

Meaningful Engagement at Te Papa Tongarewa

A study exploring meaningful engagement with
social media at New Zealand's National Museum,
Te Papa Tongarewa



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2/26/2013

Meaningful Engagement at Te Papa Tongarewa:

A study exploring meaningful engagement with social media at New Zealand's National Museum, Te Papa Tongarewa

An Interactive Qualifying Project Report

Submitted to the Faculty of
Worcester Polytechnic Institute
In partial fulfillment of the requirements for the
Degree of Bachelor of Science
Submitted on March 1st, 2013

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This report represents the work of four WPI undergraduate students submitted to the faculty as evidence of completion of a degree requirement, WPI routinely publishes these reports on its website without editorial or peer review. For more information about the projects program at WPI, please see <http://www.wpi.edu/Academics/Projects>

Abstract

The National Museum of New Zealand Te Papa Tongarewa uses social media to connect with its audience off-the-floor. While there are currently tools to measure online engagement, Te Papa has no way to measure if the engagement is meaningful. We researched current online analytic tools and existing definitions for meaningful engagement, which we found to be inconsistent. Using this research, we developed a definition for meaningful engagement and tested characteristics of Facebook posts created by Te Papa using this definition. Using our definition as a basis, we provided Te Papa with a set of recommendations on how to create Facebook posts that enhance meaningful engagement.

Executive Summary

Without agreed-upon best practices to assess the effectiveness of social media for engendering visitor engagement, museums cannot determine whether their increasing social media presence is actually beneficial or simply a waste of resources. Measuring the quality of visitor participation in social media is difficult. For example, a user has the ability to ‘Like’ a Facebook page, but there is no way to determine if that person is actually interacting with the page on a regular basis. This discrepancy generates misleading numbers on web pages and inaccurate conclusions about how people are engaging with different technologies. The goal of this project was therefore to provide Te Papa with a better understanding of meaningful engagement and recommendations on how to enhance it in the context of social media.

Literature Review

Meaningful engagement has been defined in many different ways. Naomi Haywood and Paul Cairns developed three key factors that allow for engagement: participation, narration, and the co-presence of others (2006). Haywood and Cairns argue that all three of their factors must be present in order to develop an environment that encourages meaningful engagement (2006). Morris Hargreaves McIntyre (a company dedicated to organizational development) created a hierarchy of engagement: social, intellectual, emotional, and spiritual (2005). The Morris Hargreaves McIntyre model of engagement describes each level as building from the previous one (2005). Renee Warren continually emphasizes four key terms in her definition: Relationships, Community, Relevance, and Active Involvement. Warren also claims that meaningful engagement cannot occur unless all of the parts are present (2011).

There is a common theme throughout each of these definitions: meaningful engagement can be defined with a group of factors, each being necessary. Whatever form the definition takes, it is clear that meaningful engagement in any context – whether physical exhibits or social media - can be best defined by a set of factors that work together to achieve meaningful engagement.

In the social media world, being able to measure user engagement would allow Te Papa to cater its posts to elicit an ideal response among users. Several tools currently exist to measure the overall success of such social media. These tools can be very useful for monitoring social media and websites alike, but they all have several inherent drawbacks. All of these tools function on the principle of counting ‘Likes’, ‘Comments’, and ‘Shares’, and comparing these to the number of followers. In addition, they all do it in different ways. Therefore there is no continuity across measurement tools. Since the tools are based entirely “on the numbers,” they are blind to factors such as contests that generate a large amount of activity but no real engagement.

Methodology

The goal of this project was to provide Te Papa with a better understanding of meaningful engagement and a set of recommendations on how to enhance it in the context of social media. Our first objective was to understand the museum’s social media presence. The second objective was to define meaningful engagement and apply it to social media. The third objective was to identify characteristics of social media content that enhance meaningful engagement.

We conducted in-depth interviews with five key personnel to accomplish the first objective. These discussions gave us insight into the museum’s social media strategy, its intended audience, and

what it was hoping to achieve when posting content. We interviewed staff members who post content to Te Papa’s social media platforms to learn about their individual motivations for posting content.

We drew on several resources to guide our process of defining meaningful engagement, including our literature review and staff interviews. After performing a thorough content analysis on those resources, we held in-depth discussions among ourselves and with staff to set parameters for the term ‘meaningful engagement.’ We synthesized the results of our analyses to form a “pillars of engagement” model that could be used to gauge meaningful engagement.

We applied our model to social media in order to identify trends in meaningful engagement. We narrowed our scope to focus only on Facebook. We compiled a list of characteristics that could be found in a given Facebook post: picture, video, question, link, contest, and casual voice. These became the variables in our survey. We selected previously posted content from the Te Papa Facebook page, one for each of the six characteristics. We duplicated the posts on a mock Facebook page, removing the characteristic we were testing, producing twelve posts. In order to find the changes in engagement, we created an online survey that was posted on Te Papa’s website, Facebook page, and blog. In our survey, we developed a set of questions asking participants to rate the post on each of the pillars of engagement, as well as how they would respond to each post (‘Like’, ‘Share’, ‘Comment’). For each characteristic tested, we were able to compare how participants rated the control post with how they rated the variable post.

Findings and Analysis

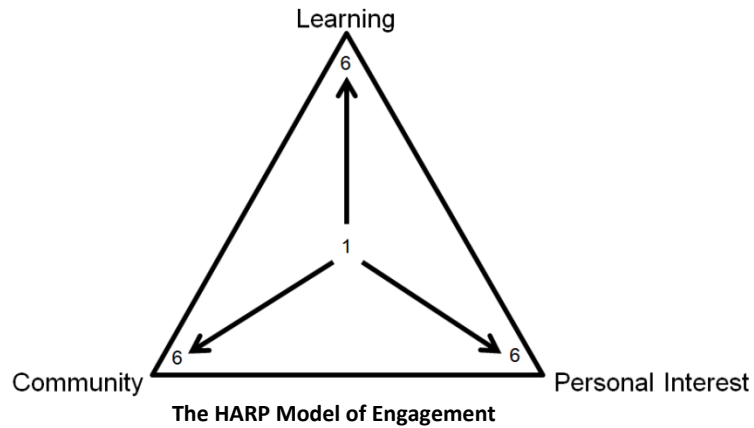
Our interviews can be summarized into a few key findings. First, the motivations behind posting content differ depending on who is posting it. When the Collections department posts content, they want to generate public interest and encourage viewers to learn something. When the Marketing department posts content, they want to advertise events to encourage people to come into the museum. Second, we found that opinions on what defines a meaningful response differ from one person to the next. Collections department said that a meaningful response occurs when people talk about the posts, and then create something for themselves. And also defined a meaningful response as a post that is taken offline and into the public. Marketing said that a meaningful response was when there is not only interest in the post, but also in the museum. Finally, we found that there are several different ways the museum measures online success. Information Technology uses Google Analytics for tracking the website, while Collections uses Klout for Twitter, and Marketing uses Facebook Insights for the Te Papa Facebook page.

Through synthesis of our research and analysis of our staff interviews, we were able to produce a list of factors of meaningful engagement. We grouped common factors, as shown below.

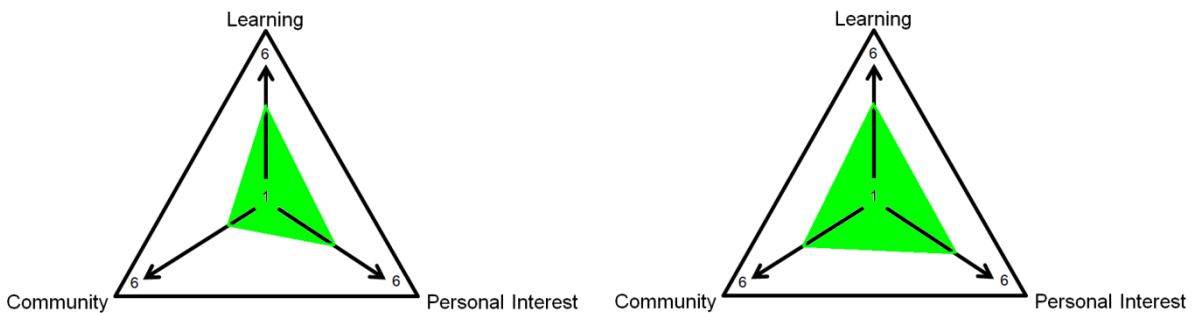
- Entertaining
 - Educational
 - Sparking Further Interest
 - Relevant
 - Co-Presence of Others
 - Narration
 - Participation
 - Social
 - Intellectual
 - Community
 - Active Involvement
 - Spiritual
 - Emotional
 - Relationships
- Learning**
Personal Interest
Community

Visual representation of key terms

This produced three pillars of meaningful engagement: Learning, Personal Interest, and Community. These terms formed our definition. To bring our definition of meaningful engagement to life, we developed a visual presentation of the three pillars (as shown below), known as the HARP Model of Engagement.



Engagement can be displayed on the HARP Model based on how much each of the three pillars is fulfilled. In our data collection approach each pillar was rated on a scale from one to six and then mapped on the HARP Model. The greater the area formed by the resulting triangle, the greater the meaningful engagement. An example of this can be found below.

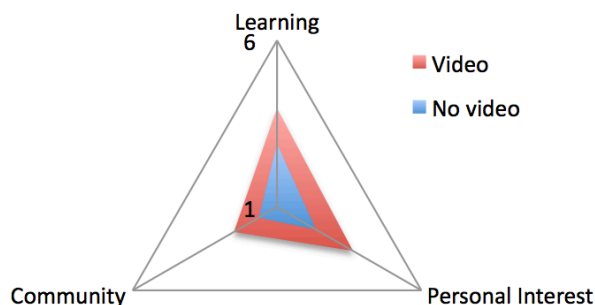


Example of how engagement can be measured on the HARP Model

The left model represents an example of low meaningful engagement with a low level of Community and moderate levels of Personal Interest and Learning. The right model shows how the triangle would change when the pillars of meaningful engagement increased. This change is visually shown by a greater filled-in area of the triangle.

The ratings for Learning, Personal Interest, and Community from our survey were mapped on the HARP Model of Engagement, allowing for a visual representation of the engagement achieved with each variable. The largest increase in the pillars of engagement was seen with the addition of the video. The mapped model can be found below.

Videos Affecting Engagement

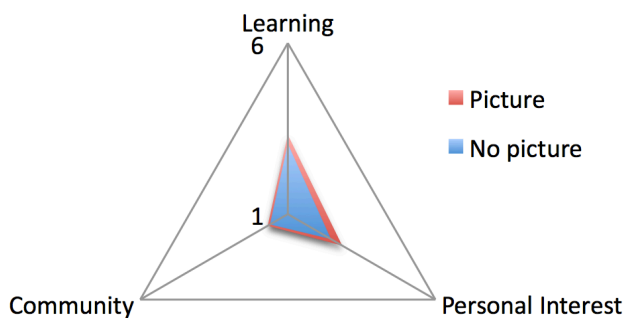


Effects of a video mapped on the HARP Model

A large increase was seen in Personal Interest. This was supported in feedback provided by the participants. The addition of a video also translated to an increase in Community, which is shown by the fact that three times as many participants indicated that they would ‘Share’ the post when the video was added.

Meanwhile, the smallest increase across all pillars was found in the addition of a picture, illustrated below.

Pictures Affecting Engagement

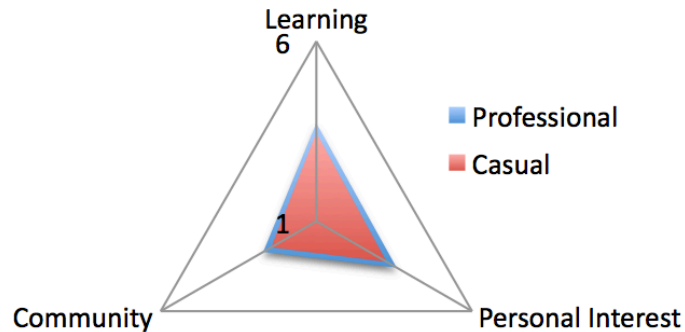


Effects of a picture mapped on the HARP Model

Of the three pillars, Personal Interest showed the most noticeable increase. The addition of a picture adds a visual aspect to catch the reader’s eye.

There was one characteristic that decreased engagement: casual voice. The addition of this characteristic showed lower ratings in all three pillars, as illustrated below.

Voice Affecting Engagement



Effects of Voice mapped on the HARP Model

The decrease in Learning can be simply explained. An authoritative tone instills the reader with confidence that the writer is knowledgeable. Several respondents left feedback indicating that they expected Te Papa, as a museum, to present information in its posts with a professional voice. A casual tone undermines the authority of the publisher, which may decrease the amount of learning gained from a post.

Every post had at least one comment stating that it needed more information. These respondents demonstrated that there was an expectation that they would learn something from the posts. There were also several comments from participants who were not from the Wellington region. They pointed out that many posts were very specific to particular exhibits or events at Te Papa. These posts were therefore irrelevant to non-Wellington residents who would be unable to visit the museum.

Recommendations and Conclusions

Based on our analysis, we have developed a set of recommendations for how Te Papa can better engender meaningful engagement with its social media audience. Our survey results show that a casual voice decreases all of the pillars of engagement, representing a decrease in meaningful engagement. We recommend that Te Papa maintain a professional style of writing. The survey data also shows that the addition of a video results in the largest increase in all of the pillars of engagement. For this reason, we recommend that Te Papa use videos in its social media postings wherever plausible.

We also recommend that Te Papa include more information to enhance the Learning pillar of engagement. Additional background information could also be used to help explain the meaning of a social media post as many participants noted that they were confused as to what the post was referring to. However, we also recommend exploring the balance between presenting too little information and overwhelming the viewer with too much text or information.

While our research gives us an idea of how each characteristic affects the three pillars of engagement, the design of our survey prevents us from directly comparing one characteristic against another. We are also unsure of how our rating model behaves. We did not examine whether a change on the lower end of the scale is equivalent to the same numerical change on the higher end of the scale. We also cannot confirm whether a score on one pillar holds the same weight as the same number on another pillar. We recommend that further research be conducted exploring these relationships.

We also recommend that further research be conducted exploring the Community pillar. More extensive research should be performed into discovering what communities are present in social media and what strategies best serve each of them.

The concept of meaningful engagement in social media is vast and we were only able to test one social media platform within the timeframe of our project. We believe that the characteristics and trends we identified can be carried from Facebook into other social media platforms; however, further research can be conducted, exploring these correlations.

Social media is expected to continue to increase in popularity. As organizations and their target audiences take advantage of the quick, easy communication that social media allows for, understanding what meaningful engagement is and how to encourage it will become increasingly important. This project begins to address that growing need, and our hope is that it will not only be used by Te Papa to improve its use of social media, but also provide a strong foundation for future research into this vital field of study.

Acknowledgements

We would like to thank the following people and organizations for their support and contribution to the research and success of this project:

- The Museum of New Zealand Te Papa Tongarewa for sponsoring our project, and providing us a space to work and all the necessary resources to complete our project.
- Our sponsors for giving us their feedback and support throughout the course of our project:
 - Stephen Owen for making sure we met our deadlines and coining the term HARP.
 - Lucy Hoffman for always making sure we had what we needed.
 - Kate Woodall for orienting us to Te Papa upon our arrival.
- Our WPI advisors, Professor Ingrid Shockey and Professor Michael Elmes, for reviewing our report, answering all of our questions, and providing guidance for our project.
- The New Zealand 2013 Project Group for helping us test our survey and providing feedback.
- The staff that we interviewed for providing us with interesting insights into our project.
- Worcester Polytechnic Institute and the New Zealand Project Center for making this project possible.

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Glossary

Bitly- “bitly is the easiest and most fun way to save, share and discover links from around the web. We call these links bitmarks, and you can use bitly to remember, curate and share them.” –bitly.com

Blogs- “Web site containing the writer’s or group of own experiences, observations, opinions, etc., and often having images and links to the other Web sites.”- dictionary.com

Facebook- “People use Facebook to stay connected with friends and family, to discover what’s going on in the world, and to share and express what matters to them.” –facebook.com

Flickr- “Flickr - almost certainly the best online photo management and sharing application in the world - has two main goals:

1. We want to help people make their photos available to the people who matter to them.
2. We want to enable new ways of organizing photos and video.” –flickr.com

HARP Model of Engagement-A model for mapping engagement named after its creators: **Holly, Angela, Robert, and Paul.**

Hosts- Te Papa staff who work on-the-floor and provide information about exhibits.

Pinterest- “Pinterest lets you organize and share all the beautiful things you find on the web. People use pinboards to plan their weddings, decorate their homes, and organize their favorite recipes. Best of all, you can browse pinboards created by other people. Browsing pinboards is a fun way to discover new things and get inspiration from people who share your interests.” –pinterest.com

Twitter-“Twitter is a real-time information network that connects you to the latest stories, ideas, opinions and news about what you find interesting. Simply find the accounts you find most compelling and follow the conversations. At the heart of Twitter are small bursts of information called Tweets. Each Tweet is 140 characters long, but don’t let the small size fool you—you can discover a lot in a little space. You can see photos, videos and conversations directly in Tweets to get the whole story at a glance, and all in one place.” –twitter.com

QR Codes- “a matrix bar code that is read by photographing it with the camera of a smartphone or other mobile device that is equipped with a bar-code reader” –dictionary.com

Youtube-“Allows billions of people to discover, watch and share originally-created videos. YouTube provides a forum for people to connect, inform, and inspire others across the globe and acts as a distribution platform for original content creators and advertisers large and small.” –youtube.com

Chapter 1. Introduction

Over the last few decades, museums have been challenging the means by which information is presented. While early museums primarily displayed private collections owned by wealthy families, those private collections have since evolved into countless institutions hosting a formative range of artifacts and media for public viewing. Along with changes in format, museums have also developed the ways in which they attract, engage, and maintain the support of their visitors. Exhibit curators have learned to appeal to a variety of visitors with strategies that engage all learning styles. Such strategies range from providing information on plaques to designing exhibits with interactive elements. Many have begun to offer a host of web-based interactive features designed to complement the museum experience.

Visitors have become increasingly accustomed to retrieving information immediately. Social media enables this constant contact, and the availability of the Internet allows people to communicate from almost anywhere in the world. Museums, including Te Papa, have adapted by creating an online presence with pages on sites such as: Facebook, Twitter, Youtube, Flickr, Pinterest, websites, and blogs (see glossary for descriptions of these sites). Having an online presence alone does not guarantee meaningful engagement for visitors to these web-pages, raising the question of how to evaluate engagement with online visitors. Te Papa hopes to improve the number of visitors engaging with the museum through these technologies and the quality of each interaction.

Social media invites users to engage with the museum through posting content in multiple formats. Without agreed-upon best practices to assess the effectiveness of these technologies for engendering visitor engagement, museums cannot determine whether their social media presence is actually beneficial or simply a waste of resources. Measuring the quality of visitor participation in social media is difficult. For example, a user has the ability to 'Like' a Facebook page, but there is no way to determine if that person is actually interacting with the page on a regular basis, or if they merely visited the page once and forgot about it the next day. This discrepancy generates misleading numbers on web pages and inaccurate conclusions about how people are engaging with different technologies.

While studies of meaningful engagement exist, the definition changes depending on the context in which it is applied. Most researchers agree that meaningful engagement involves a flow of information that allows for a personal connection. When it is achieved, the theory holds that high levels of learning occur in an efficient and rewarding manner (Jones, 2012; Bundick, 2009). Research currently,

however, fails to produce one clear working definition for meaningful engagement or explain how meaningful engagement can be monitored or elicited in the context of social media.

The goal of this project was therefore to provide Te Papa with a better understanding of meaningful engagement and recommendations on how to enhance it in the context of social media. We begin by exploring existing research about meaningful engagement, the social media platforms used by Te Papa Tongarewa, and the existing metrics for measuring social media success.

Chapter 2. Literature Review

This chapter explores in greater depth some key concepts and ideas that are relevant to the evaluation of social media. First, we briefly describe the profile of the museum. Next, we explore the different ways visitors interact with exhibits and what comprises meaningful engagement. We present various social media platforms, focusing on those used by Te Papa Tongarewa. Finally, we present three case studies that demonstrate how museums and museum visitors use social media.

2.1 Site Description

Of the hundreds of museums in New Zealand, only one has been named the National Museum of New Zealand: Te Papa Tongarewa. Located in Wellington's harbour front district in "New Zealand's Capital of Cool," Te Papa has worked to maintain the connection between culture and people by adapting to the ever-changing New Zealand community (Wellington, 2012). The Māori translation of Te Papa Tongarewa is "container of treasures", and the museum is indeed a "container of treasures," housing collections representing history, art, Pacific and Māori cultures, and the natural environment (Te Papa Museum, 2012). Exhibits in Te Papa range from "taonga," or cultural treasures, of the Māori (New Zealand's indigenous people), to a full costume from Xena: Warrior Princess, a television show that was filmed in New Zealand (Te Papa Museum, 2012). Treasures are even incorporated into the architecture of the museum, with a traditional Māori meeting place, a Marae, built into the museum. With such a wide range of exhibits, one of the museum's key goals is "to represent and appeal to New Zealand's diverse society" (Te Papa Museum, 2012).

Since its grand opening in 1998, Te Papa has attracted over 20 million visitors (Te Papa Museum, 2012). Over the last ten years, an average of 1.3 million people have visited each year. The age distribution of New Zealand's national population can be compared to the age distribution of Te Papa's annual visitors (see Figure 1, below).

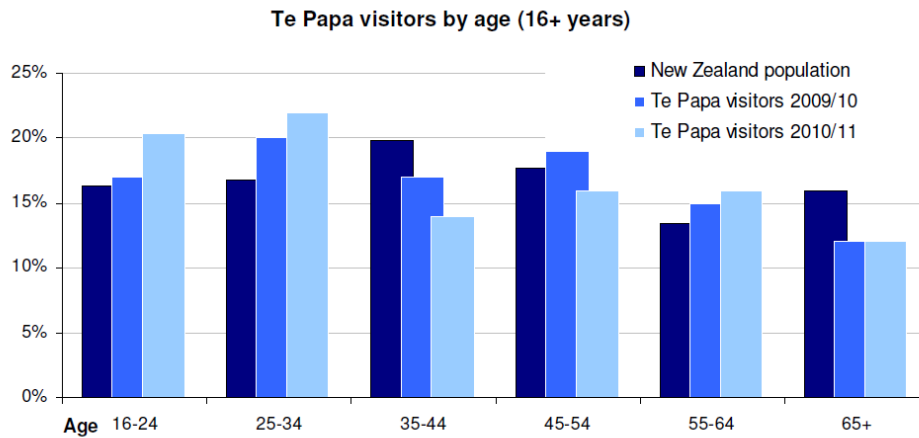


Figure 1 Te Papa Visitor Ages (Te Papa Annual Report, 2011)

Of the museum visitor population, the even distribution confirms that the museum needs to cater to every age.

In addition to considering all ages, Te Papa also has to appeal to visitors of all ethnicities. Of the 2010-2011 visitors to the museum, 73.2% were New Zealand European, 9.3% Māori, 7.6% Asian, 2.2% Pacific Islander, and 15.5% other. A similar ratio is found in the population of New Zealand as a whole. Because of the presence of Māori people and a strong pride in Māori culture in New Zealand, Te Papa is dedicated to sharing this culture with visitors, both on the floor and online (Te Papa Museum, 2012).

As the national museum, Te Papa sets the standard to which all other New Zealand museums strive to perform. Te Papa needs to be committed to exploring new, innovative ideas and appealing to all demographics. Such research includes innovation in the use of online social media with the public.

2.2 Defining Meaningful Engagement

Te Papa Tongarewa extends its reach to audiences of all demographics through the use of social media. While there are extensive studies that have been performed on meaningful engagement with exhibitions inside museums, research has shown that there is currently no consistent definition of meaningful engagement in the context of social media. Matthew Bundick, director of research at Quaglia Institute for Student Aspirations, defined meaningful engagement in a philosophical light as follows: “Meaningful engagement refers to the degree to which one finds the activities in which one is involved across the domains of one’s life to be worthwhile, important, and in accordance with one’s values and sense of self” (2009, p. 12). Meanwhile, Christian Heath and Dirk vom Lehn, professors at King’s College London, consider meaningful engagement in a context specific to museums. According to

them, meaningful engagement is achieved when visitors collaborate and communicate with each other, when they are able to understand and appreciate new concepts, and when the museum is able to “secure and sustain interest and commitment among visitors” (2008, p. 85). While these definitions contain important aspects of meaningful engagement, they are very broad and require refinement in more specific applications.

In a study which assessed children’s engagement with interactive displays in museum exhibits, Naomi Haywood and Paul Cairns developed three key factors that allow for engagement: participation, narration, and the co-presence of others (2006). In their view, participation is shown to be essential to the success of a museum exhibit as it provides an avenue to both entertainment and physical engagement. Participation in an exhibit allows a user to actually interact and control some form of the exhibit. Depending on the kinds of exhibits in museums, it can range from a touchscreen application to a physical, hands-on activity. This factor allows visitors to feel connected to and even a part of the museum experience as a whole. Regarding children’s education and learning in particular, participation increases user engagement and promotes a good learning environment (Haywood & Cairns, 2006; Samuelsson, 2010). Participation also promotes learning by allowing users to engage in the display in a way that will be both memorable and entertaining.

Narration is the stream of information coming from the museum to the user (Haywood & Cairns, 2006). It can be provided through both visual and auditory means. This information often develops the setting of the exhibit, including tone, mood, and purpose. In the case of the children’s study, effective narration can be placed in two categories: linear structure and fantasy. Linear structure is the connection of facts in a story-like fashion. This structure of information allows children to understand the information much more easily and provides a connection with the information through its story-like structure (Haywood & Cairns, 2006). Displays that involve the element of fantasy incorporated the user’s imagination to develop a connection with the exhibit. These displays involve user interaction that immerses the user in a different world in which they are actually completing tasks and interacting in the exhibit’s environment. One example of such a display was an exhibit in which children could pretend to dig for coal. This interaction through the use of imagination immersed the users into the life of a coal miner and was therefore able to provide information in a fun and interesting way. This example in particular demonstrates the close relationship between narration and the previous key factor, participation.

Haywood and Cairns' final factor of engagement, the co-presence of others, refers to the interactions and communication between visitors while exploring the exhibits. The presence of others allows visitors to discuss what they see and learn from each other. Museum staff may be able to provide supplemental information on the exhibit, and other visitors will be able to provide meaningful discussion and thought on the information displayed in the exhibit. Collaboration and communication among visitors is also described in a study by Christian Heath and Dirk vom Lehn, which emphasized it as beneficial and even necessary for deeper engagement (2008). Outside of this interaction, people feel more comfortable using digital displays and interacting with the exhibits when they see others doing the same thing. Attending museums in a group setting and working through the museum in small groups is a natural occurrence regardless of age (Heath & Vom Lehn, 2008). Therefore, the co-presence of others naturally exists in Te Papa, which develops a comfortable environment that will promote meaningful engagement with individual exhibits and with the museum as a whole.

Through an extensive study exploring how to enhance visitor experiences in museums, Morris Hargreaves McIntyre (a company dedicated to organizational development) created a hierarchy of engagement: social, intellectual, emotional, and spiritual (2005). The hierarchy is illustrated in Figure 2.

Morris Hargreaves McIntyre's Hierarchy of Visitor Engagement	
Spiritual	Escapism
	Contemplation
	Stimulate creativity
Emotional	Aesthetic pleasure
	Awe and wonder
	Moving
	Personal relevance
	Experience the past
	Nostalgia
	Insight
	Sense of cultural identity
Intellectual	Acad/prof interest
	Hobby interest
	Self-improvement
	Stimulate children
Social	Social interaction
	Entertainment
	To see, to do
	Inclusion, welcome
	Access
	Comfort, security, warmth

Figure 2 Morris Hargreaves McIntyre hierarchy of engagement (2005)

Social engagement is the most basic level, the foundation of the hierarchy. These are modes of interaction and entertainment with people, places and things, which foster a sense of community. The next level of engagement happens on an intellectual basis. Personal or professional interest is the motivation on this level. Emotional engagement sparks memories of the past or some other personal relevance. The deepest level of engagement is a spiritual level. This is where creativity and insight occur (Morris Hargreaves McIntyre, 2005).

Outside the realm of museums, Renee Warren, a contributor to a blog intended to help businesses use social media successfully, describes meaningful engagement in the context of social media. Warren continually emphasizes four key terms: Relationships, Community, Relevance, and Active Involvement. When building an environment of meaningful engagement, Warren emphasizes the need to build personal relationships with individuals. As levels of engagement build, these relationships will build into a community. When engaging with customers, a company must keep its own objectives in sight; otherwise such engagement will have no relevance to the company. Lastly, active involvement will

ensure that individuals remain interested in the material and will reward returning visitors (Warren, 2011).

Although Haywood and Cairns, Morris Hargreaves McIntyre, and Warren each identifies different factors and key terms, there is a common theme throughout: meaningful engagement can be defined with a group of factors, each being necessary. Haywood and Cairns argue that all three of their factors must be present in order to develop an environment that encourages meaningful engagement (2006). The Morris Hargreaves McIntyre model of engagement describes each level as building from the previous one (2005). Warren also claims that meaningful engagement cannot occur unless all of the parts are present (2011). Whatever form the definition takes, it is clear that meaningful engagement in any context – whether physical exhibits or social media - can be best defined by a set of factors that work together to achieve meaningful engagement.

2.3 Exploring Social Media

In order to apply the concept of meaningful engagement to social media, an understanding of the types of social media that our project evaluated is required. This includes exploring museum websites and social networking platforms, as well as tools that can be used to evaluate the platforms.

Museum Websites

In a study on museum websites and their impact on visitors, Paul Marty states, “museum websites should lure online visitors into the museum’s collections virtually, and inspire them to visit the museum in person” (2008, p. 337). Some websites only provide information about the museums and its exhibits, while others have databases where visitors can view more information about individual exhibits. Today, museums are adding programs to their websites that create an enjoyable learning environment outside of the museum. Website visitors have the ability to track the process of a painting restoration, build their own squid and follow its lifespan, and watch behind-the-scenes videos.

The Whitney Museum of American Art’s website provides a separate site specifically designed for children. One aspect of the site allows for kids to design their own collections by exploring photos of artwork from Whitney’s collection. The children are given the opportunity to view collections made by other children and are given information on pieces that are on display at the museum. Children are also encouraged to share their own artwork on the site, which is the museum’s invitation to “be a part of Whitney too” (Whitney Museum of American Art, 2012). With more information online, website visitors can access and learn from anywhere in the world.

Museums have seen a huge increase in visits to their websites. In 2010-2011, Te Papa's site had around 1,800,000 visits, an increase of 500,000 over 2009-2010 (Te Papa Museum, 2011). With an increase of information available and visits to their websites increasing, museum professionals have raised a concern that more online visits might lead to fewer on-site visits. Most visitors to museum websites, however, will use the website to determine whether or not they want to visit the museum, or to look up information provided specifically by the museum (Goldman & Schaller, 2004; Marty, 2007). This could potentially change with the expansion of online information. If museums provide enough information on their website, some visitors may no longer feel the need to visit the museum. On the other hand, if not enough information is provided on the website, the number of physical visitors could also decrease because interest in the museum would be lost (Marty, 2007). Museums need to maintain a balance of providing entertaining and educational material on their websites while still sparking an interest in visiting the museum.

Social Networking

It is now nearly impossible to find someone who does not have a Facebook account, or is not connected to some sort of social network. These networks allow their users to keep contact with friends and make connections with new people. According to Heidi Bailey, "Facebook is like a coffeehouse or a pub—a place where people congregate to meet friends, swap stories, share pictures, and exchange information" (2009, p. 25). Museums have joined the trend by creating Facebook pages, Twitter accounts, and blogs, which allow visitors to interact with the museum outside of its walls. Through the use of these technologies, museums have the ability to share information about exhibits and upcoming events while inviting the public to engage in a discussion about them.

In social media studies, there are guidelines referred to as "The Five Fs": fans, feeds, fun, fascinating, and frequent (Bailey, 2009, p.26). Most social networking sites allow the creator to view how many people are following a page or specific posts; this is the 'fans' aspect. Twitter uses the concept of 'followers' to track this factor. An example of the 'feeds' is the Facebook wall. A user can look at a museum's wall and see the events and exhibits the museum has been advertising. The 'fun', 'fascinating', and 'frequent' guidelines all refer to how the museum displays its information. Posts should be made in a conversational tone that is also interesting. They should spark the user to either engage in a discussion ('Comment') or want to interact more through further research or (ideally) actually visiting the museum. These posts should also be frequent enough that followers and friends are reminded of the existence of the museum.

The recent increase in social media use brings to light an issue that Te Papa seeks to resolve. How are people using social media to interact with the museum? People have the ability to 'Friend', 'Like', and 'Follow' anything on social networking sites. While a large number of these would seem like a positive thing, how do museums measure if what they are posting is actually worthwhile to the public? Is there a qualitative as well as quantitative measure of meaning and value? There is not yet much in the literature that addresses this issue.

Measurement Tools for Social Media

In the social media world, being able to measure user engagement would allow Te Papa to cater its posts to elicit an ideal response among users. Several tools currently exist to measure the overall success of such social media, as well as help users develop and advance their standings. These tools are designed to evaluate the content posted and the response generated among the public and generate a score or set of scores that evaluate the profile as a whole. Each of these tools uses different formulas and metrics to evaluate or improve the success of one's social media presence.

Google Analytics is a tool designed to track and evaluate website success. This tool gives users information such as basic demographics of visitors, how long visitors stay, how many pages they visit, how they arrived at the site, and even the path they take through the website. This information can be mapped and followed, so patterns can be easily discovered. Users can also set up custom filters and monitors to track desired information. Google Analytics just recently extended its analysis to include Facebook accounts as well.

Tweetlevel is a web tool used to look at twitter handles and gives several statistics on how the account is interacted with. Tweetlevel attempts to measure several characteristics including engagement, influence, popularity, and trust based on an account's statistics and history. Tweetlevel also rates each account as a viewer, a commentator, a curator, an idea starter, or an amplifier based on a combination of their popularity and influence.

Klout is a tool used to measure how influential a Facebook or twitter account is. Klout tracks the same types of information including reach, content published and interactions to make these calculations. Klout does not provide instantaneous feedback, but if monitored over time it can be used as a tool to measure trends and a feeling for how the account changes.

EdgeRank Checker is a slightly different tool than we have explored so far. This tool examines an account's viewers and determines what the best time to post content is (when the most people will see

it). This information could very easily and effectively be used to increase the chances that content would be seen and have the chance to be engaged with.

Facebook Insights is an analytical tool used to track and monitor usage of a Facebook page to help the administrators increase its engagement. It tracks statistics on individual posts for the first twenty-eight days after publication. Statistics that are monitored are “Reach” (unique views of the post), “Engaged Users” (unique people who click on the post), “Talking About This” (unique people who interacted with the post by ‘Liking’, ‘Commenting’, ‘Sharing’, etc.), and “Virality” (the percentage of people who interacted with the post compared to the total reach of the post). These statistics are designed to help publishers understand how their audience is interacting with the content, with the hopes that a publisher can develop more engaging content.

All of these tools can be very useful for monitoring social media and websites alike, but they all have several inherent drawbacks. All of these sites function on the principle of counting ‘Likes’, ‘Comments’ and ‘Shares’, and comparing these to the number of followers. In addition, they all do it in different ways. Therefore, there is no continuity across measurement tools; one site’s score means something completely different from another. Since the tools are based entirely “on the numbers”, they are blind to factors such as contests that generate a large amount of activity but no real engagement.

2.4 Case Studies

Recent research has begun to explore ways to measure engagement by studying how people interact with the technology. We considered three different case studies focusing on different aspects of technology that can be applied to social media. The first focuses on technologically interactive exhibits. While its focus is beyond the scope of social media, many of the questions and concepts are the same; it lays a foundation for exploring modern web-based platforms. One explores ways that visitors can interact with a museum's website, another focuses on how the use of mobile applications can affect engagement, and the last discusses museum use of social networking sites such as Facebook and Twitter. Together, these case studies provide a broad scope of information on the areas in which we will focus.

Case Study 1. Online Personal Collections

Many museums are creating digital collections of artwork, which are available to the public on museum-owned websites. On these websites, users can create personal collections of artwork, and come back and revisit their collections in the future. Current data trends show that only a very small

number of museum visitors are currently using digital collections, and of these collections made, very few are ever revisited. A study conducted by Paul Marty, of Florida State University, examined this trend with the goal of finding more information about how this resource is really being utilized by the public (Marty, 2011).

In this study, an online survey was distributed from 6 major museums in the United States, all of which currently maintain online digital collections. These museums included The Museum of Fine Arts in Boston, The Minneapolis Institute of Arts/Walker Art Center, The Tate Online, The Cleveland Museum of Art, The J. Paul Getty Museum, and The Whitney Museum of American Art. Each survey included an assortment of questions on the ways in which this online collection is being used by the public and what users wish to get from the technology. A link to the survey was posted on each of the museums' digital collections web pages in May 2007 and remained there until May 2008 (Marty, 2011).

At the conclusion of the survey, the data was analyzed to provide an insight into the current uses and trends surrounding these online digital collections. It was noted that a vast majority of users had created less than four digital collections, but a majority also used the digital collections on a monthly basis. The digital collections process was also noted to be an enjoyable process as 82.6% of users enjoyed creating collections, and only slightly less, at 79.8%, enjoyed revisiting their collections. The use of online collections is intended to be an extension of the museum experience, as users can get an idea of what types of collections are available at the museum before leaving their house and can also make collections of their favorite pieces after visiting. It was found that nearly two thirds of users were likely to create a collection before visiting the museum and that almost three quarters made a collection after visiting a museum. This shows that this potential use of the technology is realized and utilized by many of the public. The last important piece of information gained from this survey was the user's motivation behind creating or viewing, collections. It was discovered that over 66% of users created collections for scholarly or research purposes, 59% for entertainment purposes, and 52% for educational assignments (Marty, 2011).

This study was extremely effective in finding out the current uses of a digital collections technology, but several important factors may have been overlooked. For example, the survey was only posted on the collections website, meaning that only those that already used this technology would take the survey (Marty, 2011). For this reason, no information on the actual percentage of museum visitors using the technology was gathered. It is also possible that only users who were familiar and interested in

this technology were likely to invest time into taking the survey, as it could lead to improvements on the collections website in the future.

Te Papa has currently implemented a digital collections website using the Google Art website. Te Papa is likely facing a similar situation with its online collections, and should take the results of studies like this into consideration. This study shows that collections websites at many museums are being used for educational and entertainment purposes, and they often promote future learning, as users often create collections after visiting the museum and are likely to revisit these collections again in the future.

Case Study 2. Learning with Mobile Applications

In June 2011, the University of Michigan created an iPhone application called Zydeco. Zydeco promotes museum learning through the use of multimedia data, mainly images and short audio segments. The central goal of creating Zydeco was to create an application that would encourage users to become informed and engaged in museum material. Zydeco also wishes “to encourage the development of lifelong learners who have the ability, curiosity, and interest to pursue - in a self-directed manner - scientific topics and to inspire talented students” (Cahill et. al, 2011, p. 1).

An evaluation of the effectiveness of Zydeco’s learning experience was conducted through an observational study, taking place in the Museum of Natural History at the University of Michigan. In this study, students were observed using both the Zydeco application and a traditional worksheet designed to promote learning. The habits and patterns of each student, as well as what learning tool they were using, was recorded for later analysis (Cahill et. al, 2011).

From this observational study several very important trends emerged. Most interestingly, the division of time spent at each exhibit is similar regardless of what educational tool is being used. Users spent roughly the same amount of time listening to the educator, looking at peer’s work, and looking at their application or worksheet. For example, Zydeco users spent an average of 117 seconds looking at their application while worksheet users spent 92 seconds. In both cases this represented roughly 50% of the total time spent at an exhibit. Another interesting development from the use of the Zydeco application was that the number of questions or comments nearly doubled when compared to the worksheet users, but application users were less likely to answer the educator’s questions. It was also noted that a majority of peer interactions among application users was centered on how to use the application and not the material being presented. This could be an issue of mobile applications, as they appear to decrease peer discussion on the subject matter. Lastly, it was noted that use patterns of Zydeco users varied greatly. Some users never looked at the application during their entire time at an

exhibit and others spent over 80% of their time at the exhibit looking at the application. This degree of variance between users could reflect a similar variance in the quality of the learning experience among users (Cahill et. al, 2011).

This study shows how mobile applications are being used in the hands of students, pursuing an educational experience from a museum. The researchers were able to design a test gathering tangible data for measuring engagement. The strategies used in this study were able to provide a comparison of traditional engagement to technologically-aided engagement. These methods were incorporated in our own research to gain a better understanding of what meaningful engagement is and how different types of technological tools can alter the ways in which visitors engage in a museum.

Case Study 3. Social Media Use in Museums

Social media technologies such as Facebook, Twitter, and Google+ are taking an increasingly important role in the museum setting, as they are used to connect with visitors and potential visitors around the world. Jenny Kidd completed an investigation into the use of social media by museums in 2011, and aimed to identify trends and patterns among museum use of social media. This research explored the difficulty involved with framing social media such that it is both highly used by their audience and still a tool for promoting education. Kidd attempted to gain an understanding of the current uses and goals of social media in the museum sector as the current use of social media, by museums, is often far behind the full abilities of such technologies (Kidd, 2011).

Kidd completed an in-depth analysis of current trends and habits among museum use of social media. She explored many different museums and how they implemented social media technology and then investigated how and why users were utilizing it. Kidd discovered how important it was that a museum fully understood the purpose of the technology as well as how they intend to use each platform. Kidd identified a gap between the museum's intended purpose for the technology and the user's perceived purpose. This miscommunication could lead to misused resources, causing a decrease in the level of education and engagement among users. One example of this gap is the use of blogs by museums. Through posting content on blogs, museums hope to encourage a discussion based around these posts. Kidd explains that after the blogs are posted, there is generally no further input from the museum. This leaves the audience with no guidance on how to interact with it. Kidd suggests that the museum inform viewers of the motivations behind posts. Presenting this information will allow viewers to understand how their responses can be used. Kidd states that aligning how the museum presents its content with what the viewer wants will result in a positive use of social media (Kidd, 2011). While Kidd

does not elaborate on audience behavior when engaging with the posts, the case is a reminder that the museum and audience expectations should be aligned.

2.5 Summary

Through our research, we were able to identify several sets of factors of meaningful engagement. We then drew parallels between the factors of engagement in interactive museum exhibits and the engagement shown in social media, demonstrating that engagement can be explained using the same principals in both contexts. Haywood and Cairns identified three of these factors: participation, narration, and the co-presence of others. Morris Hargreaves McIntyre's four levels of engagement (social, intellectual, emotional, and spiritual) can also be achieved through online content. Warren's key terms (Relationships, Community, Relevant, and Active Involvement) are all necessary when inspiring meaningful engagement through social media.

While engagement has no singular, agreed upon set of factors, it is clear that some combination of them is required to enhance and improve meaningful engagement through social media. The right combination of factors would lead to improved engagement in Te Papa's social media; however, if incorrectly implemented, social media technologies could prove to be a waste of resources. Through examining case studies, we learned techniques for measuring engagement that were useful to our research. With this foundation, we began our own study of meaningful engagement as achieved through the use of social media at Te Papa Tongarewa.

Chapter 3. Methodology

The goal of this project was to provide Te Papa with a better understanding of meaningful engagement and a set of recommendations on how to enhance it in the context of social media. These recommendations will allow Te Papa's social media administrators and contributors to better engender meaningful engagement with Te Papa's audience. Our objectives to accomplish our goal were as follows:

1. Understand the museum's social media presence.
2. Define meaningful engagement and apply it to social media.
3. Identify characteristics of social media content that enhance meaningful engagement.

3.1 Understand the Museum's Social Media Presence

A tour of the museum's key exhibitions and staff headquarters gave us a view of the complexity of the behind-the-scenes infrastructure at Te Papa. The site assessment allowed us to see how Te Papa presents content in exhibits and how they promote future contact through social media channels. We were introduced to the visitor and market research department and the staff responsible for the posting or generating of Te Papa's social media content.

We conducted in-depth interviews with key personnel. These interviews were important for learning about individual perspectives (Mack, Woodson, MacQueen, Guest, and Namey, 2005). These discussions gave us insight into the museum's social media strategy, its intended audience, and what it was hoping to achieve when posting content. We interviewed staff that post content to the social media platforms to learn about their individual motivations for posting content. An interview guide can be found in Appendix A. All personnel interviewed were offered an opportunity to remain anonymous in the report of our findings. The list of experts is described below.

Expert 1: History Curator. This expert posts to Te Papa's blog and could explain the goals and purposes of the content posted by curators.

Expert 2: Member of the Information Technology department. This expert maintains parts of Te Papa's website and blog as well as facilitates access to website statistics of visitor use for different departments of Te Papa.

Expert 3: Member of the Collections department. This expert posts to Te Papa’s Collections Twitter account and could provide insight to the museum’s educational motivations when posting social media content.

Expert 4 & Expert 5: Members of the Marketing department. These experts are in charge of posting content to Te Papa’s Facebook, Twitter, Flickr, and Youtube pages. They could provide a perspective on the museum’s marketing motivations when posting social media content.

We were granted access to the two main tools that Te Papa utilizes to monitor its social media success: Google Analytics and Facebook Insights. These tools allowed us to examine records of trends and patterns in Te Papa’s social media statistics across many domains. These types of data gave us a broad sense of how users interacted with Te Papa’s social media in a quantitative form. This also gave us a sense for the scope of Te Papa’s tracking and measuring capacity.

3.2 Define Meaningful Engagement and Apply It Social Media

We drew on several resources to guide our process of defining meaningful engagement, including our literature review and staff interviews. After performing a thorough content analysis on those resources, we held in-depth discussions among ourselves and with staff to set parameters for the term ‘meaningful engagement.’ We synthesized the results of our analyses to form a model that could be used to gauge meaningful engagement.

3.3 Identify Characteristics of Social Media Content that Indicate Meaningful Engagement

In order to identify trends in meaningful engagement, we applied our definition to social media in particular. We narrowed our scope to focus only on Facebook, which would allow us to achieve a clearer understanding of engagement on one social media platform. This method could be later applied to other social media platforms. Two different perspectives were considered. The first would evaluate characteristics of content that is posted by the museum in order to identify the kinds of posts that lead to engagement. The second would evaluate how viewers respond to that content, and how such responses indicate meaningful engagement. We chose to focus primarily on the characteristics of content.

We examined many different methodological strategies that we could implement to test the characteristics of posts. Each of these strategies was developed and presented to key experts at Te

Papa. In collaboration with these experts, we created an online survey through SurveyMonkey that was posted on the Te Papa website, Facebook page, and the Te Papa blog; this survey can be found in Appendix B. A survey allowed us to efficiently gather information from a large number of visitors so we could observe patterns and trends from our tests (Berg, 2007). We conducted content analysis on Te Papa's Facebook history to compile a list of characteristics that could be found in a given post: picture, video, question, link, and contest. A picture could be a photograph, diagram, drawing, or any still image. A video can be a series of photos or a clip, which may be combined with audio, linked from Youtube or embedded in a Facebook post. A question invites the viewer to respond to the post in some way. A link connects the viewer to a source of information outside of Facebook, generally Te Papa's blog. A contest provides an opportunity for viewers to win something, usually by interacting with the post in some manner.

We tested whether or not each of these characteristics might influence the way people interact with a post and therefore change the levels of engagement that occur. We also tested if the voice in which a post is written might influence the engagement of the viewers. In order to assess these characteristics, we selected previously posted content from the Te Papa Facebook page, one for each of the six characteristics. We duplicated the posts on a mock Facebook page, removing the characteristic we were testing. The post without the characteristic served as our control post, while the post with the characteristic became our variable post. An example of a post can be found in Figure 3. We repeated this process for each of the six characteristics, which resulted in twelve different posts.



Figure 3 Survey sample posts, the left is the variable and the right is the control

For each post, we developed a set of questions asking participants to rate the post on each of the pillars of engagement. All ratings were on a scale from one to six, providing survey respondents with a diverse set of ratings while maintaining a distinct meaning for each. We also asked participants how they would respond to each post ('Comment', 'Like', or 'Share'). For each characteristic tested, we were able to compare how participants rated the control post versus the variable post. The data about how participants would respond to the posts was analyzed for possible correlations between pillar ratings and types of response. Demographic information was also collected to determine if there were any trends in responses according to age and gender. The survey was open for one week and had a minimum sample size of fifty participants. The sample of participants was limited to those who use Facebook because we only wanted people who were familiar with Facebook to provide feedback.

3.4 Data Management

All data collected was collected through a SurveyMonkey account that was secured with a password. No personal information was collected from participants. The data was downloaded and analyzed on a secure laptop. Upon completion of analysis, all data was destroyed. At the conclusion of our project, the survey and its results were given to Te Papa Tongarewa.

Chapter 4. Findings and Analysis

4.1 Findings

Here we present the key findings of the first two objectives.

Objective 1: Understanding Museum's Online Presence

Site assessment

A formal tour of Te Papa Tongarewa, as well as our day-to-day immersion in the workings of the museum, allowed us to learn its overall purpose and ethos. We observed several instances of digital technology incorporated on the floor of the museum. Many exhibits include QR codes that could be scanned by visitors who owned smartphones or tablets. Other exhibits include web addresses that would link visitors to more information. Some have touch screen televisions on which visitors can play games related to the exhibit. In some cases, these games are also available on the Te Papa website.

One notable area called OurSpace contains an exhibit called The Wall. We noted this exhibition specifically because it encourages museum visitors to continue to interact with Te Papa through online resources after their visit. In this exhibit, visitors select photographs and video clips from digital kiosks, where they used remote-control “wands” to arrange the pictures and videos into a digital collage. A number of pictures and videos are available on the kiosks, but visitors can also bring in USB drives with their own photos, or upload them online ahead of time. Additionally, each kiosk contains a camera for impromptu photographs and video footage. Completed collages can be viewed on the Te Papa OurSpace website.

In addition to the physical space, we explored the museum's social media sites and found that Te Papa has multiple accounts on some platforms. In addition to the Twitter account that is linked on the website's homepage, there is also a Collections Twitter account that posts updates from Te Papa's online collections. We also found that in addition to the official Facebook page, there are also “Families at Te Papa” and “Kahu the Kea at Te Papa” pages. The “Families at Te Papa” page highlights events that target children. The “Kahu the Kea” page is also aimed toward children and dedicated to Te Papa's mascot, Kahu the Kea, and what he is doing.

Interviews

Interviews with personnel who post on Te Papa's social media sites provided perspectives on how Te Papa is using social media and how it measures post success.

Expert 1 is a history curator who regularly contributes to Te Papa's official blog. The focus of the most recent posts was on World War I and an exhibit that Te Papa was preparing for the war's upcoming centennial. When we asked about the motivations behind what is posted, Expert 1 said, "it is just generating interest in the project. We really want people to come in and look at the collection." Expert 1 posted many images of unknown soldiers or locations with a request that readers respond with their thoughts on who the people were or the location of the photos. It was because of these posts that a New Zealand newspaper, The Dominion Post, wrote an article about what Te Papa was doing through the blog posts. Expert 1 noted,

"This generated a huge response, which we weren't really ready for, but it was really nice. Good to see what the public response was to the project...From there, we got together and decided that the blogging should be part of a broader crowd sourcing project and so we put together a Flickr as well."

When we asked what Expert 1 would consider a meaningful response to the blog posts and the response was, "The best response I've had to the project, is when the blog has been picked up by someone and turned into something else, and it's gone a bit further out into the public." Expert 1 has received not only comments on the blog itself, but also letters with people sharing their stories and experiences.

Expert 2 is a member of the Information Technology (IT) department at Te Papa, who supports the website, the blog, and Te Papa's intranet homepage. Expert 2 also supports many of the social media pages but is not in control of generating or publishing content to Te Papa's social media channels. This expert is responsible for making sure that all sites are in working condition and are consistently updated, and also provides feedback to those that actually post to social media sites. Through Google Analytics, the IT department helps business units within Te Papa monitor Te Papa's basic website statistics such as the number of visitors, the number of pages per visit, and the average time spent on each page. Google Analytics can also extend to more complicated statistics such as the location of visitors, sales and revenue from Te Papa's online store, and the path that most visitors took through the website. It can also be used to track Te Papa's Facebook account, but that has not yet been set up.

Expert 2 noted that Google Analytics is not perfect as it can only count the numbers and cannot note some of the more important facts such as how much is learned, or what content is actually read

from a webpage. This expert stated that the “Gold Standard” in web tracking for a museum would be having the ability to track what information a visitor views on the website before visiting the museum, what they look at while in the museum, and finally what information they view on the website after their visit. One would then be able to note the differences between the content viewed before and after a museum visit.

Expert 2 explained one understanding of how each social media resource is utilized by Te Papa. This expert noted that while Te Papa has no universal online strategy or guidelines, the website is used to provide content and a learning experience for visitors. Facebook, Twitter and more interactive social media resources are used to attract visitors’ attention and draw in as large of an audience as possible. Lastly, the blog is used to provide insight into what happens behind-the-scenes, such as research, stories from Hosts, and what Te Papa does outside of being a museum.

Te Papa also has a presence on sites including Twitter and Youtube. Twitter is set up with a series of accounts, all with different audiences and purposes. Expert 2 also discussed the Te Papa Youtube page on which one account is shared across all departments and teams, while most other social media are controlled solely by marketing.

This expert also noted that engagement with Youtube would be the hardest to measure, as some of the ‘Comments’ can be extremely meaningful and heartfelt, while others can be pointless, meaningless arguments. Across all social media platforms it is very hard to compare responses and what they mean in terms of engagement.

Expert 2 said that a major issue in social media is the imbalance among what Te Papa wants visitors to do or see, what visitors actually want, and what visitors ultimately get. Developing a site that aligns all three of these goals or outcomes is a very challenging task.

Expert 3 is a member of the Collections department at Te Papa. This expert is responsible for generating and posting content to the Te Papa Collections Twitter account (@tepapacolonline), which is focused on promoting Te Papa’s collections, and not exhibits, events or sales. This expert does not have any particular criteria or guidelines given by the museum for posting material. Expert 3 posts any recent acquisitions or what is believed to be what people will find interesting. This expert noted that the channel is kept informal and tries to keep posts appropriate for all audiences.

To develop a better understanding of how content is viewed and used, this expert utilizes several tools to track posts. “I use bitly so that I can track clicks... retweets are great, because it shows that people really like it... ‘Comments’ are fantastic, discussions are useful” showing the importance of

interactions with followers. This expert also uses Klout to track the success of the Twitter account, although it is understood that Klout is based purely on the numbers and is not a perfect system.

When asked about meaningful engagement and what it means to Expert 3, it was considered that people viewing and liking the content was important, although more immeasurable things, like inspiration, were indicators of more meaningful engagement. This expert expressed this range of engagement stating, “people are seeing it, and liking it and that’s cool. The other one is that people are using the collections, to actually talk about and interpret for themselves... or to create new work and that means the collection is actually being used, which is why we have it.” Expert 3’s thoughts show the importance of providing Te Papa’s audience with material that they want to interact with.

This expert spoke about Te Papa’s use of multiple Twitter accounts and the advantages and disadvantages of this structure. It was noted that having an account just for the collections allows the department to post collections material without worrying about overloading the general Te Papa audience, as would happen if the same content was posted on the general Te Papa account. However, this structure limits the reachable audience. Many collections-oriented people may see the main Te Papa account and not think to keep looking for another account, preventing them from ever following the Collections account.

Expert 4 and **Expert 5** are members of the Marketing department who are in charge of posting content to Te Papa’s Facebook, Twitter, Flickr, and Youtube accounts. The Te Papa marketing team’s motivations behind the posts on social media sites, according to Expert 5, “are to drive people into the major exhibitions, and events, and deliver them to the brand objectives [of Te Papa]” They do this not only through daily posts, but also through digital campaigns designed around specific exhibitions and events. While Expert 4 said there were no specific guidelines followed when posting content, they do like to “keep it interesting and try not to make it a selling tool...sometimes a post will be hit or miss, sometimes you can do a post and people love it and next time you think ‘okay this one is going to do great’ and it doesn’t”.

The Marketing department tracks how well the posts do through quantitative information gathered through Facebook Insights and similar tools. From the numbers gathered through these analytic tools, they have learned that the posts with the most responses (‘Likes’, ‘Comments’, and ‘Shares’) from viewers are posts that include an image. They have found that posts with the most ‘Comments’ are ones that incorporate a question, or a phrase that encourages viewers to share something. According to Expert 5, posts like these allow for Te Papa to tap into viewer’s personal

experiences and “to feel part of the Te Papa Family”. When asked what posts they considered the most successful, Expert 5 stated,

“Our most popular post, which was really surprising, was the gingerbread post. It was even more popular than our Hobbit-type photos, which are really popular. We posted a photo of the construction of a gingerbread house and it received loads of ‘Likes’.”

They also said that they considered success to be not only when a post receives a high number of ‘Likes’, but also when the Te Papa Facebook page receives an increase in ‘Likes’ as well.

Our interviews can be summarized into a few key findings. First, the motivations behind posting content differ depending on who is posting it. When the Collections department posts content, they want to generate public interest and encourage viewers to learn something. When the Marketing department posts content, they want to advertise events and encourage people to come into the museum. Second, we found that opinions on what defines a meaningful response differ from one person to the next. Expert 3 said that a meaningful response occurs when people talk about the posts, then create something for themselves. Expert 1 defined a meaningful response as a post that is taken offline and into the public. Expert 4 said that a meaningful response was when there is not only interest in the post, but also in the museum. Finally, we found that there are several different ways the museum measures online success. Expert 2 uses Google Analytics for tracking the website, while Expert 3 uses Klout for Twitter, and Expert 4 uses Facebook Insights for the Te Papa Facebook page.

Objective 2: Defining Meaningful Engagement

Through synthesis of our research and analysis of our staff interviews, we were able to produce a list of terms that were considered to be factors of meaningful engagement. We identified several sources that defined meaningful engagement through a list of terms. From our own preliminary thoughts and interviews with experts, we came up with four factors of engagement: educational, entertaining, relevant, and sparking further interest. Haywood and Cairns identified three key terms: participation, narration, and the co-presence of others. McIntyre identified a hierarchy of engagement as: social, intellectual, emotional and spiritual. Lastly Warren used three key terms: community, relationships, and active involvement. The importance of several of these key terms in engendering meaningful engagement was reinforced in the interviews we conducted. Expert 3 emphasized the importance of a learning environment that attracts the audience, and Expert 1 believed that meaningful engagement could be shown through personal interactions with the material.

We grouped common factors and noted any patterns or trends. The first grouping we developed included educational, narration, and intellectual. All of these factors show that learning is necessary for meaningful engagement to occur. We titled this group of factors “Learning,” which represents the importance of the transfer of information from the publisher to the audience. The next grouping took the factors of entertaining, participation, relevant, active involvement, spiritual, and emotional. We titled this grouping “Personal Interest,” showing that for meaningful engagement to be achieved the participant must be in some way interested in the subject matter or the activity they are participating in. Lastly, we identified the grouping consisting of the co-presence of others, social, relationships, and community, and titled these terms as “Community.” Community shows the importance of interactions between people while learning the material. A visual representation of how the key terms were categorized can be found below in Figure 4.



Figure 4 Visual Representation of Key Terms

This produced three pillars of meaningful engagement: Learning, Personal Interest, and Community. These terms formed our definition of meaningful engagement, as an increase in any one of these terms will lead to an increase in meaningful engagement. We also believe that both personal interest and learning are necessary for meaningful engagement to exist, and that without community only low levels of engagement can occur. From our original list of key terms, the only term left outside of these three pillars is “sparking further interest”, which we determined is not completely necessary for engagement to occur, but if it exists the levels of meaningful engagement will be much higher.

The definition of meaningful engagement that we developed could be applied to any context. For the purposes of this project, we needed to apply it specifically to social media. Through a discussion taking into account our staff interviews, literature review, and our own experiences with social media, we determined how each of the three pillars (Learning, Personal Interest, and Community) could be found in social media postings. Learning can take several forms. A post might contain a small factoid, or a link to an informative blog or video. It also might cause the reader to consider a situation from a different perspective. Personal Interest also takes many forms. It could be anything that amuses or entertains the reader. It might also be something that relates to a topic the reader is passionate about or finds particularly interesting. Finally, the notion of Community is inherent in social media. We defined Community in social media as the act of interacting with others on a post. By simply participating in social media, a user becomes part of the online community. There are many smaller communities within the whole, revolving around various areas of personal interest.

4.2 Analysis of Objectives 1 and 2

To bring our definition of meaningful engagement to life, we developed a visual representation of the three pillars (as shown in Figure 5, below), known as the HARP Model of Engagement.

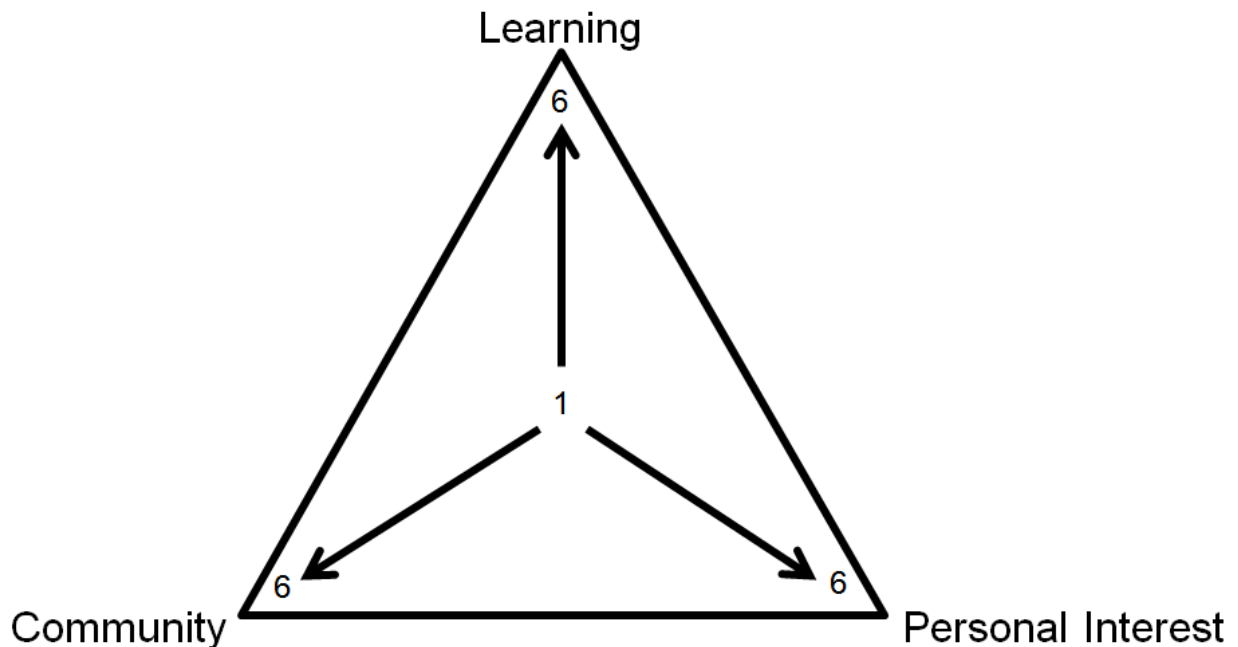


Figure 5 The HARP Model of Engagement

Engagement can be displayed on the HARP Model based on how much each of the three pillars is fulfilled. In our data collection approach, each pillar was rated on a scale from one to six. The ratings

form a smaller triangle within the overall triangle of meaningful engagement. The larger the triangle formed by the ratings, the greater the meaningful engagement. An example of this can be found in Figure 6.

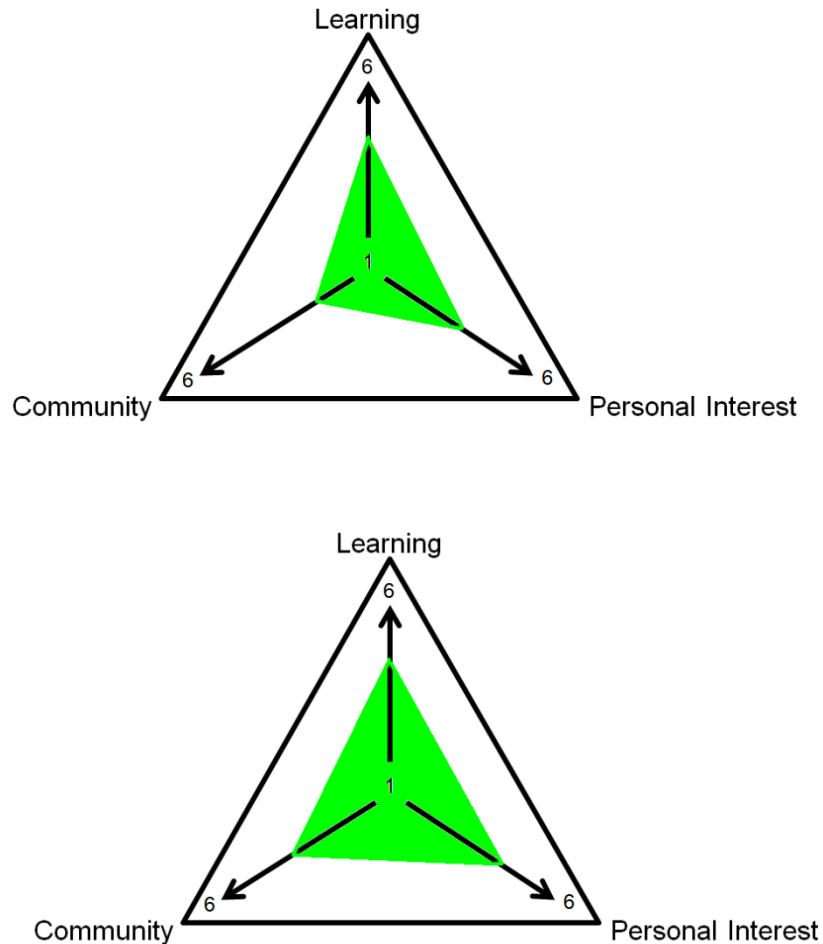


Figure 6 Example of how engagement can be measured on the HARP model

The top model represents an example of low meaningful engagement with low levels of Community and moderate levels of Personal Interest and Learning. The bottom model shows how the triangle would change when the pillars of meaningful engagement increased. This change is visually shown by a greater filled-in area.

Once we concluded that all three pillars of engagement could be found in social media, we explored various ways of measuring them. We intended to ask survey participants to rate various social media posts in each pillar, but were challenged by how to phrase the survey questions in order to receive useable results. The questioning for the pillars of Learning and Personal Interest were intuitive; we determined that participants' interpretations of the terms would be consistent with our definitions

of the pillars. However, the pillar of Community was not so intuitive. There may be several, very different interpretations of what Community means; if we had simply asked participants to rank the post in terms of its Community, the results would not have been consistent with the definition we intended. We considered explaining our interpretation of this pillar before asking them to rate it, but determined that doing so would skew the results.

In order to overcome this challenge, we decided to measure a set of behaviors that reflect Community, and combine those measurements into a rating for this pillar. The first question was how likely the participant would be to return to a post to view future 'Comments'. The second was how likely they would be to discuss the post offline. Finally, we also measured how participants would respond to each post ('Like', 'Comment', 'Share', and 'No Response'). Together, these three factors provided our measurement of the Community pillar of a Facebook post.

In combining these factors, the Offline Rating and the Return-to-Post Rating were already on a one-to-six scale. However, responses to each post were not. In order to translate these responses onto a scale, we assigned a rating to each type of response. Those that did not respond to the post received a score of one, as this represents no contribution to Community. From discussions with key experts, we determined that a 'Like' contributed minimally to the Community pillar and therefore received a rating of two. A 'Comment' was more active in Community and received a rating of four. A 'Share' indicated Community more than a 'Comment' and received a rating of five. Responding in more than one way (such as both with a 'Comment' and a 'Share') was considered to be the strongest indicator of Community and therefore received a rating of six.

These responses were averaged together, resulting in what we called the Response Rating. The Offline Rating, Return-to-Post Rating and Response Rating were then combined to produce a rating on a one-to-six scale. We determined that there were two sides to Community. First, the Response Rating represented the physical, online interactions. Second, the Offline and Return-to-Post Ratings represented the personal connection to the subject, without the online interaction. These two sides were determined to be worth equivalent weights in the overall Community pillar; therefore we averaged the two sides. The resulting number is the Community rating. The formulas can be found in Appendix C. This could then be mapped on the HARP Model of Engagement, along with the Personal Interest and Learning ratings.

4.3 Survey Results to Identify Characteristics of Social Media Posts

A link to the survey was posted on Te Papa’s official website for one week. A link was also posted on Te Papa’s Facebook page for three days and the blog for two days. From these three sources, 277 respondents began our survey of which 197, or 71% finished. Of the total number of respondents, 195 originated from the website, 23 from the blog, and 59 from Facebook. Of these respondents, 213 reported being female and 63 male. We divided the respondents into five age groups: 5 respondents were younger than 16 years old, 39 were between the ages of 16 and 24 years old, 57 were between the ages of 25 and 34 years old, 127 were between the ages of 35 and 54 years old, and 43 were older than 54 years old.

The Personal Interest, Learning, Return-to-Post, and Offline questions yielded average ratings for each post. We also received data on how people responded to each post. This data can be found in Appendix D. The Community rating was calculated using the formula referenced in 4.2 and found in Appendix C. The resulting averages for each post can be found in Table 1 below.

Table 1 Average pillar ratings for each characteristic

	Learning	Personal Interest	Community
Picture	3.32	2.84	1.68
No Picture	3.06	2.46	1.61
Video	3.96	3.63	2.49
No Video	2.90	2.36	1.63
Question	2.14	2.44	2.18
No Question	1.67	2.04	1.56
Link	4.20	3.59	2.50
No Link	3.79	3.37	2.06
Contest	3.28	2.69	2.21
No Contest	2.55	2.23	1.54
Causal Voice	3.46	3.26	2.45
Professional Voice	3.72	3.57	2.71

4.4 Discussion

In order to validate the accuracy of the average ratings calculated for each pillar, we calculated the average ratings according to age group and gender. We examined the distribution of responses to each question and found that all results fell into an approximate bell curve. This supported the averages as a fair representation of the responses. We also divided the results based upon demographic information and found that there was no notable change in the distribution of ratings from one demographic category to the next. However, we did find a correlation between how people responded to each post and what age bracket they fell in. For example, the younger age groups were more likely to 'Like' a post while the older age groups were more likely to 'Share' a post (see Figure 7). Gender, however, did not appear to have any effect regarding types of response.

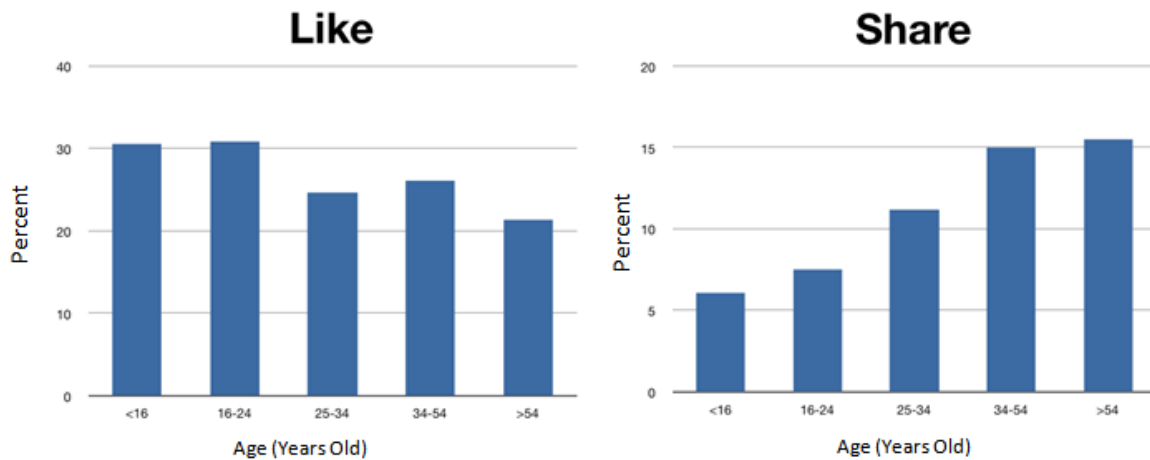


Figure 7 Chance of an age group's response

Once we were satisfied with the accuracy of the averages, we mapped each set of ratings on the HARP Model, which provided a visual representation of how the pillars of engagement changed with the addition of each characteristic. Through mapping the pillar ratings on our model, we observed how the addition of each characteristic affected overall engagement through changes in the shape and size of the mapped model. Based on these changes, we chose four characteristics to explore more in-depth.

The largest increase in all three pillars of engagement was seen with the addition of a video. The mapped model can be found below in Figure 8.

Videos Affecting Engagement

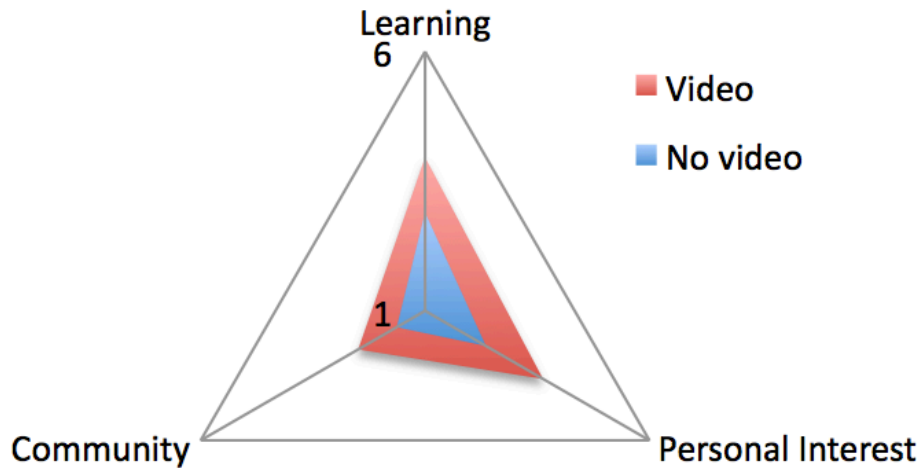


Figure 8 Effects of a video mapped on the HARP Model

A large increase was seen in Personal Interest. This was supported in feedback provided by the participants. One participant stated, “Adding the video link provides a far greater point of interest and interaction than just having text.” Another stated, “I think that the use of YouTube is an excellent way to pull in audience interest.” Even participants’ comments in other parts of our survey pointed out that “a picture or video would make the post more interactive.” These comments align with the key words that formed the pillar of Personal Interest. By playing the video, respondents choose to participate and be actively involved, which are two key aspects that arose in our discussions of meaningful engagement. A video can provide a unique learning opportunity. One comment stated, “It’s interesting to see the behind the scenes stuff,” showing how a video can provide unique information that Te Papa’s audience may not usually see. The addition of a video also translated to an increase in Community, which is clearly shown by the fact that three times as many participants indicated that they would ‘Share’ the post when the video was added.

The second largest increase was found with the addition of the Contest (Figure 9 below).

Contests Affecting Engagement

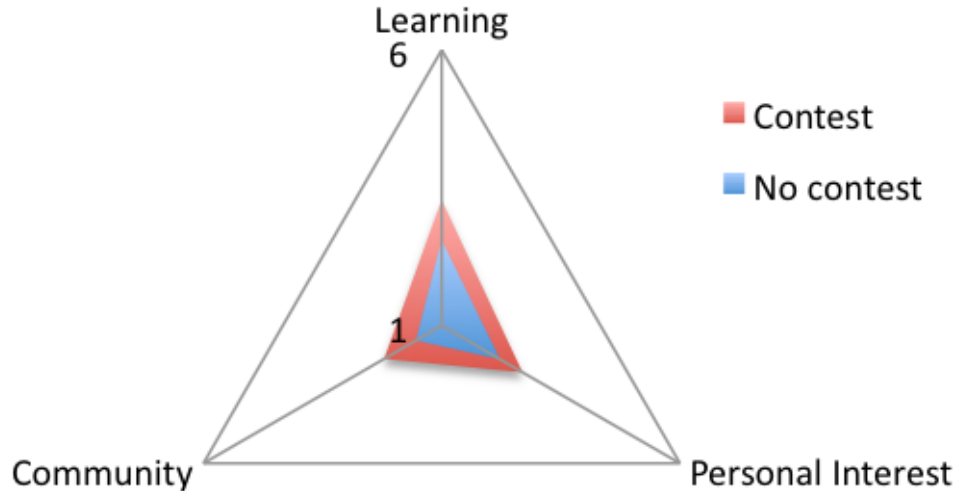


Figure 9 Effects of a contest mapped on the HARP Model

The increase in Personal Interest is simply explained, as the contest provided an opportunity for personal gain. One respondent commented, “Competitions are always interesting,” while another said “A competition is always a drawcard.” Similarly, the increase in Community seemed logical, as viewers needed to ‘Comment’ or ‘Share’ in order participate in the contest. One respondent said, “Giving a chance to win something certainly makes me more likely to add a comment or share a Post.” However, we found the increase in Learning to be surprising. There were no additional comments left by participants of the survey that indicated why this was. In fact, many comments indicated a desire for more information.

Meanwhile, the smallest increase was found in the addition of the Picture characteristic, illustrated in Figure 10 below.

Pictures Affecting Engagement

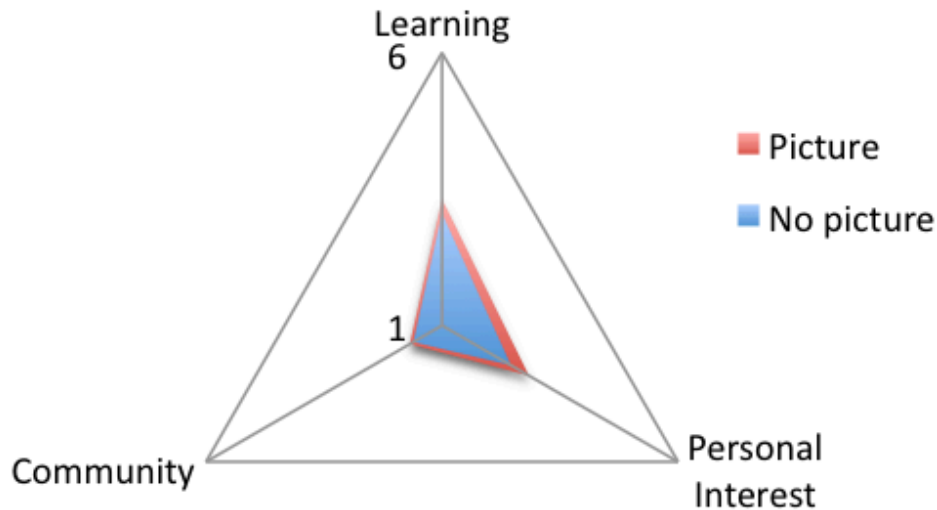


Figure 10 Effects of a picture mapped on the HARP Model

Adding a picture increased the pillars by a much smaller amount. Personal Interest showed a noticeable increase. The addition of a picture adds a visual aspect to catch the reader’s eye. Without a visual, text can be lost in a newsfeed; as one comment stated, “So much text on Facebook/Social Media probably wouldn't even notice it.” Adding a picture makes a post “more gripping.” The Community pillar increased minimally. According to one comment, there was nothing “to encourage people into discussion.” Learning increased minimally as well, but there were no comments that revealed why.

There was one variable that decreased all three pillars of engagement: a post written in a casual voice. This variable showed lower ratings in all three pillars, as illustrated in Figure 11.

Voice Affecting Engagement

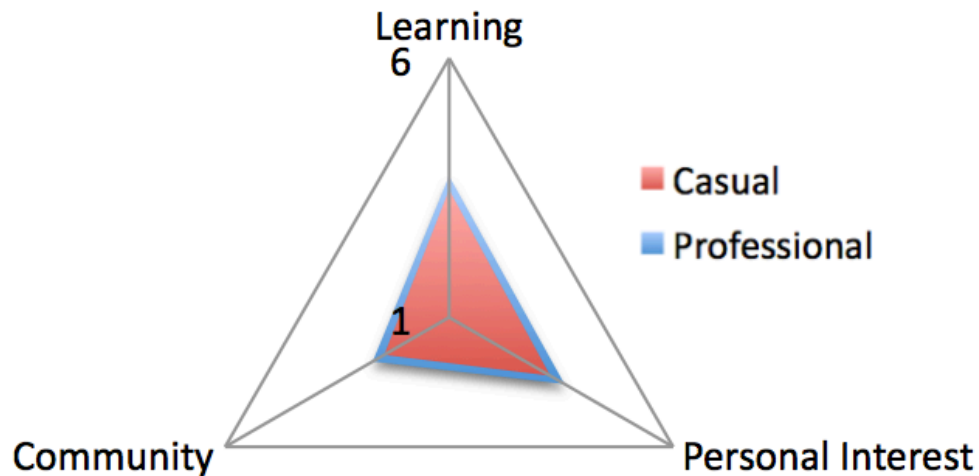


Figure 11 Effects of Voice mapped on the HARP Model

The decrease in Learning can be easily explained. A professional tone instills the reader with confidence that the writer is knowledgeable. Several respondents left feedback indicating that they expected Te Papa, as a museum, to present information in its posts with a professional voice. One of the additional comments said, “Seems a bit unprofessional, and distracts me from the real reason for the post.” A casual tone undermines the authority of the publisher, which may decrease the amount of learning gained from a post. One respondent said, “How are folks meant to learn or be able to take themselves up a notch if you keep pandering down.” Additionally, the casual tone fails to match the viewers’ expectations of a professional voice. This mismatch of expectations can make the post less personally interesting. One respondent commented, “Trying to be ‘hip’ or ‘cool’ comes across as annoying most of the time.” This annoyance could discourage the viewer from reading further or responding to the post. This lack of response could, in turn, lessen the Community pillar as well.

We mapped all six characteristics on the HARP Model of Engagement. The four characteristics above were presented because we felt they would provide Te Papa with the most insight. The full set of models can be found in Appendix E.

There were additional trends found in the comments of the control posts. Those comments consistently indicated that participants believed every post needed at least one of the characteristics. One comment said, “a picture or video would make the post more interactive.” In fact, there were 70

different comments throughout the survey that indicated the need for one or more of the characteristics.

Every post presented in the survey had at least one comment stating that it needed more information. One respondent said, “a few more additional words of explanation would expand your audience.” Another said, “I like to learn something... nothing new here.” Several participants left similar comments asking for more information. These respondents demonstrated that there was an expectation that they would learn something from the posts.

There were several comments from participants who were not from the Wellington region. They pointed out that the posts were very specific to particular exhibits or events at Te Papa. These posts were therefore irrelevant to non-Wellington residents who would be unable to visit the museum. One respondent from Europe said, “I couldn't visit the exhibition, so I don't feel particularly involved.” Someone else said, “Most of my facebook friends live overseas so this would not be relevant to them.” Another respondent from outside of the country explained that “its difficult for these posts to have a huge effect on me.”

The analysis of each characteristic allowed us to create a set of recommendations that may help Te Papa engender meaningful engagement through social media.

Chapter 5. Recommendations and Conclusion

In this chapter we outline our recommendations for Te Papa’s contributors when posting on social media to engender meaningful engagement. We then note any additional observations we made as well as the potential for further research.

5.1 Recommendations

Based on our analysis, we have developed a set of recommendations for how Te Papa can better engender meaningful engagement with its social media audience. The survey data shows that the addition of a video results in the largest increase in all of the pillars of engagement. For this reason, we recommend that Te Papa use videos in its social media postings wherever plausible.

Our survey results also show that a casual voice decreases all of the pillars of engagement, representing a decrease in meaningful engagement. Based on this drop in engagement and the confirmation of this trend in additional comments from our survey, we recommend that Te Papa maintain a professional style of writing.

While our research gives us an idea of how each characteristic affects the three pillars of engagement, the design of our survey prevents us from directly comparing one characteristic against another. We are also unsure of how our rating model behaves. We did not examine whether a change on the lower end of the scale is equivalent to the same numerical change on the higher end of the scale. We also cannot confirm whether a score on one pillar holds the same weight as the same number on another pillar. We recommend that further research be conducted exploring these relationships.

Facebook Insights and Google Analytics revealed that a large percentage of Te Papa’s social media audience is from outside of Wellington and therefore may not be able to attend the exhibitions advertised in the Facebook posts. Some survey participants commented that they would hide the museum’s posts from their newsfeeds if too much advertising material were posted. The museum already understands this, as Expert 4 stated in an interview: “Something that doesn’t really work on Facebook is trying to just sell something...people aren’t interested in that.” To continue along these lines we recommend that Te Papa include more information to enhance the Learning pillar of engagement. Additional background information could also be used to help explain the meaning of a social media post as many participants noted that they were confused as to what the post was referring to. An example of this was shown in the Facebook posting with the picture, where respondents requested more information about the painting and its artist. We feel that if more information is presented in

future postings, the audience will be able to better engage with the posts. This information could clarify the context of the post or add historical details. However, we also recommend exploring the balance between presenting too little information and overwhelming the viewer with too much text or information.

The design of our survey measures Community through a combination of several questions. The formula developed to combine these responses was created based on research and our best thinking and judgment. We recommend that further research be conducted exploring the Community pillar. More extensive research should also be performed to discover what communities are present in social media and what strategies best serve each of them.

The concept of meaningful engagement in social media is broad and we were only able to test one social media platform within the timeframe of our project. We believe that the variables and trends we identified can be carried from Facebook into other social media platforms; however, further research can be conducted exploring these correlations.

Additional Observations

While at Te Papa, we had a privileged view behind the scenes at the museum. One factor that was curious to us is that Te Papa appears to have no defined online strategy. We feel that Te Papa might better serve its online community if it developed an online strategy that provided internal guidelines for how to best utilize its social media channels. Our research focused on meaningful engagement and how different characteristics of social media postings affect it; we feel that there are other areas of social media that could be researched when developing an online strategy. For example, Te Papa might consider researching new ways of breaking down its social media into a number of feeds each providing different types of information, much like what the museum currently does on Twitter. Te Papa could also research how their audience feels each social media platform should be used, and gain an understanding of what types of content are most appropriate for each individual platform.

5.2 Conclusion

As the use of social media continues to grow, it provides an excellent tool that museums can use to reach a wider audience and share the wealth of information that they contain. Many museums, however, have struggled with how to optimize their use of this tool. We have addressed this issue by developing a three-pillar model to define meaningful engagement and using that model to analyze content that Te Papa has posted on social media. The model itself can be used by Te Papa to gain a

broad sense of what makes a post engaging. Through our analysis of the content, we considered how different characteristics of a post affect each of the three pillars of engagement. Using that information, we provided the museum with a set of recommendations that can be used when determining how to post content on social media channels. Our recommendations are specific to content on Facebook, but we believe that they can carry over to other forms of social media as well. We hope that this information will help Te Papa post social media content that enhances meaningful engagement with its audience.

While our research focused only on Te Papa's social media content and audience, our findings and recommendations have many other applications. Meaningful engagement is a term that is encountered in many contexts, and defined in few; our three-pillar model can provide an overarching definition for all of these contexts, whether personal, professional, or academic. Similarly, the recommendations we have developed are not limited to use by Te Papa, and therefore can be used by museums around the world.

Social media is expected to continue to increase in popularity. As organizations and their target audiences take advantage of the quick and easy communication that social media facilitates, understanding what meaningful engagement is and how to encourage it will become increasingly important. Our project begins to address this growing need. We hope that our findings and recommendations will not only be used by Te Papa to improve its use of social media, but also provide a strong foundation for future research into this vital field of study.

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Appendix A

Te Papa Staff Interview Guide:

How would you describe what you do with regard to Te Papa's social media?

How do you determine what is posted? Is there a set of guidelines that you follow?

What is the main goal of using social media? To entertain? Educate? Spark interest in the museum?

What audience are you designing the posts for?

What would you consider to be meaningful engagement with the posts?

What would you consider a successful post and how do you measure that success?

Appendix B

This survey was built on SurveyMonkey and links to the survey were posted on Te Papa's Facebook, website and blog page.

Facebook Interactions

*** 1. Do you use Facebook?**

Yes

No

Next

Facebook Interactions

You will be presented with a series of Facebook posts and some may contain the same content.

Please answer the following questions for each post to the best of your ability.
All answers will be kept anonymous and you will not be contacted again.

** This survey is being conducted by a group of university students. While these posts have been created by the National Museum of New Zealand Te Papa Tongarewa, some of them have been altered and may no longer reflect the views and opinions of Te Papa.
The contests and promotions seen in these posts no longer exist.**

This survey will take approximately 10 minutes.

Prev Next

Museum of New Zealand Te Papa Tongarewa
3 minutes ago

10 days to go before we farewell the excellent Angels & Aristocrats exhibition. Make sure you make time to come and see it one last time before 27 January.

A Man with a Child, about 1650. Mackelvie Trust Collection, Auckland Art Gallery Toi o Tāmaki



Like · Comment · Share

*** 4. How much did you learn from this post?**

(None at all) 1 2 3 4 5 6 (Heaps)

*** 5. How personally interesting was this post?**

(Extremely boring) 1 2 3 4 5 6 (Extremely interesting)

*** 6. How likely would you be to discuss this post (or its content) offline?**

(Not at all likely) 1 2 3 4 5 6 (Very likely)

*** 7. How likely would you be to return to this post to read others' responses?**

(Not at all likely) 1 2 3 4 5 6 (Very likely)

*** 8. If you saw this on your news feed, how would you respond to it? (Select all that apply)**

- Like
- Comment
- Share
- No response
- Unsure

If you comment/share, what would you say?

9. Please provide any additional comments that you have:



Museum of New Zealand Te Papa Tongarewa

5 minutes ago

One of the best things about Christmas is getting together with friends and family and overindulging in delicious food. We all have our Christmas Day food favorites.

Like · Comment · Share

*** 10. How much did you learn from this post?**

(None at all) 1	2	3	4	5	6 (Heaps)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 11. How personally interesting was this post?**

(Extremely boring) 1	2	3	4	5	6 (Extremely interesting)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 12. How likely would you be to discuss this post (or its content) offline?**

(Not at all likely) 1	2	3	4	5	6 (Very likely)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 13. How likely would you be to return to this post to read others' responses?**

(Not at all likely) 1	2	3	4	5	6 (Very likely)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 14. If you saw this on your news feed, how would you respond to it? (Select all that apply)**

- Like
- Comment
- Share
- No response
- Unsure

If you comment/share, what would you say?

15. Please provide any additional comments that you have:

Prev

Next



Museum of New Zealand Te Papa Tongarewa

5 minutes ago

Te Papa Picture Library has an auction coming up soon. 100% of the proceeds will go to Christchurch to help the rebuilding of this beautiful city. Watch this space to find out what we are going to auction.

Like · Comment · Share

*** 16. How much did you learn from this post?**

(None at all) 1 2 3 4 5 6 (Heaps)

*** 17. How personally interesting was this post?**

(Extremely boring) 1 2 3 4 5 6 (Extremely interesting)

*** 18. How likely would you be to discuss this post (or its content) offline?**

(Not at all likely) 1 2 3 4 5 6 (Very likely)

*** 19. How likely would you be to return to this post to read others' responses?**

(Not at all likely) 1 2 3 4 5 6 (Very likely)

*** 20. If you saw this on your news feed, how would you respond to it? (Select all that apply)**

- Like
- Comment
- Share
- No response
- Unsure

If you comment/share, what would you say?

21. Please provide any additional comments that you have:

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Museum of New Zealand Te Papa Tongarewa shared a link.
9 minutes ago

Phar Lap is back at Te Papa on Saturday! Check out this time lapse video of the skeleton reconstruction.

http://www.youtube.com/watch?feature=player_embedded&v=-N9KhQAKRFY



Reconstruction of racehorse Phar Lap's skeleton (time lapse)

www.youtube.com

A time-lapse video showing the reconstruction of racehorse Phar Lap's skeleton. A life-sized photograph of the hide from Melbourne Museum was used as a

Like · Comment · Share

View the video here: [Reconstruction of racehorse Phar Lap's skeleton \(time lapse\)](http://www.youtube.com/watch?feature=player_embedded&v=-N9KhQAKRFY)

*** 22. How much did you learn from this post?**

(None at all) 1 2 3 4 5 6 (Heaps)

*** 23. How personally interesting was this post?**

(Extremely boring) 1 2 3 4 5 6 (Extremely interesting)

*** 24. How likely would you be to discuss this post (or its content) offline?**

(Not at all likely) 1 2 3 4 5 6 (Very likely)

*** 25. How likely would you be to return to this post to read others' responses?**

(Not at all likely) 1 2 3 4 5 6 (Very likely)

*** 26. If you saw this on your news feed, how would you respond to it? (Select all that apply)**

- Like
- Comment
- Share
- No response
- Unsure

If you comment/share, what would you say?

27. Please provide any additional comments that you have:

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Museum of New Zealand Te Papa Tongarewa

about a minute ago

Only 10 days to go until Module hits the stage with The Interrupt Collective.

For event details and tickets go to www.tepapa.govt.nz/gamemasters

Like · Comment · Share

* 28. How much did you learn from this post?

(None at all) 1 2 3 4 5 6 (Heaps)

* 29. How personally interesting was this post?

(Extremely boring) 1 2 3 4 5 6 (Extremely interesting)

* 30. How likely would you be to discuss this post (or its content) offline?

(Not at all likely) 1 2 3 4 5 6 (Very likely)

* 31. How likely would you be to return to this post to read others' responses?

(Not at all likely) 1 2 3 4 5 6 (Very likely)

*** 32. If you saw this on your news feed, how would you respond to it? (Select all that apply)**

- Like
- Comment
- Share
- No response
- Unsure

If you comment/share, what would you say?

33. Please provide any additional comments that you have:

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Museum of New Zealand Te Papa Tongarewa

2 minutes ago

10 days to go before we farewell the excellent Angels & Aristocrats exhibition. Make sure you make time to come and see it one last time before 27 January.

Like · Comment · Share

*** 34. How much did you learn from this post?**

(None at all) 1 2 3 4 5 6 (Heaps)

*** 35. How personally interesting was this post?**

(Extremely boring) 1 2 3 4 5 6 (Extremely interesting)

*** 36. How likely would you be to discuss this post (or its content) offline?**

(Not at all likely) 1 2 3 4 5 6 (Very likely)

*** 37. How likely would you be to return to this post to read others' responses?**

(Not at all likely) 1 2 3 4 5 6 (Very likely)

*** 38. If you saw this on your news feed, how would you respond to it? (Select all that apply)**

- Like
- Comment
- Share
- No response
- Unsure

If you comment/share, what would you say?

39. Please provide any additional comments that you have:

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Museum of New Zealand Te Papa Tongarewa

5 minutes ago

Recently a beautiful kahu kiwi cloak from the Te Papa collection was named by her descendants as part of a special church service. You can see 'Piata' up close in Kahu Ora Living Cloaks, which opens on Friday 8 June.

Like · Comment · Share

*** 40. How much did you learn from this post?**

(None at all) 1 2 3 4 5 6 (Heaps)

*** 41. How personally interesting was this post?**

(Extremely boring) 1 2 3 4 5 6 (Extremely interesting)

*** 42. How likely would you be to discuss this post (or its content) offline?**

(Not at all likely) 1 2 3 4 5 6 (Very likely)

*** 43. How likely would you be to return to this post to read others' responses?**

(Not at all likely) 1 2 3 4 5 6 (Very likely)

*** 44. If you saw this on your news feed, how would you respond to it? (Select all that apply)**

- Like
- Comment
- Share
- No response
- Unsure

If you comment/share, what would you say?

45. Please provide any additional comments that you have:

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Museum of New Zealand Te Papa Tongarewa

20 minutes ago

Only 10 days to go until Module hits the stage with The Interrupt Collective , and we've got TWO double passes to give out.

To get in on the fun either SHARE this video post or comment below with 'I Want Module'.

Winners will be drawn and announced tomorrow at 2pm.

For event details and tickets go to www.tepapa.govt.nz/gamemasters

Like · Comment · Share

*** 46. How much did you learn from this post?**

(None at all) 1 2 3 4 5 6 (Heaps)

*** 47. How personally interesting was this post?**

(Extremely boring) 1 2 3 4 5 6 (Extremely interesting)

*** 48. How likely would you be to discuss this post (or its content) offline?**

(Not at all likely) 1 2 3 4 5 6 (Very likely)

*** 49. How likely would you be to return to this post to read others' responses?**

(Not at all likely) 1 2 3 4 5 6 (Very likely)

*** 50. If you saw this on your news feed, how would you respond to it? (Select all that apply)**

- Like
- Comment
- Share
- No response
- Unsure

If you comment/share, what would you say?

51. Please provide any additional comments that you have:

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Museum of New Zealand Te Papa Tongarewa

5 minutes ago

One of the best things about Christmas is getting together with friends and family and overindulging in delicious food. We all have our Christmas Day food favourites. What are the must have dishes on your menu this Christmas?

Like · Comment · Share

*** 52. How much did you learn from this post?**

(None at all) 1 2 3 4 5 6 (Heaps)

*** 53. How personally interesting was this post?**

(Extremely boring) 1 2 3 4 5 6 (Extremely interesting)

*** 54. How likely would you be to discuss this post (or its content) offline?**

(Not at all likely) 1 2 3 4 5 6 (Very likely)

*** 55. How likely would you be to return to this post to read others' responses?**

(Not at all likely) 1 2 3 4 5 6 (Very likely)

*** 56. If you saw this on your news feed, how would you respond to it? (Select all that apply)**

- Like
- Comment
- Share
- No response
- Unsure

If you comment/share, what would you say?

57. Please provide any additional comments that you have:

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Museum of New Zealand Te Papa Tongarewa

3 minutes ago

Phar Lap, our racehorse skeleton, is back at Te Papa on Saturday!

Like · Comment · Share

*** 58. How much did you learn from this post?**

(None at all) 1 2 3 4 5 6 (Heaps)

*** 59. How personally interesting was this post?**

(Extremely boring) 1 2 3 4 5 6 (Extremely interesting)

*** 60. How likely would you be to discuss this post (or its content) offline?**

(Not at all likely) 1 2 3 4 5 6 (Very likely)

*** 61. How likely would you be to return to this post to read others' responses?**

(Not at all likely) 1 2 3 4 5 6 (Very likely)

*** 62. If you saw this on your news feed, how would you respond to it? (Select all that apply)**

- Like
- Comment
- Share
- No response
- Unsure

If you comment/share, what would you say?

63. Please provide any additional comments that you have:

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Museum of New Zealand Te Papa Tongarewa shared a link.
2 minutes ago

Recently a beautiful kahu kiwi cloak from the Te Papa collection was named by her descendants as part of a special church service. You can see 'Piata' up close in Kahu Ora Living Cloaks, which opens on Friday 8 June.

<http://blog.tepapa.govt.nz/2012/05/11/piata-a-cloak-returns-home/>



'Piata' - a cloak returns home
blog.tepapa.govt.nz

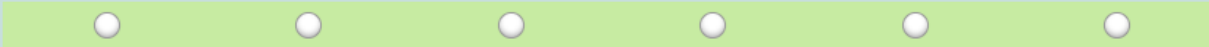
He kanohi kitea, he hokinga mahara. To see a face is to stir the memory. On Sunday 6 May 2012, a beautiful kahu kiwi cloak from the Te Papa collection, was named by her descendants as part of a spe...

Like · Comment · Share

View the blog here: ['Piata' - a cloak returns home](#)

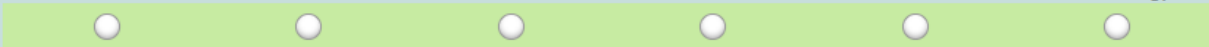
* 64. How much did you learn from this post?

(None at all) 1 2 3 4 5 6 (Heaps)



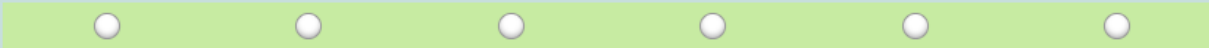
* 65. How personally interesting was this post?

(Extremely boring) 1 2 3 4 5 6 (Extremely interesting)



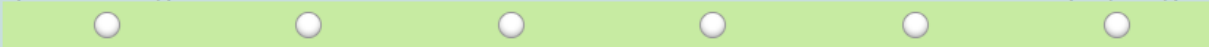
* 66. How likely would you be to discuss this post (or its content) offline?

(Not at all likely) 1 2 3 4 5 6 (Very likely)



* 67. How likely would you be to return to this post to read others' responses?

(Not at all likely) 1 2 3 4 5 6 (Very likely)



*** 68. If you saw this on your news feed, how would you respond to it? (Select all that apply)**

- Like
- Comment
- Share
- No response
- Unsure

If you comment/share, what would you say?

69. Please provide any additional comments that you have:

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Museum of New Zealand Te Papa Tongarewa

4 minutes ago

Pppsstttt, I want to let you in on a little secret..... Te Papa Picture Library has an auction coming up soon. 100% of the proceeds will go to Christchurch to help the rebuilding of this beautiful city. Watch this space to find out what we are going to auction.

Like · Comment · Share

*** 70. How much did you learn from this post?**

(None at all) 1 2 3 4 5 6 (Heaps)

*** 71. How personally interesting was this post?**

(Extremely boring) 1 2 3 4 5 6 (Extremely interesting)

*** 72. How likely would you be to discuss this post (or its content) offline?**

(Not at all likely) 1 2 3 4 5 6 (Very likely)

*** 73. How likely would you be to return to this post to read others' responses?**

(Not at all likely) 1 2 3 4 5 6 (Very likely)

*** 74. If you saw this on your news feed, how would you respond to it? (Select all that apply)**

- Like
- Comment
- Share
- No response
- Unsure

If you comment/share, what would you say?

75. Please provide any additional comments that you have:

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Thank you for participating in this survey! Your time and attention are appreciated.

76. Please provide any additional comments that you have:

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Done

Appendix C

Below are the formulas that were used to determine the average Community Rating for each post.

$$\text{Community} = \frac{RTP + OL + 2(RR)}{4}$$

RTP=Return to Post Rating

OL=Offline Rating

RR=Response Rating

$$RR = \frac{N + 2(L) + 4(C) + 5(S) + 6(B)}{N + L + C + S + B}$$

N=No Response/Unsure

L='Like' **Only**

C='Comment' **Only**

S='Share' **Only**

B=2 or 3 Responses (from L,C, S)