from the surveys to code, then categorize the engagements. With these data, we created graphs and used visual communication methods to ensure the graphs could be easily understood.

3.6.1 CODING AND CATEGORIZING DATA

We used the information from the surveys to code and categorize the division's impact on its stakeholders. First, we coded the responses written with the "other" selections from the questions. Second, the stakeholders were categorized into groups by general occupations (i.e. "academic/student researcher," "professional working specifically in a museum/cultural organization," "other professional," etc.) and other categories depending on the survey question.

We found the questions "How important is it to you that the division provides each of the following?" and "How well do you think the division currently provides each of the following?" to be most important; they provided the primary data for our graphs. The respondents answered them on Likert scales (0–10), 0 being "Not at All Important" or "Not at All

Well" and 10 being "Extremely Important" or "Very Well," giving easy-to-code values. The rest of the data from the surveys were used to create other graphs.

3.6.2 CHOOSING THE SOFTWARE AND CREATING GRAPHS

In order to produce clear graphs, good visual communication was implemented. Visual communication describes the methods of delivering messages through visual elements such as illustrations, drawings, graphs, etc. (Smith, 2005). Visual communication played a crucial role as it helped to identify and digest the information easily. We compared two software products, Gephi and Microsoft Power BI, in terms of usage, cost, visuals, security, and other, as seen in Table 3.1. After discussing with our sponsor, we chose the one that produced the most understandable visuals for our project: Microsoft Power BI.

Table 3.1: Pros and cons lists comparing two software: Gephi and Microsoft Power BI.

Gephi Software

Category	PROS	CONS
Usage	• Open source and multi-platform	• Not available on Android, IOS, Web-Based, or Windows Mobile devices • Steep learning curve — not intuitive to use
Cost	• Free to use and no licensing fees	
Visuals	• Impact shown for both ways (stakeholder/division, division/stakeholder)	• Complicated to understand • No visual options other than maps
Security		• No available support, dependent on community support
Other	• Has been previously used by other team projects	

Microsoft Power BI Desktop Software

Category	PROS	CONS
Usage	• User-friendly UI • Intuitive/relatively easy to use • Museums Victoria has knowledge of the software	• Not available on Mac or Linux devices
Cost	• Free desktop version	• Must buy license for more access

Table 3.1: Pros and cons lists comparing two software: Gephi and Microsoft Power BI (Continued).

Category	PROS	CONS
Visuals	● Clear visuals/easily understood	
Security	● Available support	

The methodology we developed was designed to be reproducible for other divisions of Museums Victoria. We produced a guide, seen in Appendix 4, that describes the process of making the surveys and conducting focus groups. The guide also covers how to analyze the survey data and code and categorize them based on the responses. Finally, it explains how to create graphs to represent impact. Within the guide, there are links where staff can reference the work produced in our project.

We also created a draft for a division-wide form to track stakeholder engagements. This form will allow the division to understand the full scope of its interactions, including detailed understanding of its stakeholders' occupations and purposes for contact. The form will also allow for easy reproducibility of our project as stakeholder information will be readily available. Staff members are encouraged to fill out the form after every stakeholder interaction, including answering enquiries from the general public and giving back-of-house tours. Although the departments already have a system in place for tracking loans or incoming enquiries, this new form focuses on the type of the stakeholder and the characteristics of the engagement as well as includes all types of engagements for the different departments. We created this form and distributed it to the department managers so they can encourage participation from their staff. The form can be used as is, or it can be modified to be more inclusive of the engagements and types of stakeholders for different departments and divisions. The form we created can be seen in Appendix 5.

4. RESULTS

4.1 INTRODUCTION

Our research resulted in an understanding of Museums Victoria's Research and Collections Division's impacts and the reach on its various external stakeholders. The data relating to these impacts and reach were received from a stakeholder-directed survey and a staff-directed survey and were visualized through various graphs and maps. The findings from surveys, the impact seen in the graphs, the reach of engagements, and the guide are discussed in the following sections.

4.2 STAKEHOLDER SURVEY DATA

The focus groups helped us understand how the Research and Collections Division's staff interact with their stakeholders. The information from these focus groups further shaped the survey that was sent to the stakeholders. More detailed information regarding the participation in these staff meetings can be seen in Appendix 3. The data received from the stakeholder survey include information on each stakeholder's occupation, purpose(s) for contacting the division, and perspective regarding their engagement with the division. In the following sections, we report the survey response rate and the results from a few key survey questions to understand the perceptions of the responding stakeholders.

4.2.1 STAKEHOLDER SURVEY EMAIL DISTRIBUTION & RESPONSE DATA

The email list provided to us contained the division's contacts for research and outward exhibition loans as well as general collaborators for the years 2015–2019. The email with the invitation to participate in the survey was sent to the stakeholders on February 3, 2020, and a reminder email was sent out on February 10, 2020, allowing a week and a half response time before the survey closed on February 16, 2020. The mailing list contained 1,392 individuals and 1,261 emails were successfully delivered. The response rate for the stakeholder survey was favorable. In general, a good response rate for external surveys is 10–15% which, for our survey, corresponds to 126–189 completed survey responses (Fryrear, 2019); we received 156 responses (a 12.4% response rate). Appendix 6 shows the distribution list statistics and the response record date versus response frequency in more detail.

4.2.2 STAKEHOLDER SURVEY QUESTION RESPONSES

We collected responses and analyzed the data produced by Qualtrics, the survey tool we used. Based on the responses, about 65.4% of the respondents were in contact with the division within the last 6 months with about 33.3% of the respondents being in contact within the last month (Appendix 7.1). The distribution of "time since last contact" assured us that the subsequent data are up-to-date and applicable to the

current engagements of the Research and Collections Division. Most of these contacts, about 82.7%, were made to the Sciences department. The overall distribution of department contact can be seen in Appendix 7.2.

Table 4.1: Number of stakeholders representing each occupation.

Stakeholder Occupations	Number of Selections	Percentage of Respondents
Academic/Student researcher	75	48.08%
Museum Professional	39	25.00%
Museums Victoria Associate	16	10.26%
Other Researcher Independent Professional Researcher (4) Researcher for Another Organization (4) Retired Researcher (4) Amateur Researcher (3)	15	9.62%
Other Professional Professional Working in Government (6) Professional Working in Commercial Enterprise (3) Consultant (1) University Teacher (1)	11	7.05%
Total	156	100.0%

The stakeholders' purpose(s) for contacting the division were also surveyed. The purpose(s) for each contact gave us an understanding of what the engagements between the division and the stakeholders entail. All of the purpose options given in the survey and the distributions of responses can be seen in Appendix 7.4. From the given list of purposes for contact, there were many options that yielded low response rates. Therefore, we combined various purpose options into generalized categories. These categories of purposes can be seen in Table 4.2, while the dispersion of individual purposes among categories can be seen in Appendix 7.5. From the data in Table 4.2, there were 156 purpose selections that related to "access to collection" (54.4% of all selections). These data reveal that the division should maintain, and possibly enhance, its resources for sampling items as it is a major reason for division contact for the surveyed stakeholders.

Table 4.2: Number of "purpose of last contact" selections and percentage of participants who selected each purpose.

Stakeholder Purpose of Last Contact	Number of Selections	Percentage of All Selections
Access to Collection	156	54.36%
Collaboration	70	24.39%
Other	28	9.76%
Giving/Lending Items	19	6.62%
Receive Answers for General Inquiries	14	4.99%
Total	287	100.0%

4.3 STAFF SURVEY DATA

Akin to the stakeholder survey, focus groups helped shape the staff survey. The staff focus group script and participation details are referenced in Appendix 3. In the following sections, we review the survey response rate and some survey question response data to better understand the staff's perceptions of their engagements with stakeholders.

4.3.1 STAFF SURVEY EMAIL DISTRIBUTION & RESPONSE DATA

Analogous to the stakeholder survey, we received a successful response rate for the staff survey. The staff survey was sent to the staff members within the Research and Collections Division through its email alias on February 10, 2020. A reminder email was sent out on February 13, 2020, allowing a one-week response time before survey closure on February 16, 2020. The alias contained email addresses for 151 of the division's staff and 56 responses were recorded (a 37.1% response rate). Typical response rates for internal persons on average are 30–40% (Fryrear, 2019); therefore, our response rate is well within the typical range. The response record date versus response frequency can be seen in Appendix 8.

4.3.2 STAFF SURVEY QUESTION RESPONSES

The staff survey asked, out of given options, which occupation best describes the external stakeholders with whom they have the most contact. The highest selected option was "museum professional" (37.8%). This is comparable to the

25.0% of stakeholder respondents who selected this option. About 48.1% of stakeholder survey respondents identified themselves as "academic/student researchers"; although, only 15.6% of staff stated that "academic/student researchers" were their most frequent contact. Therefore, contact with the "academic/student researchers" may not be the main focus of the Research and Collections Division's engagements with external stakeholders; or, conversely, the response gap can be explained because many of the "academic/student researchers" only contact a select few staff members. The full distribution of stakeholder occupations from the staff survey data can be seen in Appendix 9.1.

In the staff survey, respondents were asked what the purpose of their last engagement with an external stakeholder was. To make the responses from both the stakeholder and staff surveys comparable, the options for the staff survey were identical to the stakeholder survey. The purpose options and the distribution of responses can be seen in Appendix 9.2 which has corresponding legend colors to Appendix 7.4 for simple visual comparison. Again, the purposes were combined to create the same larger categories seen in Table 4.2; the individual purposes with their number of respondents can be seen in their respective categories in Appendix 9.3. Similar to the stakeholder survey, the two highest percentages of purpose selections related to "access to collections" or "collaboration" with a 36.9% and 34.2% response selection, respectively.

4.4 IMPACT ANALYSIS GRAPHS

The data from the stakeholder and staff surveys were used to produce multiple graphs. The graphs that follow represent three ways we can measure and visualize the division's impact: through benefits, stakeholder satisfaction, and outcomes from the engagement. The stakeholder occupations are graphed alongside the three representations of impact. In the benefits graph, the perception of engagements from the stakeholder survey data is compared with the staff survey data. We found that the engagements in terms of these three representations are overwhelmingly positive.

4.4.1 BENEFITS GRAPH

One way the Research and Collections Division's impact was measured was by analyzing the benefits that stakeholders received from their engagement with the division. In Figure 4.1a, the y-axis represents the types of stakeholders by occupation. The x-axis represents the overall benefit score. This overall benefit score is divided into nine individual benefits (expertise/trusted knowledge, resources/access, historical information, information that could not have been received somewhere/somehow else, validation of research, unexpected information, up-to-date information, networking, and professional skills) represented by different colored bars and concatenated along the x-axis within a total stacked bar. In the stakeholder survey, the respondents were asked to rate each individual benefit for two separate questions on a 0–10 scale; each question for each occupation resulted in a total possible

benefit score of 90 with the total score noted on the far right of each stacked bar. The two questions in the stakeholder survey asked *how important it is that the division provides each benefit* and *how well they think the division currently performs each benefit.* Therefore, each occupation's average rating for "importance" and "performance" for each benefit is represented in two separate stacked bars. The total stakeholder ratings for each benefit are also represented for both "importance" and "performance."

According to the stakeholder respondents, the division has an adequate "performance" in providing benefits. The total stakeholder benefit scores for "importance" and "performance" are 76.7 and 76.3 out of 90, respectively (seen by the blue stars in Figure 4.1a). According to the responses, the benefit that has the highest "importance" is "resources/access," with a rating of 9.3 out of 10; the division's "performance" rating for "resources/access" is an average of 8.8 out of 10 (seen by the black stars in Figure 4.1a). With only a 0.5 out of 10 difference (5%) between the "importance" and "performance" ratings, the division adequately provides this benefit.

The benefit that the stakeholders believe the division has the highest "performance" of is "expertise/trusted knowledge," with a rating of 9.0 out of 10; the stakeholders rated the "importance" of the same benefit as 9.2 out of 10 (seen by the white stars in Figure 4.1a). The 0.2 out of 10 difference is small enough to assume the division provides this benefit according to the importance to the stakeholders.

The stakeholder occupation that yielded the highest overall benefit score in terms of "importance" as well as "performance" is "other professional," scoring 82.6 and 79.6 out of 90, respectively (seen by the grey stars in Figure 4.1a). This occupation category includes "professional working in government," "professional working in commercial enterprise," "consultant," and "university teacher." There is a 10.9 range in "importance" scores (scores from 71.7 to 82.6 out of 90) and a 7.8 range in "performance" scores (scores from 71.7 to 79.6 out of 90) between all stakeholder occupations. Overall, these ranges of scores for both "importance" and "performance" are small, meaning the stakeholder respondents have similar opinions in terms of the division's benefits.
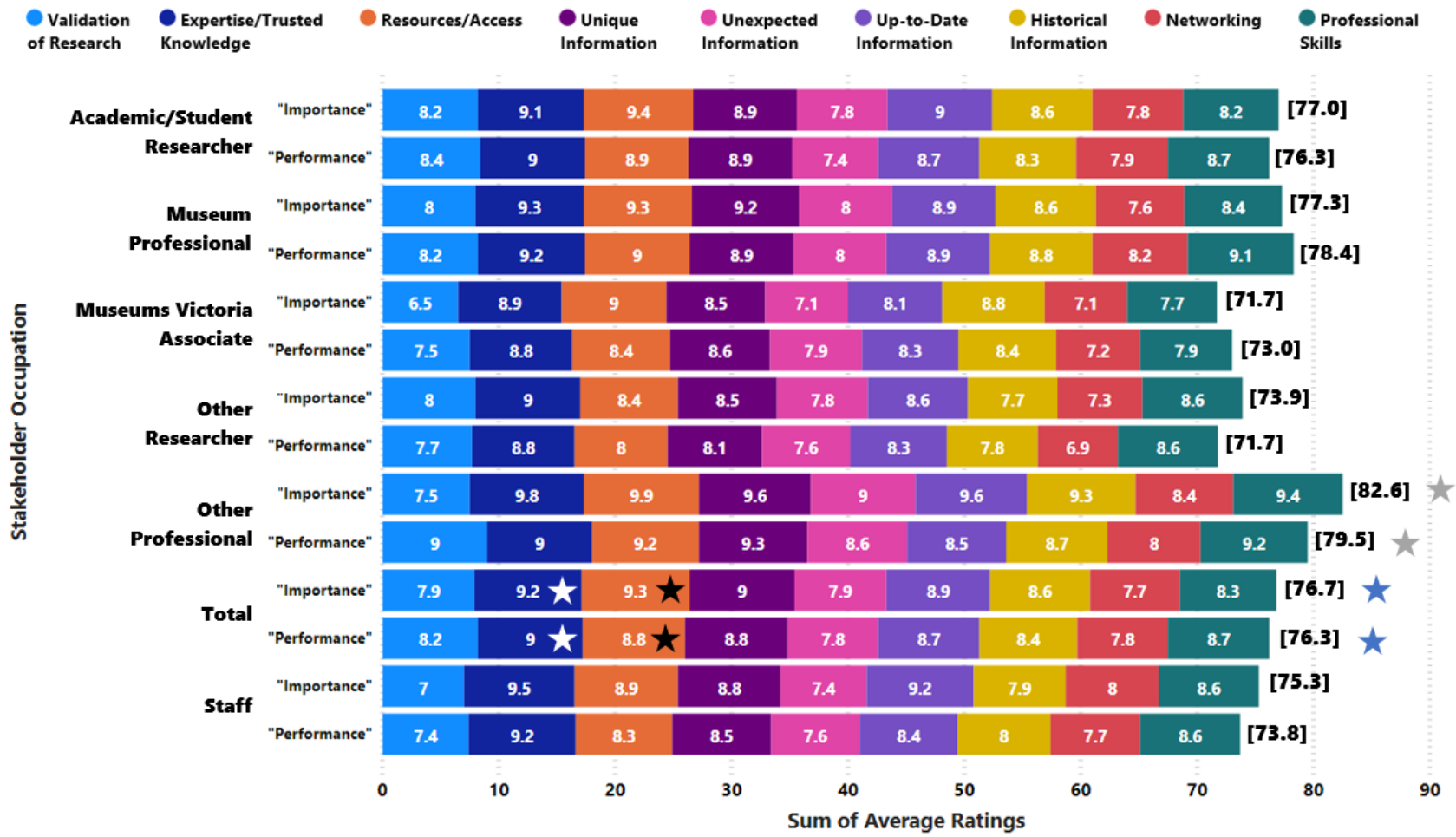
Figure 4.1a: Benefit "importance" to stakeholder and benefit "performance" of division graph by stakeholder occupation. *The stars are next to values that are referenced in the chapter. Total scores are noted next to each stacked bar in brackets.*

Figure 4.1b is a close-up section of Figure 4.1a to compare the staff and total stakeholder scores for both "importance" and "performance." No substantial difference appears from the scores given by the staff members to those given by stakeholders; there is only about a 1.4-point difference in "importance" scores and about a 2.5-point difference in "performance" scores out of 90. The largest gap between stakeholder and staff ratings of individual benefits appears in "validation of your research"; there is about a 0.9-point difference in "importance" rating and about a 0.8-point difference in "performance" rating, on a 0–10 scale, shown in the graph. For the second largest difference in ratings, stakeholders rated the "importance" for the benefit "historical

information" as 8.6 out of 10 (5th most important benefit). The staff rated the same category at 7.9 out of 10 (6th most important benefit), which is not a substantial difference. The "performance" rate given by the stakeholders for each of the benefits is higher than the rate from the staff, with the exception of the benefit "expertise/ trusted knowledge," which has a 0.2 higher rating from staff. Despite this difference, "expertise/trusted knowledge" still received the highest "performance" rating among any other benefits from both the stakeholders and staff, suggesting the division is doing a great job providing this benefit to its stakeholders.
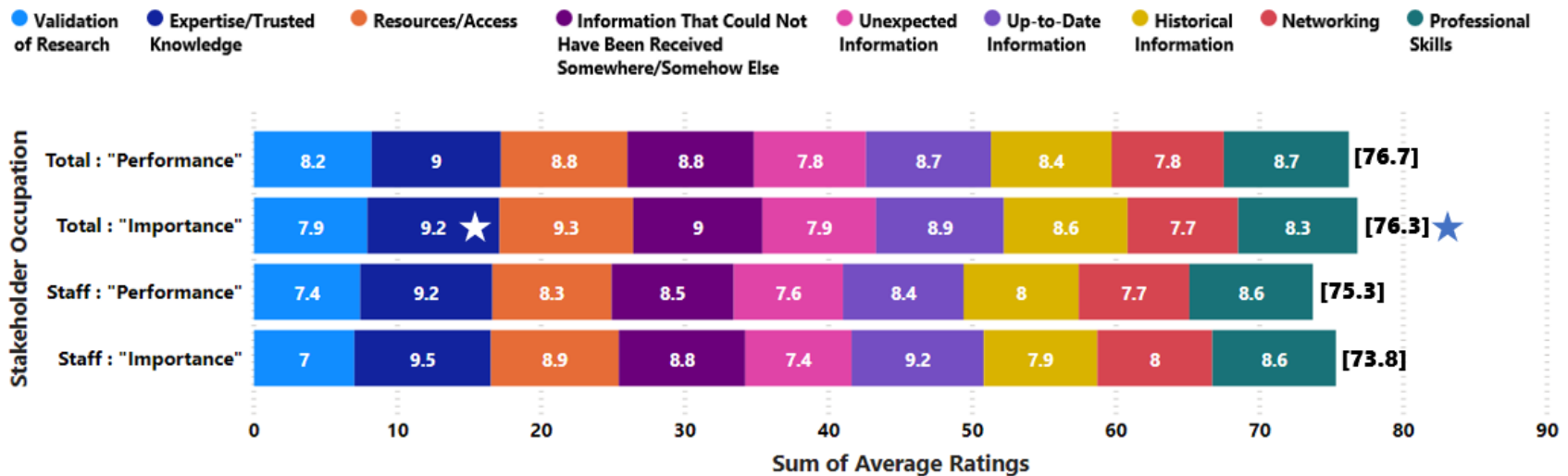

Figure 4.1b: Benefit ratings comparing total stakeholder ratings with staff ratings. *Total scores are noted next to each stacked bar in brackets.*

The division currently provides adequate benefits to satisfy the stakeholders. Figure 4.2 compares the "importance" and "performance" ratings of overall benefit for each stakeholder group. This kind of graph, used in executing a gap analysis, compares the division's current "performance" to the desired "performance" from the stakeholders. With this graph, there are four quadrants. The lower left quadrant represents low "importance" and low "performance"; the top left quadrant represents high "importance" and low "performance"; the bottom right quadrant represents low "importance" and high "performance"; the top right quadrant represents high "importance" and high "performance." Ideally, the dots, representing each occupation and one representing the staff, fall closely along a line of equality where "importance" and "performance" are identical. Additionally, the top right quadrant is the most favorable quadrant as it represents the highest "importance" and "performance."

In Figure 4.2, both the "importance" and "performance" axes begin at 7.0 out of 10.0. Overall, the impact the division has on its stakeholders, in regard to benefit, is largely positive. The occupations fall closely along the equality line, shown by the diagonal line. The stakeholders gave an average rating of 8.5 out of 10 for the division's "performance" in giving benefits. The "other professional," represented by the purple dot in Figure 4.2, gave the highest score for both "importance" and "performance"; among the other occupations, it sits the furthest to the top right of the quadrant. The "Museums Victoria associate" occupation gave the lowest average rating for "importance" and the "other researcher" gave the lowest average rating for "performance." Compared to the staff's

perceived "performance" rating of 8.2 out of 10 in providing benefits to its stakeholders, the stakeholders gave a slightly higher rating of impact through benefits received compared to what the staff think their impact is. According to the Importance-Performance Analysis (IPA) Matrix, since all occupation dots occupy spaces in the top right quadrant, the division should keep up the good work (Geng & Chu, 2012).
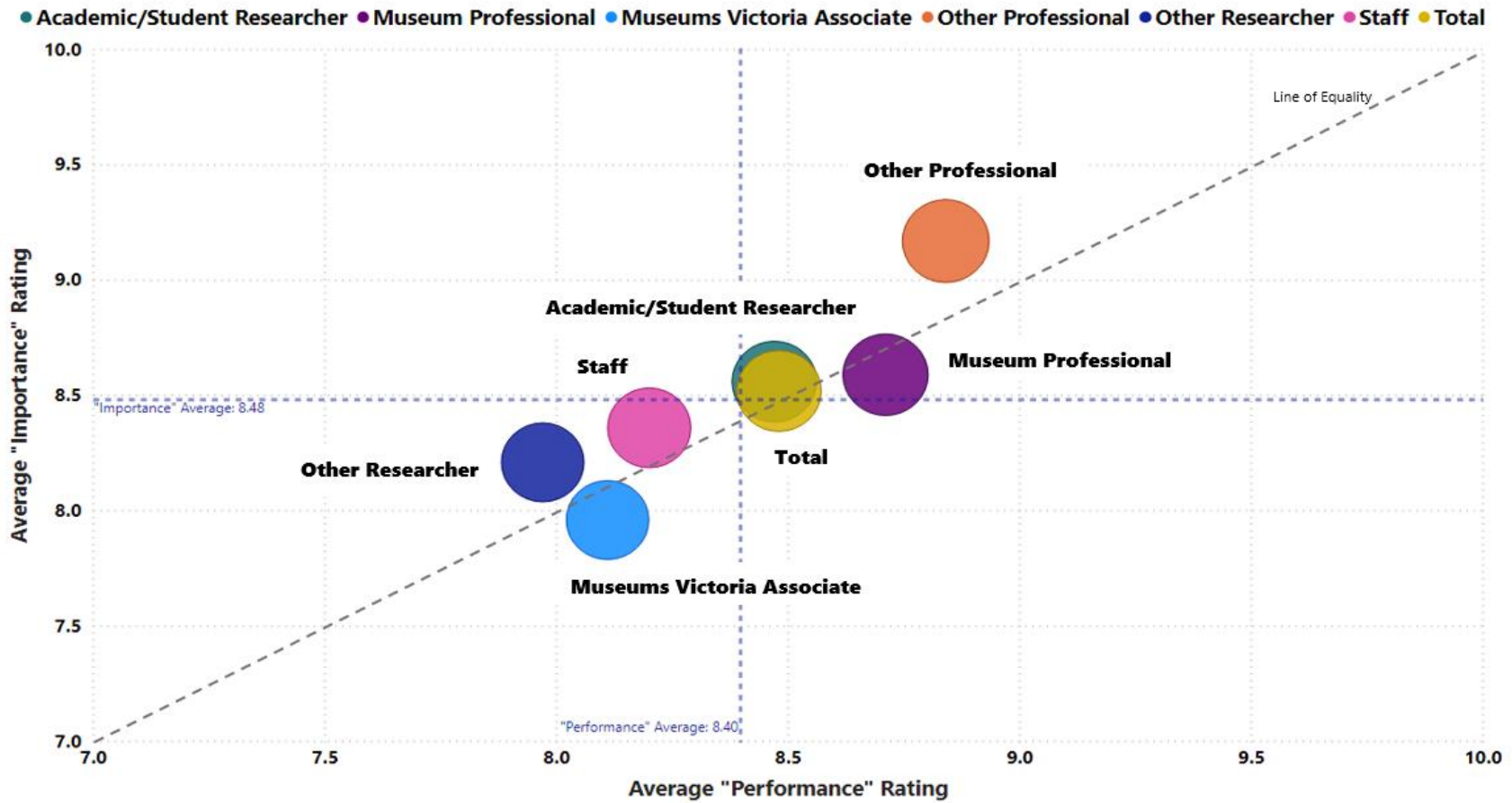
Figure 4.2: Perceived division benefit "importance" and benefit "performance" matrix by stakeholder occupation.

In general, the feedback from the stakeholder survey, in terms of benefits from their engagement with the division, was positive. When asked if they felt they benefited from their contact with the Research and Collections Division, 95% of stakeholder respondents answered "Yes."

In addition, many of the staff recognize they have a positive impact on those they engage with. When the staff were asked, "How does your engagement with external people benefit you and your work?," one response was, "I get a sense of satisfaction from being able to assist people gain new knowledge and in many cases to put their minds at ease if they are fearful of the thing they are encountering. Dealing with external people can be a great source of finding out if other people are doing the same things we do but maybe in different or better ways." Another response to the same question was, "It lets me know that what we are doing at the Museum is making an impact and that people and communities want to be involved or would like assistance in projects."

4.4.2 SATISFACTION GRAPH

Figure 4.3 shows how the stakeholders, according to their occupation, rated their satisfaction with the division on a 0–10 scale in the five categories (timeliness of response, professionalism, quality of response, ease of making contact, and overall experience). These individual categories are represented by differently colored bars within a total stacked bar. There were a total of five benefits to be rated in the survey, so the maximum satisfaction score for each stakeholder

occupation is 50. The total scores are noted on the far right of each bar. Overall, the stakeholder's satisfaction in their engagements with the division is high. The total stakeholder score for satisfaction is 45.1 out of 50 (seen by the green star in Figure 4.3). The highest-rated category in terms of satisfaction is the division's "professionalism," with a rating of 9.2 out of 10 (seen by the yellow star in Figure 4.3). There is a small score range between the different occupations; there is a 3.0-point range for satisfaction between the occupations (scores from 43.3 to 46.3 out of 50). The stakeholder occupation that had the highest satisfaction was "other professional," scoring 46.3 out of 50 (seen by the black star in Figure 4.3). This is congruent with its high scoring for overall benefits in Figure 4.1a. The "other researcher" category of this survey gave the lowest average satisfaction score at 43.3 out of 50 satisfaction in these categories (seen by the red star in Figure 4.3). Although this score is the lowest, it is still an 86.6% satisfaction score, which is not concerning. Therefore, impact, in terms of satisfaction, is very positive.

More positive feedback about satisfaction with the Research and Collections Division from the survey included the following: "Wonderful and friendly people, but professional and useful as well. Top notch," and "Working with the [museum] Dept has made the last 12 years some of the most exciting and satisfying in my life." From these responses, it is apparent that the division fulfills most of the stakeholders' academic and scientific needs as well as personal interests.
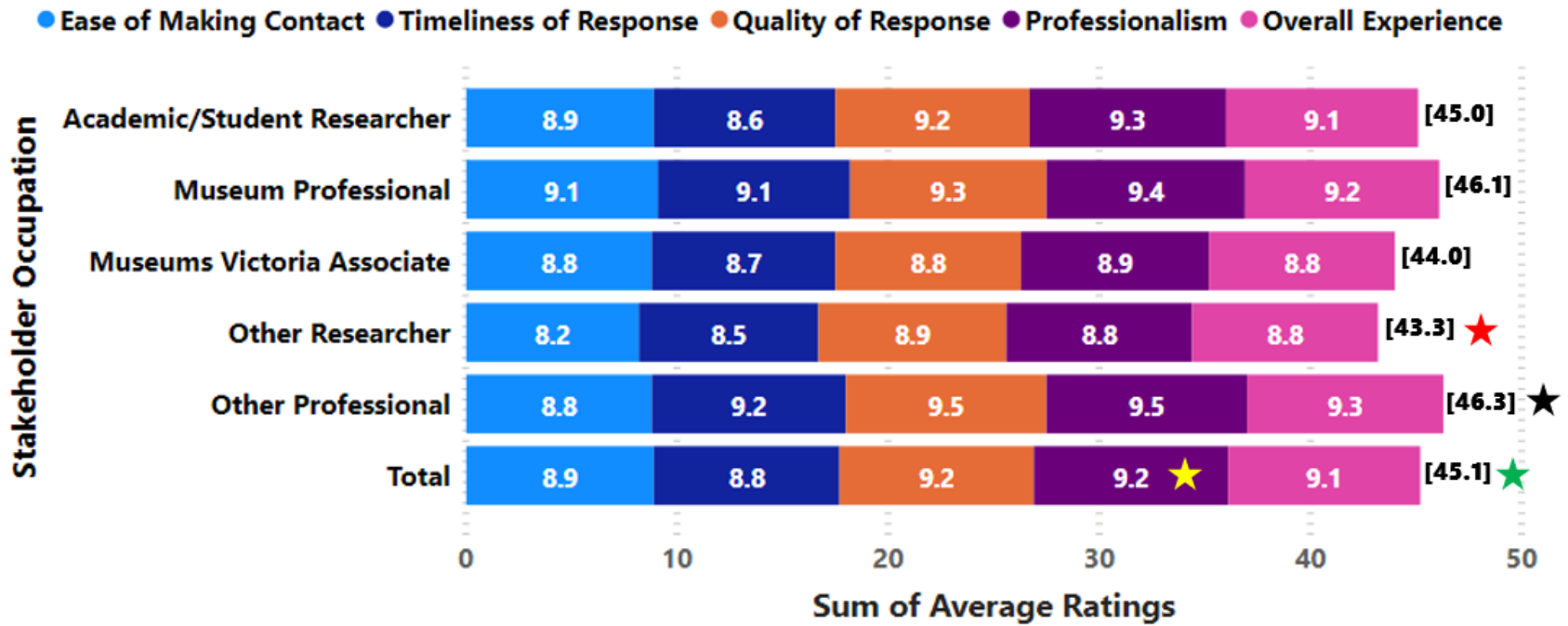
Figure 4.3: Satisfaction graph based on stakeholder occupation. *The stars are next to values that are referenced in the chapter. Total scores are noted next to each stacked bar in brackets.*

4.4.3 OUTCOME GRAPH

The final impact graph connects stakeholder occupation to the outcome(s) of their engagement with the Research and Collections Division. The stakeholders selected which of the 12 outcome options in the survey applied to their contact with the division. In Figure 4.4a, the x-axis represents the total number of outcomes, with totals noted on the far right of each bar, while the y-axis labels the stakeholder's occupation. Each differently colored bar represents a different outcome from engagement. Examples of such outcomes are a book publication and general research progression. Most stakeholder respondents had a noteworthy outcome due to their engagement with the division. According to the data, the "academic/student researchers" had the most outcomes from the engagements (117 outcomes, seen by the green star in Figure 4.4a). The second largest number of outcomes came from the "museum professional" category (58 outcomes, seen by the red star in Figure 4.4a). However, these data were expected since these are the two categories with the majority of respondents (48% of respondents and 25% of respondents, respectively).
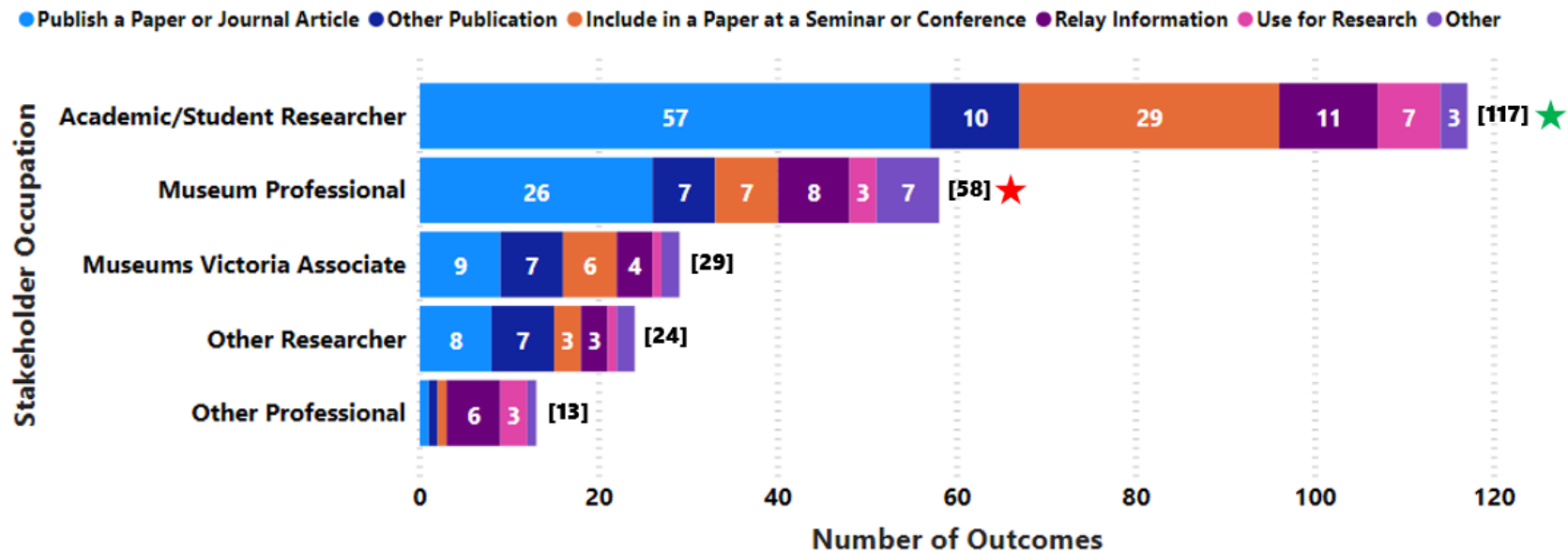

Figure 4.4a: Number of outcomes of contact by stakeholder occupation. The stars are next to values that are referenced in the chapter. Total number of outcomes are noted next to each stacked bar in brackets.

In Figure 4.4b, we represent the outcomes with switched y-axis and legend categories from Figure 4.4a, graphing the number of stakeholders by contact outcomes. The total number of stakeholders are noted on the far right of each bar. The division's engagements with these stakeholders led to at least 101 papers/journal articles and 32 other publications (seen by the red stars in Figure 4.4b). There were an additional 109 outcomes that came from these surveyed engagements. Respondents identifying as an "academic/student researcher" published a total of 57 papers/journal articles, published 10 other publications, and 29 included information in a paper at a seminar or conference (seen by the white stars in Figure 4.4b). The "museum professional" category published 26 papers/journal articles (seen by the yellow star in Figure 4.4b). Only 9 respondents (5.8% of total respondents) selected that "the contact did not lead to anything" (seen by the black star in Figure 4.4b). Therefore, the vast majority of respondents had a notable outcome from their engagement; one respondent stated in the survey, "I was able to complete a research project/chapter of my PhD that I otherwise would not have been able to do."
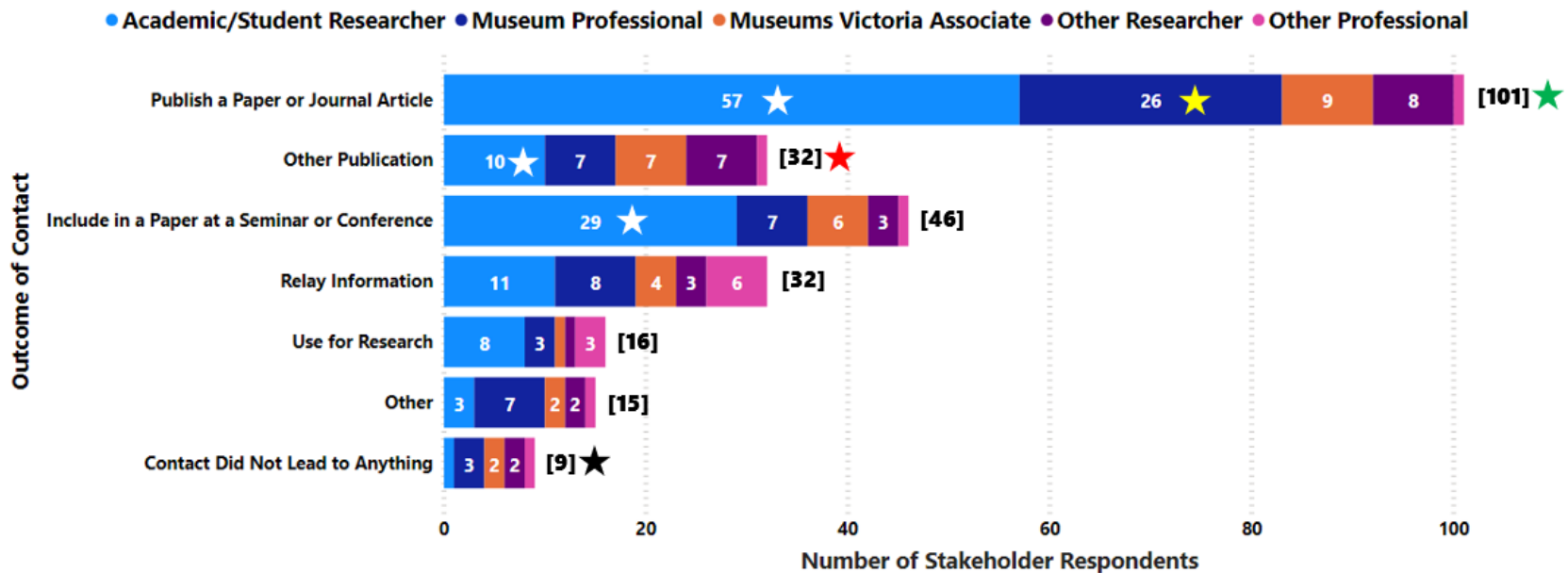

Figure 4.4b: Number of respondents that selected each outcome of contact. *The stars are next to values that are referenced in the chapter. Total number of stakeholders are noted next to each stacked bar in brackets.*

These 242 selected outcomes, which accounted for only 12% of the possible respondents from the stakeholder email list, do not include the long-term outcomes from each engagement (e.g., how many people were reached through a single publication, what research was conducted and shared for future use, etc.). Therefore, the outcomes from all the division's engagements cannot be completely accounted for but may be assumed to be of much importance and contribute to many meaningful impacts.

4.5 RESEARCH AND COLLECTIONS DIVISION'S REACH

In addition to understanding and visualizing impacts from benefits, stakeholder satisfaction, and outcomes, we studied the reach of the division to learn the extent of the division's impact. First, we analyzed the reach of the stakeholder survey. Second, we represented the data on the reach of outgoing loans from the division. Last, we analyzed the reach through *Curious?*, a public resource within the Melbourne Museum that the division utilizes to engage the general public. Based on our analysis, we found that the division has a significant impact past Melbourne, Australia.

4.5.1 SURVEY GEOGRAPHICAL REACH

Figure 4.5: Heat map of stakeholder participants' locations of residence.

In the stakeholder survey, each respondent was asked to select their current country of residence. With this information, we recorded the geographical reach of the division which can be seen in Figure 4.5. Most respondents (66%) resided in Australia and the next largest group resided in the United States (12%). These data show that the division works closely with its local residents but also shares its many resources outside of Australia. The survey results recorded the global reach of the division including engagements with stakeholders in New Zealand, Europe (the United Kingdom, France, Sweden, Germany, Czech Republic), South America (Brazil), Eastern Asia (Japan), etc. In Figure 4.5, the color and size of the dots in each country represent the number of survey respondents. Blue dots represent the fewest, purple dots represent a larger number, and red dots represent the most, as seen in the legend in the figure. Within each color group, the size of the dot also corresponds with the number of

engagements. While each dot resides within its representative country, the location of the dot within each country is not representative of its specific location.

4.5.2 OUTGOING LOANS GEOGRAPHICAL REACH

With a list of outgoing loans from the division's records, we were able to further analyze the division's reach. According to their records, they currently have 20,718 items on loan across the world. The location of these loans spread across more countries than our stakeholder survey, showing the reach of the division exceeds further than the reach represented by our survey data. We represented these data by creating another heat map seen in Figure 4.6.

Similar to the reach data from our survey, the outgoing loans data also show the most interactions within Australia and secondarily within the United States. As there are more engagements through the outgoing loans, there is a farther reach compared to our stakeholder survey, including North America (Canada and Iceland), South America (Chile and Argentina), South Africa, Europe (Italy and Romania), and Southeastern Asia (Singapore). In Figure 4.6, the color and size of the dots in each country represent the number of loans. Blue dots represent the fewest, purple dots represent a larger number, and red dots represent the most, as seen in the legend in the figure. Within each color group, the size of the dot also corresponds with the number of loans. While each dot resides within its representative country, the location of the dot within each country is not representative of its specific location.
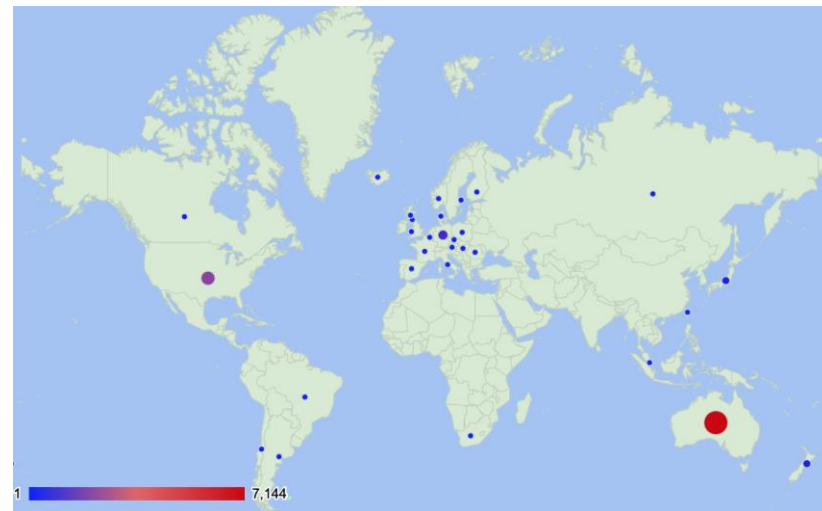
Figure 4.6: Heat map of locations that all outgoing loans from Research and Collections Division reach.

4.5.3 DIVISION REACH THROUGH *CURIOUS?*

We were able to show that the division also reached other stakeholders through *Curious?* enquiries. *Curious?* is a resource provided by the Melbourne Museum for the general public. People can go to the *Curious?* desk and make enquiries about anything that sparks their interest Over 1,600 of the total 3,618 *Curious?* enquiries were directed to the Research and Collections Division over the past year (seen in Table 4.3). The largest number of enquiries directed towards the division were directed to the Sciences department (48%). The Society & Technology department had the next highest percentage of enquiries (45%). This shows that the division has a significant number of interactions because of *Curious?*.

Table 4.3: Number of requests in Curious? for the Research and Collections Division.

Departments	People	Percentage of Total Staff	Number of Enquiries	Percentage of Enquiries for Main Departments	Percentage of all Requests
Arts	5	3.3	17	1.0	0.47
First Peoples	12	7.9	13	0.8	0.36
Directorate	3	2.0	1	0.1	0.03
Sciences	71	47.0	781	47.8	21.59
Society & Technology	17	11.3	733	44.9	20.26
Strategic Collection Management (SCM)	43	28.5	89	5.4	2.46
Total	151	100	1634	100.0	45.16
Curious/ Discovery Center	-	-	1846	-	51.02
? - unclassified	-	-	138	-	3.81
Total	151	100	3618	100.0	100.00

5. RECOMMENDATIONS

We found that Museums Victoria's Research and Collections Division has an overall positive impact through their stakeholder engagements. However, there is always room for refinement. For the division to improve, we compiled the following recommendations. First, we recommend that our guide which explains the process of measuring impact, seen in Appendix 4, be widely distributed across Museums Victoria. The guide could be used to update the project or be used for other divisions within Museums Victoria. This implementation could provide a process for each division to understand its impact on its stakeholders as well as how to improve its engagements.

Second, we recommend that the division tracks its stakeholders continuously through a routine use of a division-wide form. This practice will allow the division to understand the full scope of its interactions, including a detailed understanding of their stakeholders' occupations and purposes for contact. Existing stakeholder tracking does not routinely collect all of this information. The form will also allow for easy reproduction of our project in future years and/or for other divisions as stakeholder information will be easily accessible; a draft for this centralized form was created in our project and can be seen in Appendix 5. We recommend each staff member fills out the form after every stakeholder interaction, including answering *Curious?* inquiries and giving back-of-house tours. Although each department already has their own system in

place for tracking loans or incoming inquiries, this new form requests information on the type of stakeholder and the characteristics of the engagement for all of the departments. We distributed our draft form to the department managers so they can encourage participation from their staff. The form can be used as is or modified to include the engagements and types of stakeholders for different divisions.

Third, we recommend that the division seeks constant feedback from its stakeholders, especially after major changes in policies or structures. Sending a short and anonymous feedback form to stakeholders periodically will serve this purpose. This feedback will allow the division to understand how their actions affect its stakeholders as well as give insight to possible pattern changes. For example, in our survey, a few of the respondents gave feedback on the new loan request system of Research and Collections Division. Receiving constant stakeholder feedback will allow the division to recognize the effects of changes and continue or reassess when necessary.

To understand the impact and reach of the Research and Collections Division beyond the scope of our project, we recommend conducting a study on the stakeholder engagements that take place outside of the division directly. During focus groups, the staff indicated that their work includes giving presentations at schools, universities, conferences, etc. Understanding the characteristics of these

stakeholders within these engagements will help encompass the complete reach of the division.

Finally, we recommend conducting further studies of the outcomes from the division's engagements. While our project collected information on the direct outcomes, such as publishing a book, understanding the cascading outcomes of the engagements will better demonstrate the cumulative impacts of the division. Therefore, we recommend that the division studies how their engagements contribute to their vision statement in their 2017–2025 Strategic plan of having "society compelled to act for a thriving future" (Museums Victoria, 2017). The study should aim to demonstrate how the division's impacts support the values of Museums Victoria. We recommend the museum use our guide as a general outline for their new study and change the questions in the surveys to select cascading outcomes as opposed to direct outcomes. The questions could be similar to the following: "What were the cascading effects of the outcomes of your engagement?," "If you relayed the outcome information to a government agency, did it have any effect on new laws, policies, or regulations?," and "If the engagements with the division contributed to your research, did the new information contribute to new discoveries about your study? Did the new information contribute to better care or preservation of the species, etc.?". Similar questions would be asked in a staff survey for response comparison. Such study would be useful in measuring and visualizing a cascading impact.

6. CONCLUSIONS

The following conclusions are established from the survey data and analysis of benefits, satisfaction, and outcomes relating to stakeholder engagements. These conclusions refer to the impact and the extent of the impact (reach) that the Research and Collections Division has on its stakeholders (and vice versa).

From the surveys, we received a 12% response rate from the stakeholders (N = 156) and a 37% response rate from the staff (N = 56), which are typical rates for these corresponding types of surveys. Overall, based on stakeholder survey responses, a majority of the stakeholders, 91%, were most recently in contact with a staff member within the Sciences department. Therefore, most of the following stakeholder responses can be assumed to refer primarily to engagements with that department. In terms of purpose, 54% of stakeholder respondents selected options that related to "access to collection." These data reveal that the division should maintain, and possibly enhance, its resources for sampling items from its collections as it is a major reason for division contact for the surveyed stakeholders.

Some areas in the surveys allowed respondents to provide open-ended comments. Comments from stakeholders, such as, "Working with the [museum] Dept has made the last 12 years some of the most exciting and satisfying in my life," show that the division fulfills most of the stakeholder's academic and scientific needs as well as personal interests. Comments from staff members, such as, "It lets me know that what we are doing at the Museum is making an impact and that people and communities want to be involved or would like assistance in projects," demonstrate that, similar to stakeholders, much of the staff recognizes the positive impacts of their engagements.

A recurring comment from respondents was a suggestion to increase the funding and staffing for the division. In both surveys, many responses stated the division should have more staff to enable more timely responses and fulfilment of requests. One respondent stated that the division "could be better supported internally by staffing and budgets allowing for easier and more streamlined access for research." Some respondents also recommended more funding for sending out loans, etc. Although receiving more funds is not a simple process, this information could be important to present to the division's current or prospective funders.

We analyzed and visualized the impact in the three primary areas: benefits, satisfaction, and outcomes. Our resulting graphs represent the division's impact on the external stakeholders who responded to the survey. In the benefits graph, the stakeholder and staff responses are compared.

First, in terms of benefits:

- The total benefit score from all stakeholder respondents for the division's "performance" is high.

- The stakeholders believe the benefit that the division performs best is "expertise/trusted knowledge."

- The highest "performance" score came from "other professional" occupation "Other professional" occupation also gave the highest rating of benefit "importance."

- No substantial difference appears in stakeholder and staff responses in terms of benefits.

- A gap analysis of "importance" and "performance," shows that each occupation falls closely along the line of equality.

- All occupations gave ratings of 7–8 out of 10 in both "importance" and "performance."

In general, the feedback from the stakeholder survey, in terms of benefits from their engagement with the division, was positive. When asked if they felt they benefited from their contact with the Research and Collections Division, 95% of stakeholder respondents answered "Yes."

Second, in terms of satisfaction with the engagements:

- Stakeholders rated the division highly.

- The highest-rated category in terms of satisfaction is the division's "professionalism."

- The stakeholder occupation that rated its satisfaction the highest was "other professional."

- The "other researcher" category of this survey gave the lowest average satisfaction score (although not concerningly low).

Last, in terms of outcome, the responding stakeholders had meaningful outcomes from their engagements with the division:

- "Academic/student researchers" had the most outcomes from the engagements.

- The division's engagement with these stakeholders led to at least 101 papers/journal articles and 32 other publications.

- Only 5.8% (9) respondents answered that "the contact did not lead to anything".

Additionally, the geographical reach of the division was analyzed. Based on the surveys and outgoing loans, we found the reach of the division extends to every inhabited continent and over 30 countries. This evidence shows that the division's influence and impact stretch far outside of Australia.

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APPENDICES

APPENDIX 1: STAKEHOLDER SURVEY INVITATION EMAIL AND SURVEY QUESTIONS

The following image is the email that was sent to the stakeholders whose contact information was provided to us.

Hello,

We are contacting you as you have engaged in some capacity with Museums Victoria's Research and Collection Division in the last 5 years and your contact details were provided to Museums Victoria as part of that contact. We are interested to talk with you to better understand the nature and effectiveness of the connections staff in our department have with the wide range of people they engage with/use their services.

You are a valued partner of Museums Victoria and as such, we value your opinion.

We ask that you complete a survey, which will take no more than 10 minutes. We take your privacy very seriously at Museums Victoria. Your responses will be used for research purposes only and will be aggregated so that no individual will be identifiable.

Follow this link to the Survey:
Take the Survey

Or copy and paste the URL below into your internet browser:
http://wpi.qualtrics.com/jfe/preview/SV_78SkoXgZqef7yGF?Q_CHL=preview

You are receiving this email because you have communicated with the Museums Victoria Research and Collections Division staff in the last five years. Your details were provided to Museums Victoria as part of that communication. All answers are confidential and will be used for museum research purposes only.

If you have any problems with the link or the survey, or If you would like to deregister from the Museums Victoria online research panel, you can contact the Audience Insights team at mre@museum.vic.gov.au

Follow the link to opt out of future emails:
Click here to unsubscribe

The following questions are the questions that were asked in the stakeholder survey. The numbers in parenthesis next to each option is the coded value of the option.

Q1 Firstly, in what country do you live?

Q2 Which of the following best describes you?

- Museums Victoria associate (1)

- Professional working specifically in a museum/cultural organisation (2)

- Professional working in government (3)

- Professional working in a commercial enterprise (4)

- Independent professional researcher (5)

- Academic/student researcher (6)

- Amateur researcher (7)

- Indigenous person (8)

- Other, please specify (98)

Q3 In the last five years, how many times have you contacted someone in the Research and Collections Division?

- Only once (1)

- 2 - 3 times (2)

- 4 - 5 times (3)

- More than 5 times (4)

- Can't recall (99)

Q4 When was the **last time** you were in contact?

- In the last month (1)

- 1 - 6 months ago (2)

- 6 - 12 months ago (3)

- 1 - 2 years ago (4)

- 2 - 3 years ago (5)

- 3 - 5 years ago (6)

- Not Sure (99)

Q5 On that last time, which department was your **primary** contact?

- Directorate (1)

- Sciences (2)

- Society and Technology (3)

- First Peoples (4)

- Strategic Collections (5)

- Arts (First Peoples Collections) (6)

- Not sure/don't know (99)

Q6 Did you contact that department...?

- Directly (1)

- Through someone else in the organisation (2)

- Through "Ask us" on Museums Victoria's website (3)

- Through "*Curious?*" (4)

- Not sure (99)

Q7 What was your purpose in contacting Research and Collections on that last occasion? Was it to…? *Select all that apply*

- Receive answers for general inquiries (1)

- Interview someone at the museum (2)

- Attend an event (3)

- Seek the museum's position on a specific topic or issue (4)

- Collaborate with other museum staff (5)

- See/learn about a specific item/specimen for research (6)

- See/learn about a specific item/specimen for personal reasons (7)

- Begin to negotiate a loan/touch base about a loan (8)

- Request to use/buy an image from the collection (9)

- Borrow/sample a collection item/specimen for display or exhibition (10)

- Borrow/sample a collection item/specimen for research (11)

- Lend an item to Museums Victoria for display or exhibition (12)

- Lend an item to Museums Victoria for research (13)

- Donate items to the Museum's collection (14)

- Join an escorted tour of the back-of-house collection (15)

- Alert museum of a discovery/share knowledge (16)

- Build and connect communities (17)

- Not sure (99)

- Other, please specify (98) _____

Q8 Based on your latest contact, how would you rate your satisfaction with the Research and Collections Division for each of the following? (0 - Extremely Dissatisfied; 10 - Extremely Satisfied; Not Applicable)

Ease of Making Contact	
Timeliness of Response	
Quality of Response	
Professionalism	
Overall Experience	

Q9 How could your experience have been improved? (Displayed if overall experience rating in Q8 is < 7)

Q9 Why do you rate your experience so highly? (Displayed if overall experience rating in Q8 is > 7)

Q10 How did you use the information/item that you made contact about? Did you...? *Select all that apply*

- Publish a media item (1)
- Publish a paper/journal article (2)
- Publish a book (3)
- Write an essay or assignment (4)
- Include in a paper at a seminar or conference (5)
- Include as part of a teaching class (6)
- Develop an exhibition or program (7)
- Pass it on to someone else or another organisation (8)
- Give advice to a government agency (9)
- Learn means to navigate relationships between cultures (10)
- The contact did not lead to anything (11)
- Other, please specify (98) _____

Q11 To what extent do you agree or disagree with each of the following statements? "As a result of the contact you had with Research and Collections..."

	Strongly Disagree (1)	Disagree (2)	Neither Disagree nor Agree (3)	Somewhat Agree (4)	Strongly Agree (5)	Not Applicable (99)
I learnt new things (Q14_1)	❏	❏	❏	❏	❏	❏
I learnt more about things I already knew (Q14_2)	❏	❏	❏	❏	❏	❏
I am curious to find out more (Q14_3)	❏	❏	❏	❏	❏	❏
I enjoyed what I learnt (Q14_4)	❏	❏	❏	❏	❏	❏
I was provided the necessary resources/access for my purpose (Q14_13)	❏	❏	❏	❏	❏	❏
I was fulfilled with my request (Q14_14)	❏	❏	❏	❏	❏	❏
I will share what I learnt with others (Q14_5)	❏	❏	❏	❏	❏	❏
I know what I learnt will be useful to me (Q14_6)	❏	❏	❏	❏	❏	❏
I see or understand something from a different or new perspective (Q14_7)	❏	❏	❏	❏	❏	❏

	Strongly Disagree (1)	Disagree (2)	Neither Disagree nor Agree (3)	Somewhat Agree (4)	Strongly Agree (5)	Not Applicable (99)
I remembered something that I had forgotten (Q14_8)	❏	❏	❏	❏	❏	❏
I felt my work/request was important (Q14_9)	❏	❏	❏	❏	❏	❏
I developed professional skills (Q14_10)	❏	❏	❏	❏	❏	❏
I became involved with a professional network (Q14_11)	❏	❏	❏	❏	❏	❏
I changed my behavior/joined a community group (Q14_12)	❏	❏	❏	❏	❏	❏

Q12 Was there anything else that you did that was not mentioned in the previous question?

Q13 Do you feel you benefited from your contact with the Research and Collections Division?

- ● Yes (1)

- ● No (2)

- ● Not sure (99)

Q14 In what ways? (Displayed if "Yes" was selected in Q13)

Q14 Why not? (Displayed if "No" was selected in Q13)

Q15 How important is it to you that the division provide each of the following? (0 - Not at All Important; 10 - Extremely Important; Not Applicable)

Expertise/Trusted Knowledge	
Resources/Access	
Information that Could Not Have Been Received Somewhere/Somehow Else	
Validation of Research	
Unexpected Information	
Up-to-Date Information	
Historical Information	
Networking	
Professional Skills	

Q16 How well do you think the division currently provides each of the following? (0 - Not at All Well; 10 - Very Well; Not Applicable)

Expertise/Trusted Knowledge	
Resources/Access	
Information that Could Not Have Been Received Somewhere/Somehow Else	
Validation of Research	
Unexpected Information	
Up-to-Date Information	
Historical Information	
Networking	
Professional Skills	

Q17 Is there anything else that could be important for the division to provide to you?

Q18 How likely are you to contact the Research and Collections Division again? (0-10)

Q19 How likely are you to recommend working with the Research and Collections Division to other colleagues/friends? (0-10)

Q20 How valuable to you is the relationship between you and the Research and Collections Division? (0-10)

Q21 And finally, are there any other comments you would add about your engagement with the Research and Collections Division?

APPENDIX 2: STAFF SURVEY INVITATION EMAIL AND SURVEY QUESTIONS

The following image is the email that was sent to the staff members via the Research and Collections Division's email alias.

Hello,

As a member of the Research and Collections Division, we are contacting you for help on a project being conducted into measuring the impact of the Research and Collections Division.

The study aims to map stakeholder engagements with the Research and Collections Division and understand and analyse the impact of the relationships between you and your stakeholders.

So far, we have developed a stakeholder survey to be taken by people who have contacted the Research and Collections Division. The survey focuses on understanding the impact the Research and Collections Division has on external stakeholders.

The next step is conducting a staff survey, which was developed through a series of meetings with Research and Collections staff. We hope to use the results of both surveys to create a visual representation of the engagements Research and Collections staff have with external stakeholders and determine a number of qualities by which the impact of the division can be measured.

We ask for your assistance in completing the survey, which will take no more than 10 minutes. Please feel open to express any and all opinions. Your responses will be aggregated so that no individual can be identified.

Please complete the survey by 14 February 23:59 AEDT

Take the Survey

Or copy and paste the URL below into your internet browser:

http://wpi.qualtrics.com/jfe/form/SV_egFc04HkqYijYTr

The following questions are the questions that were asked in the staff survey. The numbers in parenthesis next to each option is the coded value of the option.

Q1 Firstly, in which department do **you** work?

- Directorate (1)

- Sciences (2)

- Society and Technology (3)

- First Peoples (4)

- Strategic Collection Management (5)

- Arts (6)

Q2 Is it part of your role to engage with people external to Museums Victoria?

- Yes (1)

- No (2)

[Skip to end of survey if "No" is selected in Q2]

Q3 Which of the following describes the external people with whom you engage? *Select all that apply*

- Professionals working specifically in a museum/cultural organisation (1)

- Professionals working in government (2)

- Professionals working in a commercial enterprise (3)

- Independent professional researchers (4)

- Academic/student researchers (5)

- Amateur researchers (6)

- First Peoples individuals/communities (7)

- Other, please specify (98) _____

Q4 Which of the following **best** describes the external person you are in contact with the **most**?

- Professional working specifically in a museum/cultural organisation (1)

- Professional working in government (2)

- Professional working in a commercial enterprise (3)

- Independent professional researcher (4)

- Academic/student researcher (5)

- Amateur researcher (6)

- First Peoples individual/community (7)

- Other, please specify (98) _____

Q5 Thinking of the last contact with this external person, what was the person's purpose? Was it to…? *Select all that apply*

- Make a general inquiry (1)

- Interview someone at the museum (2)

- Attend an event organised by the Research and Collections Division (3)

- Seek the museum's position on a specific topic or issue (4)

- Collaborate with museum staff (5)

- See/learn about a specific item/specimen for research (6)

- See/learn about a specific item/specimen for personal reasons (7)

- Begin to negotiate a loan/touch base about a loan (8)

- Request to use/buy an image from the collection (9)

- Borrow/sample a collection item/specimen for display or exhibition (10)

- Borrow/sample a collection item/specimen for research (11)

- Lend an item to Museums Victoria for display or exhibition (12)

- Lend an item to Museums Victoria for research (13)

- Donate items to the Museum Victoria's collection (14)

- Tour a back-of-house collection (15)

- Alert museum of a discovery/share knowledge (16)

- Build and connect communities (17)

- Not sure (99)

- Other, please specify (98) _____

Q6 To what extent do you agree or disagree with each of the following statements? "As a result of the contact you had with the external stakeholder they..."

	Strongly Disagree (1)	Disagree (2)	Neither Disagree nor Agree (3)	Somewhat Agree (4)	Strongly Agree (5)	Not Applicable (99)
learnt new things (1)	❏	❏	❏	❏	❏	❏
learnt more about things they already knew (2)	❏	❏	❏	❏	❏	❏
were curious to find out more (3)	❏	❏	❏	❏	❏	❏
enjoyed what they learnt (4)	❏	❏	❏	❏	❏	❏
will share what they learnt with others (5)	❏	❏	❏	❏	❏	❏
know what they learnt will be useful to them (6)	❏	❏	❏	❏	❏	❏
see or understand something from a different or new perspective (7)	❏	❏	❏	❏	❏	❏
remembered something that they had forgotten (8)	❏	❏	❏	❏	❏	❏
felt their work/request was important (9)	❏	❏	❏	❏	❏	❏
developed professional skills (10)	❏	❏	❏	❏	❏	❏
became involved with a professional network (11)	❏	❏	❏	❏	❏	❏
changed their behaviour / joined a community group (12)	❏	❏	❏	❏	❏	❏

Q7 Do you feel **they** benefited from their contact with your department?

- Yes (1)

- No (2)

- Not sure (99)

Q8 In what ways? (Displayed if "Yes" was selected in Q7)

Q8 Why not? (Displayed if "No" was selected in Q7)

Q9 Overall, when people contact you / your department, do you think they are satisfied?

- Yes (1)

- No (2)

- Not sure (99)

Q10 In what ways? (Displayed if "Yes" was selected in Q9)

Q10 Why not? (Displayed if "No" was selected in Q99)

Q11 How does your engagement with external people benefit **you** and your work?

Q12 In your opinion, how important is it to you to provide the following to external people who contact you / your department? (0 - Not at All Important; 10 - Extremely Important; Not Applicable)

Expertise/Trusted Knowledge	
Resources/Access	
Information that Could Not Have Been Received Somewhere/Somehow Else	
Validation of Research	
Unexpected Information	
Up-to-Date Information	
Historical Information	
Networking	
Professional Skills	

Q13 In your opinion, how well do you think your department provides each of the following to people who contact you / your department? (0 - Not at All Well; 10 - Very Well; Not Applicable)

Expertise/Trusted Knowledge	
Resources/Access	
Information that Could Not Have Been Received Somewhere/Somehow Else	
Validation of Research	
Unexpected Information	
Up-to-date Information	
Historical Information	
Networking	
Professional Skills	

Q14 Is there anything else that you think is important to provide the external people who contact you / the department?

Q15 Finally, are there any other comments you would like to make?

APPENDIX 3: FOCUS GROUPS

3.1 INTRODUCTION AND DISCUSSION GUIDE

The following text is the script that was used to facilitate our focus groups.

Intro

Hello,

First of all, thank you for being here.

We are Deborah Fontanez, Emma Geary, Elene Kavtaradze, Xiaoyue Lyu, and we are part of the American team that will be working on an Audience Insight project. As a member of the Research and Collections Division, we are hoping that you would give us more insight into what you do.

Just a little disclaimer:

Participation in this focus group is completely voluntary, and you do not have to answer any questions you do not wish to at any point. If you have any questions at any point, please let us know. Please feel open to express any and all opinions as your answers will not be used outside of our project description.

*Does that sound okay?

Before we start with the questions, we would like to introduce the project to you.

Project Description

Our project focuses on demonstrating the wider museum impact by visualizing stakeholder relationships. We are specifically focused on the Research and Collections Division. The goal of our project is to understand and analyze the impact of the relationships between you, the staff of R&C, and your stakeholders.

So far, we have developed a stakeholder survey to some of the stakeholders of the Research and Collections division. The survey focused on understanding the perceived impact on stakeholders of the Research and Collections Division.

Doing these focus groups is our next step. Based on the findings of these meetings, we will compile a survey for the staff of Research and Collections and send it out hopefully within the week.

We will then be compiling the data to create a visual representation of these relationships.

*Does this make sense?

Questions

First, we would like to ask some questions about you.

1. What do you do?

2. Do you engage with people external to the organisation?

    a. In what ways? Please describe the interactions between you and these people.

    b. Who are these people?

    c. What do you do as part of that engagement?

    d. Why do you think the external persons/organizations engage with you/the museum?

    e. PLEASE LOOK AT LIST 1 - DOES LIST 1 CAPTURE ALL OPTIONS FOR OUR SURVEY?

3. How would you describe the outcomes of these engagements for the external person/organization?

    a. PLEASE LOOK AT LIST 2 - DOES LIST 2 CAPTURE ALL OPTIONS FOR OUR SURVEY?

4. How would you describe the outcomes of these engagements for you?

    a. PLEASE LOOK AT LIST 2 - DOES LIST 2 CAPTURE ALL OPTIONS FOR OUR SURVEY?

5. How would you define your impact on/benefit to/value for them?

    a. PLEASE LOOK AT LIST 3 - DOES LIST 3 CAPTURE ALL OPTIONS FOR OUR SURVEY?

6. How would you define their impact on/ benefit to/ value for this museum?

    a. PLEASE LOOK AT LIST 3 - DOES LIST 3 CAPTURE ALL OPTIONS FOR OUR SURVEY?

7. Finally, are there any other comments you would like to add about your engagements with external contacts?

LIST 1

· Seek the museum's position on a specific topic or issue

· Interview someone at the museum

· Seek expert advice on a specific topic or issue

· Seek expert advice to aid your research project

· Provide information/feedback to research and collections staff about an object, topic or issue

· Collaborate with museum staff on a joint research project

· Request research access to a collection item

· Request to borrow a collection item for display or exhibition

· Request to borrow a collection item for research

· Lend an item to Museums Victoria for display or exhibition

· Lend an item to Museums Victoria for research

· Join an escorted tour of the back-of-house collection

· Buy an image from the collection

· Make an offer to donate items to the Museum's collection

· Other, please specify _____

LIST 2

- · I learnt new things

- · I learnt more about things I already knew

- · I am curious to find out more

- · I enjoyed what I learnt

- · I will share what I learnt with others

- · I know what I learnt will be useful to me

- · I see or understand something from a different or new perspective

- · I remembered something that I had forgotten

- · I felt my work/request was important

- · I developed professional skills

- · I became involved with a professional network

- · I joined an activist group

LIST 3

- Expertise

- Access to collections

- Validation of your research

- Trusted knowledge

- Unexpected information

- Up-to-date information

- Unique information

- Historical information

- Networking

- Professional ski

3.2. DEPARTMENT INFORMATION OF FOCUS GROUP, INDIVIDUAL MEETING, AND PHONE INTERVIEW PARTICIPANTS

The following table shows the number of persons that attended the focus groups, individual meetings, and phone interviews. The rows are divided by whether the meetings were focused on feedback for the stakeholder or staff survey. The right column represents the department the staff member is a part of.

	Department
Feedback on Stakeholder Survey	
Focus Group 1	
Person 1	Strategic Collection Management
Person 2	Sciences
Person 3	Sciences
Person 4	Sciences
Person 5	Society and Technology
Phone Interview	
Person 1	Society and Technology
Meeting	
Person 1	Sciences
Feedback on Staff Survey	
Focus Group 2	
Person 1	Sciences
Person 2	Strategic Collection Management
Meeting	
Person 1	Arts

3.3 RELATIVE REPRESENTATION IN THE DEPARTMENTS DURING OUR FOCUS GROUPS, INDIVIDUAL MEETINGS, AND PHONE INTERVIEWS

The following table shows each department within the Research and Collections Division in the furthest left column. The next column shows the number of staff members in each department. The percentage of total column represents the percentage of staff members in each department in the whole division. Then, the last column compares the percentage of staff members in each department who attended our meetings.

Departments within Research and Collections Division	Number of People in Department	Percentage of Total Division Staff	Percentage in Focus Groups
Arts	5	3.3%	10%
First Peoples	12	8.0%	0%
Directorate	3	2.0%	0%
Sciences	71	47.0%	50%
Society & Technology	17	11.3%	20%
Strategic Collection Management	43	28.5%	20%
Total	151	100.0%	100%

The following guide was sent to the managers of each department to distribute. The guide provides a general step-by-step process of how to recreate our project.

MEASURING

RESEARCH AND

COLLECTION

DIVISION'S

IMPACT:

A GUIDE TO COLLECTING
INFORMATION ON
EXTERNAL
ENGAGEMENTS

March, 2020

(1) COLLECTING DATA: SURVEYS

☑ Record each contact's information on the "external contact tracking form" on a regular basis

☑ Identify external contacts to be surveyed

☑ Review external survey which investigates:
1. Purpose
2. Satisfaction
3. Outcomes
4. Benefits

> Click here for external survey

☑ Facilitate focus groups for survey feedback

> Click here for focus group discussion guide

☑ Review staff survey which investigates:
1. Purpose
2. Benefits

> Click here for staff survey

☑ Allow ~ 2 weeks in the field for each survey

☑ Send reminder emails partway through

Page 1

ANALYSING DATA

1 Download survey data into spreadsheet

2 Code open-ended responses using standard qualitative coding guidelines

3 Produce a top-line report of frequency responses to each question

4 Develop required analyses such as crosstabs & gap analyses

3 ## VISUALISING DATA

Using Microsoft Power BI Desktop:
1. Select data to be represented
2. To nicely visualise, plot:

- Benefits
- Satisfaction   by
- Outcome of engagement

- Occupation
- Purpose

Click here to download Microsoft Power BI Desktop for free

Click here to watch an in depth video of how to use Microsoft Power BI Desktop

Example (Satisfaction by Occupation):

Page 2
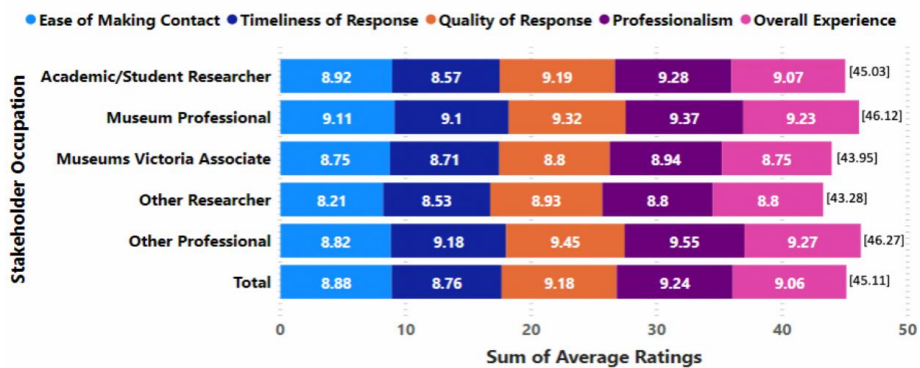
Links:

External survey link:
https://wpi.ca1.qualtrics.com/jfe/preview/SV_5mA5OM8TLw808x7?Q_SurveyVersionID=current&Q_CHL=preview

Focus group discussion guide link:

https://docs.google.com/document/d/1aDetb2DrXryzqv68l-YkOYT8vhUp7maW3W42K-CHp9M/edit?usp=sharing

Staff survey link:
https://wpi.ca1.qualtrics.com/jfe/preview/SV_88MuNoCoP5OtwRT?Q_SurveyVersionID=current&Q_CHL=preview

Qualitative coding guidelines link:

https://www.cessda.eu/Training/Training-Resources/Library/Data-Management-Expert-Guide/3.-Process/Qualitative-coding

Crosstabs link:

http://janda.org/c10/Lectures/topic09/crosstabsSPSS.htm

Gap analysis link:

https://www.smartsheet.com/gap-analysis-method-examples

Download Power BI link:

https://powerbi.microsoft.com/en-us/downloads/

Power BI video tutorial link:

https://www.youtube.com/watch?v=AuYzsfXKkbM

APPENDIX 5: CENTRALIZED FORM TO TRACK STAKEHOLDER ENGAGEMENTS

The following drafted form can be used by Museums Victoria staff members to track engagements with stakeholders.

Q1 Name(s) of external contact(s):

Q2 Institution/company the contact works for:

Q3 The contact was:

- Academic

- Student researcher

- Professional working specifically in a museum/cultural organisation

- Museums Victoria associate

- Professional working in government organisation

- Researcher for another organisation

- Amateur researcher

- Independent professional researcher

- Not sure

- Other

Q4 Date of the first contact:

Q5 Country the contact lives in:

- Australia

- United States

- New Zealand

- United Kingdom

- France

- Brazil

- Other

Q6 Email:

Q7 Telephone:

Q8 Purpose for contact:

- Borrow a collection item/specimen for research

- Collaborate with MV staff

- View/examine collection item/specimen for research

- Borrow collection item/specimen for display/exhibition

- Lend an item to MV for display/exhibition

- Donate items to the MV's collection

- Alert MV of a discovery/share knowledge

- Receive answers for general inquiries

- Join a collection tour

- Other

Q9 MV staff/department contacted:

Q10 How did the contact come about?

- Directly

- Through someone else in the organisation

- Through "Ask us" on Museums Victoria's website

- Through "*Curious?*"

- Not sure

Q11 Was the purpose for contact resolved...

- Partially

- Fully

- Not at all

The following table shows the statistics of the stakeholder survey email. The table shows how many stakeholder emails we received, how many emails we attempted to send, how many emails failed and bounced, and how many were successfully delivered. The leftmost column is the name of the list where the emails were taken from. The next column to the right is the date and time when the email to each alias was sent.

Mailing List Names	Date Sent	External People Provided	External People and the Team	Duplicate Emails	Attempted	Failed Emails	Successfully Sent	Emails bounced	Delivered
R&C Loan contacts 2015-19 - Outward Exhibition Loans	3 Feb 2020 8:21 PM MST	59	64	7	57	0	57	1	56
R&C Collaborators 18122019	3 Feb 2020 8:41 PM MST	167	172	0	172	2	170	2	168
R&C Loan contacts 2015-19 - Research Loans	3 Feb 2020 8:42 PM MST	607	612	27	585	4	581	48	533
outgoing loan master 2015-19_Sciences - Outward Research Loans_Sciences	3 Feb 2020 8:43 PM MST	559	564	3	561	5	556	52	504
Total		1392	1412	37	1375	11	1364	103	1261

The following graph shows the number of responses on the stakeholder survey by date.
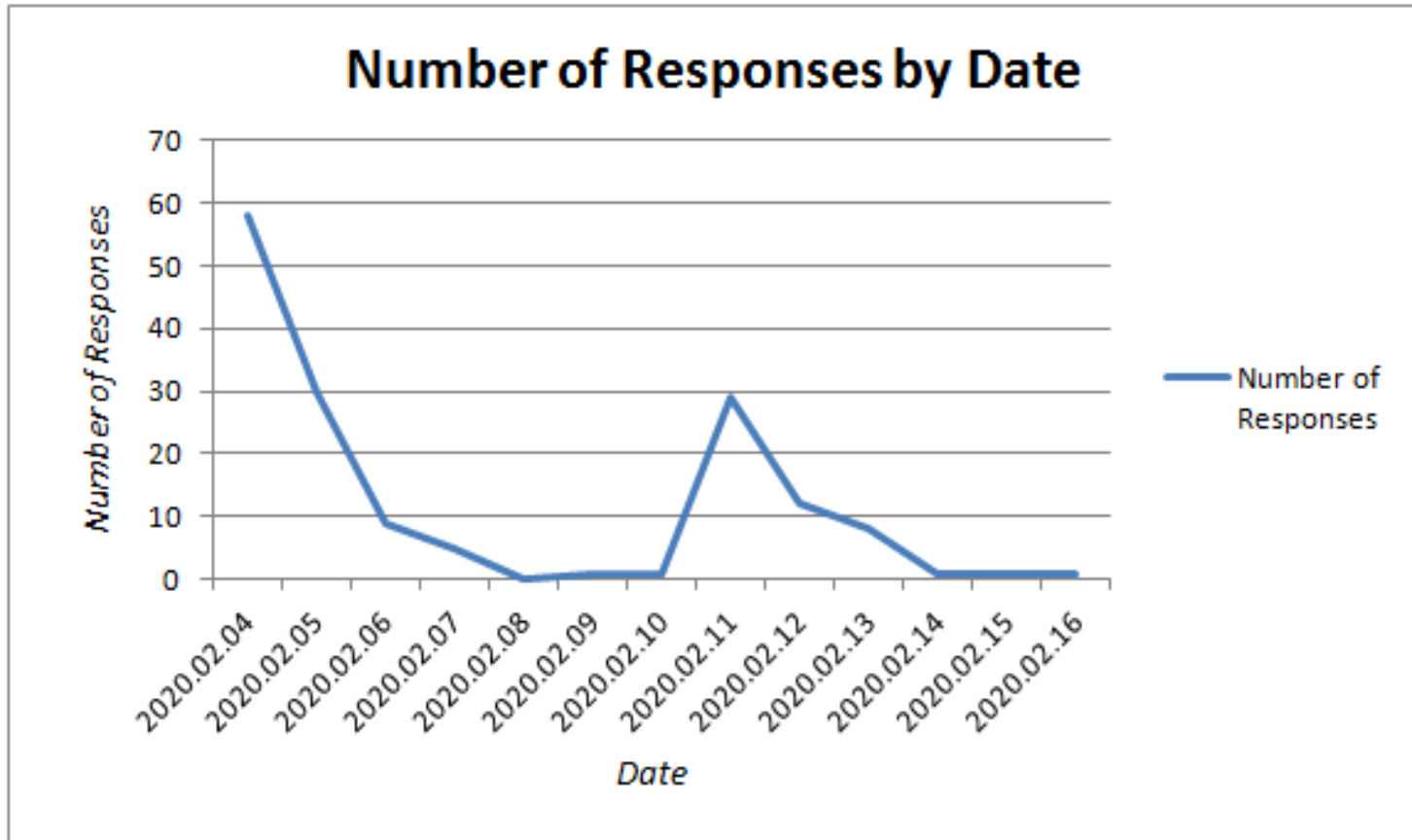
Number of Responses by Date

The following pie charts in this appendix show the response statistics of a few stakeholder survey questions: when the stakeholders were last in contact with the division, the primary department that the stakeholders contacted on the last occasion, the occupation of the responding stakeholders, and the purpose of the contact on the last occasion.

7.1 TIME SINCE LAST CONTACT

Time Since Last Contact

Q5

- In the last month
- 1 - 6 months ago
- 6 - 12 months ago
- 1 - 2 years ago
- 2 - 3 years ago
- 3 - 5 years ago
- Not Sure

Primary Department Contact

5.13%

4.49%

5.77%

1.92%

82.69%

Q6

- First Peoples
- Sciences
- Society and Technology
- Strategic Collections
- Not sure/don't know

Stakeholder Survey: Occupation of Stakeholders

Q3

- Academic/student researcher
- Amateur researcher
- Independent professional researcher
- Museums Victoria associate
- Professional working in a commercial enterprise
- Professional working in government
- Professional working specifically in a museum/cultural organisation
- Researcher for an other organization
- Retired researcher
- Other

2.56%
2.56%
1.28%
25.00%
48.08%
3.85%
1.92%
10.26%
2.56%
1.92%

Stakeholder Survey: Purpose of Last Contact

- Alert museum of a discovery/share knowledge
- Attend an event
- Begin to negotiate a loan/touch base about a loan
- Borrow/sample a collection item/specimen for display or exhibition
- Borrow/sample a collection item/specimen for research
- Build and connect communities
- Collaborate with other museum staff
- Donate items to the Museum's collection
- Interview someone at the museum
- Join an escorted tour of the back-of-house collection
- Lend an item to Museums Victoria for research
- Not sure
- Receive answers for general inquiries
- Request advise or consultation
- Request collaboration on research
- Request collection access or a loan
- Request facility or space access
- Request to use/buy an image from the collection
- See/learn about a specific item/specimen for personal reasons
- See/learn about a specific item/specimen for research

7.5 PURPOSE OF LAST CONTACT STAKEHOLDER CATEGORIZATION

| Stakeholder Purpose of Last Contact	Number of Selections	Percentage of All Selections
Access to Collection Borrow/sample a collection item/specimen for research (71) See/learn about a specific item/specimen for research (37) Begin to negotiate a loan/touch base about a loan (29) Join an escorted tour of the back-of-house collection (5) Borrow/sample a collection item/specimen for display or exhibition (4) Request collection access or a loan (4) Request to use/buy an image from the collection (3) See/learn about a specific item/specimen for personal reasons (3)	156	54.35%
Collaboration Alert museum of a discovery/share knowledge (8) Build and connect communities (6) Collaborate with other museum staff (50) Request advise or consultation (2) Request collaboration on research (4)	70	24.39%
Other Attend an event (6) Other (17) Request facility or space access (2) Not sure (3)	28	9.76%
Giving/lending items Donate items to the Museum's collection (8) Lend an item to Museums Victoria for research (11)	19	6.62%

Stakeholder Purpose of Last Contact	Number of Selections	Percentage of All Selections
Receive answers for general inquiries Receive answers for general inquiries (8) Seek the museum's position on a specific topic or issue (5) Interview someone at the museum (1)	**14**	**4.88%**
Total	**287**	**100.00%**

The following graph shows the number of responses on the staff survey by date.
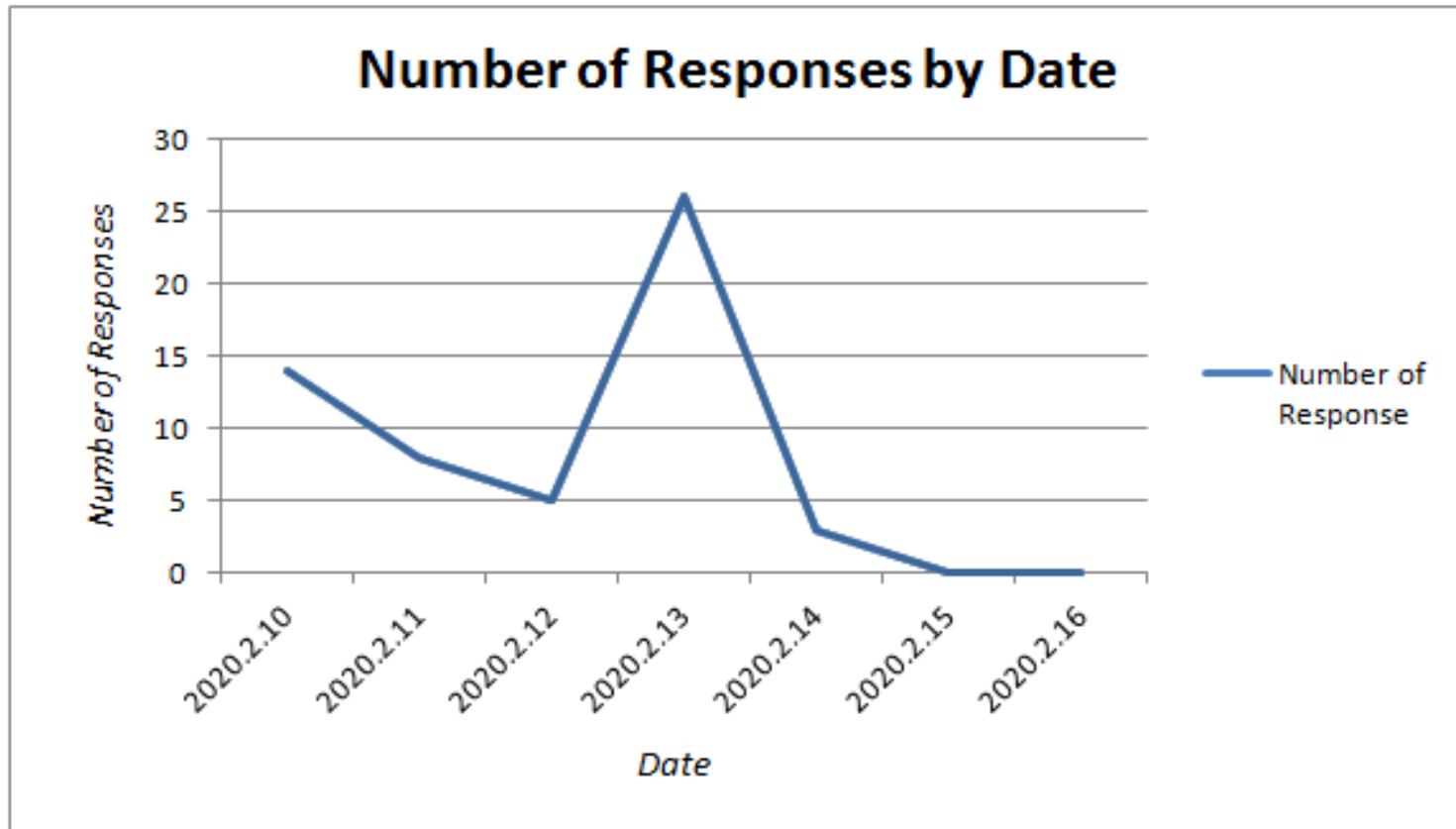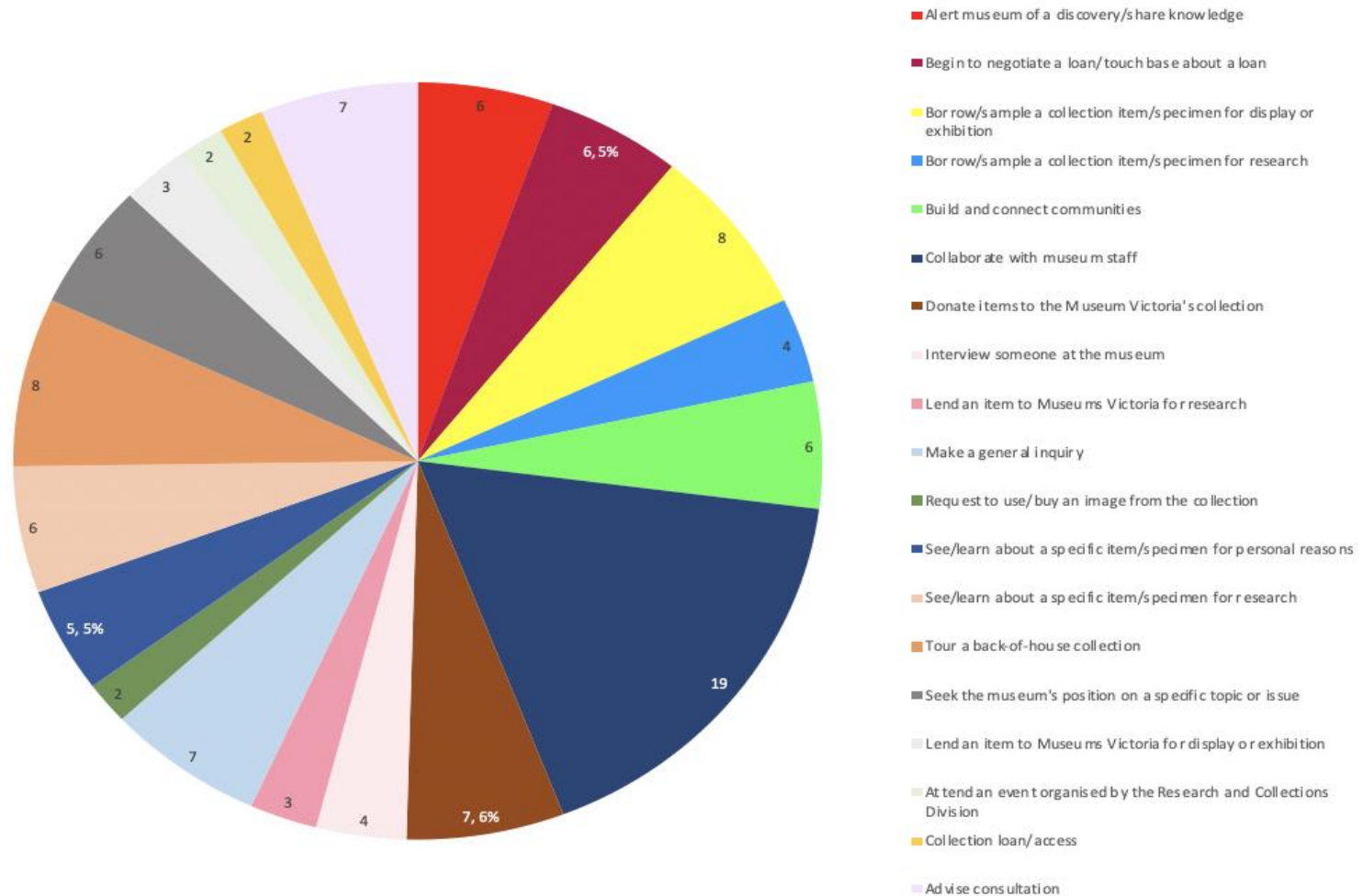
The following pie charts in this appendix show the response statistics of a couple staff survey questions: the occupation of the stakeholders the staff is primarily contacts and the purpose of the contact with this stakeholder on the last occasion.

9.1 OCCUPATION OF STAKEHOLDERS

Staff Survey: Occupation of Stakeholders

Staff Survey: Purpose of Last Contact

Legend:
- Alert museum of a discovery/share knowledge
- Begin to negotiate a loan/touch base about a loan
- Borrow/sample a collection item/specimen for display or exhibition
- Borrow/sample a collection item/specimen for research
- Build and connect communities
- Collaborate with museum staff
- Donate items to the Museum Victoria's collection
- Interview someone at the museum
- Lend an item to Museums Victoria for research
- Make a general inquiry
- Request to use/buy an image from the collection
- See/learn about a specific item/specimen for personal reasons
- See/learn about a specific item/specimen for research
- Tour a back-of-house collection
- Seek the museum's position on a specific topic or issue
- Lend an item to Museums Victoria for display or exhibition
- Attend an event organised by the Research and Collections Division
- Collection loan/access
- Advise consultation

9.3 PURPOSE OF LAST CONTACT STAFF CATEGORIZATION

Staff Purpose of Contact	Number of Selections	Percentage of All Selections
Access to Collection Borrow/sample a collection item/specimen for display or exhibition (8) Tour a back-of-house collection (8) Begin to negotiate a loan/touch base about a loan (6) See/learn about a specific item/specimen for research (6) See/learn about a specific item/specimen for personal reasons (5) Borrow/sample a collection item/specimen for research (4) Request to use/buy an image from the collection (2) Collection loan/access (2)	41	36.94%
Collaboration Collaborate with museum staff (19) Advise consultation (7) Alert museum of a discovery/share knowledge (6) Build and connect communities (6)	38	34.23%
Receive answers for general inquiries Make a general inquiry (7) Seek the museum's position on a specific topic or issue (6) Interview someone at the museum (4)	17	15.32%
Giving/lending items Donate items to the Museum Victoria's collection (7) Lend an item to Museums Victoria for display or exhibition (3) Lend an item to Museums Victoria for research (3)	13	11.71%
Other Attend an event organised by the Research and Collections Division (2)	2	1.80%
Total	111	100.00%