



Unveiling the Dynamics of Public Value Creation on Social Media

A New Zealand Perspective

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Abstract

In the past decade, social media has revolutionized how governments create public value through online communication and collaboration with citizens. Despite this, academic literature still lacks a comprehensive understanding of how public value is disseminated via social media. This research delves into the process of public value creation on social media in New Zealand, a leading country in leveraging social media for government-to-citizen communication, particularly during crises.

The study seeks to answer two questions about creating or eroding public value over social media. The first question investigates the socio-demographic factors correlating with citizens' varying perceptions of public value from social media adoption. The findings suggest that citizens with similar public value perceptions share common socio-demographic characteristics, such as age, gender, education, trust in government, platform usage, and following government accounts. The study also reveals differences in public value perceptions based on the platform type, with platforms like Twitter garnering more positive public value perceptions than Facebook.

The second question examines how using social media in government can enhance or diminish public value perceptions among citizens. The research constructs a causal model where specific social media practices during peaceful and crisis times, along with the engagement of external stakeholders, lead to increased perceptions of public value creation. The study also uncovers two causal mechanisms for the erosion of public value. In the first model, government reactions to opposing opinions on social media, such as hiding or removing comments, result in low public value perceptions. The second model shows that over-posting or posting irrelevant information can reduce citizens' trust in the government, limit government posts' reach, and lower public value perception.

This research encourages future studies to replicate the experiment across various platforms and countries to better understand how public value can be created or eroded over social media.

Acknowledgments

In 2013, I embarked on a journey as a researcher at the office of Egypt's Deputy Prime Minister and Minister of Planning and International Cooperation. My research spanned a variety of subjects, including the government's use of social media and issues of transparency and access to information. The Egyptian government's interest in social media was sparked by the 2011 revolution, which was orchestrated and publicized on platforms like Facebook and Twitter, leading to the overthrow of the previous regime. The ministry's leadership, particularly Dr. Ziad Bahaa Aldin, was actively engaged on social media as a politician and public servant.

My role at the office involved creating a functional framework for the government's use of social media. The primary objectives were to monitor social media for trending discussions, engage with community leaders for project monitoring, and plan capacity-building activities for public servants to maintain the ministry's social media presence. Consequently, I proposed the "Raqeb" (watch) project initiative in 2013, a communication process that allowed citizens to provide feedback on projects funded by international cooperation through social media and a dedicated website. Regrettably, the project did not succeed due to the absence of public value-creation enablers and the necessary democratic setup for collaboration and co-creation.

This experience led me to question the adoption of social media in government, especially in a country lacking the democratic enablers for public value creation. I wondered how the results would differ if citizen engagement through social media were implemented in a democratic setting. Would such platforms' affordances, algorithms, and governance restrict public value for citizens? In democratic countries like New Zealand, where social media adoption in government is high and supported by political leadership, how can public value creation be assessed or sought?

This research attempts to unravel the puzzle that emerged in 2013, seeking answers that could benefit those interested in researching and adopting social media for government-to-citizen communication.

Throughout this journey, I have been fortunate to receive support from numerous individuals who have helped shape this work. I am deeply grateful for their assistance over the years. I thank my Ph.D. supervisors, Prof. Luciana, Prof. Somya, and Prof. Mona Krewl, who provided invaluable guidance and support throughout my research journey. I am also thankful to my colleagues at Hertie School for their constructive feedback and motivation. Lastly, I would like to express my heartfelt gratitude to my family and friends for their unwavering support and motivation, and a special thanks to Jessica, Diego, Salma, Katherine, and Elisa for their valuable feedback and assistance refining this work.

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Chapter 1 : Introduction

1.1. Social Media and Government

Social media adoption has become an institutionalized practice in several governments. In 2017, governments and political leaders of 175 countries had an official presence on social media and were connected to around 309.4 million users (Burson et al., 2018, p. 1). From 2017 until 2018, governments and world leaders have published 536,644 posts on Facebook alone, receiving 900 million interactions (likes, comments, or shares) (Burson et al., 2018). In 2019, I spotted over fifty-five thousand official government accounts on Facebook alone and around six thousand official government accounts on Twitter worldwide using the tools provided by the SocialBakers' website (Social Bakers, 2019). Such exacerbated growth in social media use by governments brings about the need to study the impact of such adoption on democracy and the lives of citizens.

Similar to the increasing use of social media by governments, the rate by which citizens join social media platforms is increasing yearly (Kemp, 2021). Citizens in several countries worldwide are no longer using the internet only for browsing and retrieving information. Instead, they actively design, publish, and share digital content, as well as engage in real-time conversations (Aghaei et al., 2012). Such transformation in how people communicate online has also enabled citizens to communicate in an unprecedented multi-faceted manner¹ (McLoughlin & Lee, 2008). This nuance in communication offered several opportunities for public institutions to gain visibility for their activities, promote their achievements at low cost, engage in conversations with the public, understand their needs, and fight corruption in their institutions (Kaplan & Haenlein, 2010; Bertot et al., 2010; Linders, 2012; Mergel, 2016; Reddick et al., 2017). With such exacerbated change in the way citizens and public institutions communicate digitally since the introduction of social media (Fountain, 2004; Hartmann et al., 2015; Mergel, 2016; Reddick et al., 2017), it became interesting to investigate this phenomenon in depth and understand the impact it has on public institutions, citizens and democracy.

The way governments use social media to communicate and collaborate with citizens is not entirely a new practice for public institutions. In the past, they utilized several other traditional media channels to reach out to citizens, including television, radio, or printed press, before social media gained prominence. Nowadays, those traditional channels are becoming less popular among citizens and might offer a different degree of visibility needed by public institutions to maintain their legitimacy for their fellow citizens (Global Web Index, 2017). A study by Global Web Index (2017) on digital vs. traditional media use has found that the time spent on average by an individual on social media in

¹ Multi-faceted communication refers to the openness that social media presents in the number of users who can interact over content simultaneously, unlike traditional communication methods such as phone communication, which resembles one-to-one communication, or TV broadcasting, which resembles one-to-one communication.

2017 exceeds the time spent on any other traditional media like TV, radio, or printed press, especially for the age group from 16 to 34 years old. One example of those social media platforms is Facebook, which attracts more than 1.4 billion active users globally who interact with one another daily over the platform (Burson et al., 2018). As a result of the exacerbating presence of citizens on social media, some governments decided to have an official presence on social media to learn more about their citizens and communicate with them regularly (Hartmann et al., 2015).

Besides communication with citizens, several public institutions around the world have utilized social media platforms' features for service delivery, especially in emergency and crisis management, to deliver aid and reach out to citizens in a fast way (Chatfield & Reddick, 2018; Criado, & Villodre, 2021; Yildiz & Demirhan, 2016). Although social media platforms are not designed originally for public service delivery (Mergel, 2012; Zavattro & Sementelli, 2014), various features developed on social media have been used for this purpose (Criado & Villodre, 2021; Bertot et al.).

Although social media promises visibility for public institutions in the digital sphere, it poses several challenges for public institutions and citizens. Those challenges spring from the nature of social media as third-party, private-sector-driven platforms operating under conditions, rules, and regulations that, in some cases, may surpass national borders.

The challenges faced by public institutions are often related to issues such as control over platform features (Bucher, 2012), privacy, data protection (Risen, 2012), resource allocation (Burson et al., 2018), and organizational change management (Mergel, 2016; Gillespie, 2018; Kattel & Mazzucato, 2018).

Governments may not have complete control over the communication processes on social media platforms. For example, the platforms' obscure filtering and sorting algorithms can impact the visibility of government content published on their pages and accounts (Bucher, 2012). Additionally, if their content does not meet the platforms' guidelines, it may not be displayed to citizens (Gillespie, 2018).

Another challenge comes with resource allocation and public expenditure. For example, some public institutions might have to hire a team of specialists to manage their social media accounts, increasing public expenditure. Those teams can reach up to 28 employees working on content production or moderation per organization (Burson et al., 2018). However, there are also examples where the number of hired employees is less when public servants are themselves competent in using social media, such as in the case of Jacinda Ardern, the New Zealand Prime minister, who manages her official social media accounts with the help of a few officials (Burson et al., 2018). In addition to hiring costs, some governments allocate budgets for social media advertising. The UK government, for instance, spent more than 100 thousand sterling pounds on Facebook and other social media platforms in 2018 only for Brexit-related advertisements (D'Urso, 2018). Another example is the US

federal government. In 2018, they spent 7.8 million US dollars on social media ads, which is considered the largest chunk of digital spending for the same year (Wright, 2019).

Although public expenditure and resource allocation for social media follow a similar logic to traditional media, advertising and promoting social media are much more complicated. For instance, unlike traditional media, the amount paid to the platform to advertise posts does not guarantee visibility to all targeted users. The visibility is often dependent on the algorithms through which the platforms operate, which ensures that what users receive can keep them interested and on the platform for as long as possible. Algorithms can reward certain behaviors by moving posts up or down in the feed based on the platform creators' standards (Bucher, 2012; Gillespie, 2018). For instance, live videos may be ranked higher than regular videos, images with less text may be ranked higher than images with text, and images may be ranked higher than text or links to other platforms. Social media algorithms might also ban specific posts that do not conform to their guidelines or policies, even if public institutions have paid for them as advertisements (Gillespie, 2018; Van Dijck et al., 2018). For example, according to the new anti-discrimination policy developed by Facebook (2019a), any advertisement is rejected if the AI algorithm (currently being trained by Facebook employees) detects gender biases in the advertisement's content. Another rule Facebook has, for example, is that texts cannot exceed a certain percentage of an advertised image (Facebook, 2019b) or even in an advertised video, pushing users and professionals towards certain practices. The corporations that own social media platforms impose various rules, regulations, and incentives with far-reaching consequences for those who use the platform to communicate with their audience (Bucher, 2012). The challenges public institutions face using social media could impact the public value they can offer through these platforms.

The challenges citizens experience when using social media to interact with their government are different. Public institutions' use of social media can restrict citizens' freedom of speech and lead to mass surveillance by the government, which may limit their freedom on the internet (Zuboff S., 2015; Van Dijck et al., 2018). Such restrictions are exacerbated by insufficient mechanisms to hold public officials and social media platforms accountable. Citizens use these platforms for distinct reasons: to connect with their networks, stay informed and entertained, and interact with businesses. Government interference with such a digital public sphere can sometimes cause citizens to self-censor, leading to an atmosphere of fear regarding expressing oneself freely on the platforms (Powers et al., 2019). Additionally, it can lead to echo chambers (Powers et al., 2019), where citizens who trust the government see and follow their content while others are excluded. Thus, social media may offer a way for governments to gain control over their citizens and conduct mass surveillance, in contrast to earlier media channels (Kadivar, 2015; Van der Schyff, Flowerday, & Furnell, 2020; Scott, 2016).

1.2. A need to measure the impact of using social media on citizens.

The high adoption rate of social media by citizens and governments worldwide poses several important questions for researchers and policymakers. First, what is the effect of public institutions adopting social media on their mission achievement? Second, how can citizens and policymakers ensure the state is not abusing its authority on those platforms? Third, how can equality and inclusion be ensured when public institutions use social media to engage with citizens? Fourth, is it more beneficial for public institutions to adopt social media rather than traditional media for communication or government websites for service delivery? Finally, how does the government measure its success and failure in using social media?

In order to answer the above questions, a measurement framework is needed to assess the contribution of social media policies to citizens' well-being and satisfaction with public services and inform policymakers of the viability of using social media for either networking, engagement, or service delivery.

Public value is one of such measurement frameworks that gained much attention in the last decade and that public managers and researchers use as a guide to plan, deliver, and measure the outcome of public policies in government from a citizen-centric perspective, focusing on themes such as trust, legitimacy, equality, fairness, use of state authority, transparency, justice, and citizen satisfaction.

Social media policies can also be measured using the public value framework since, on the one hand, the government uses social media to provide core functions such as communication and service delivery. Nevertheless, on the other hand, citizens use the same platforms to network with the government, voice their opinions, and get up-to-date information.

1.3. Creating public value by governments on social media

The public value framework is well-suited for assessing the impact of technology adoption on citizens and democratic participation (Moore, 1995; 2013). The framework uses a citizen-centric approach that puts democratic values and principles at the forefront. Instead of focusing only on topics such as efficiency, accountability, and public expenditure, the theory of public value urges policymakers to shift their focus towards a more balanced evaluation of policies that takes into account the positive and negative consequences of policies on democratic values such as fairness, justice, and equality, making them more relatable to citizens and taxpayers.

Studying technology adoption through the lens of public value has been attempted by several researchers (et al.; Gellerstedt et al., 2020; Parker & Bozeman, 2018; Todisco et al., 2021), who, in turn, developed practical frameworks for assessing public value creation of digital government policies. In 2007, Jørgensen and Bozeman developed a public value inventory with 72 public values to help public managers plan and assess public value creation in their policies and initiatives. Later, in 2009, a team of researchers at the Center of Technology in Government at the University at Albany developed an operational tool for the planning and assessment of public value creation in

open government initiatives, the first attempt at a digital government-related public value assessment framework (CTG, 2011). In 2013, Moore introduced a public value account scorecard highlighting areas of focus where the public value should be planned and assessed.

However, delivering public value via Social media is not a straightforward process because even though such platforms could have prospects for improving efficiency, transparency, and accountability (Kearns, 2004; Cordella & Bonina, 2012; Bannister & Conolly, 2014) and reducing operational costs, they still pose risks to privacy and freedom of expression online (Van Dijck, Poell, & De Waal, 2018).

Large multinational companies like Facebook, Twitter, Alphabet, and Microsoft create and maintain social media platforms that the government and citizens use. However, these companies use user data and interactions to drive their business, leading to many challenges concerning public value creation. The next chapter will elaborate on these challenges, drawing on the research of Van Dijck, Poell, and De Waal (2018). They highlighted the potential problems of using social media for communication with citizens, such as political accountability, transparency of algorithms, potential violations of privacy, restrictions on freedom of expression, democratic participation, and inclusiveness.

To date, there have not been enough research attempts to develop an operationalized public value approach for assessment that focuses on social media communication, collaboration, and organization policies. A framework that considers the particularities of social media adoption as a third-party controlled technology used by some governments to communicate with citizens has not been researched enough (Bertot et al., 2010; Ellison & Hardey, 2014; Linders, 2012; Mergel, 2012).

There has also been no attempt to understand the practices and context through which governments can use social media to create or erode public value.

1.4. Research question

This research contributes to the recent debates on social media, innovation in public administration, eGovernment, and public value by addressing the gap in the literature on public value creation through social media adoption in government.

The research questions focus on the case of social media adoption by the New Zealand government and citizens' perceptions of public value creation. In doing so, the research tries to answer the following questions:

1. How do citizens of New Zealand perceive public value creation on social media platforms?
2. What are the sociodemographic factors that shape public value perceptions among New Zealanders?
 - a. Who perceives more public value from social media utilization by the government?

- b. Who perceives less or no public value from social media utilization by the government?
3. What are the mechanisms through which the government creates public value for citizens on social media?
4. What are the mechanisms through which the government diminishes the public value for citizens on social media?

This study is conducted in two parts. The first part uses a quantitative approach to answer the questions of what public value creation looks like in New Zealand and what factors contribute to it. This part of the study focuses on finding evidence on public value creation and erosion separately and identifying distinct groups of people who may have different perceptions of public value from using social media.

The second part examines the causal mechanisms of public value generation and erosion. It studies the two groups identified in the first part and explores their behaviors, attitudes, and interactions on social media. This helps to understand what creates public value for them on social media and what erodes it. Ultimately, this can lead to policy recommendations that address issues related to different groups of citizens on social media.

While addressing the research questions above, the study attempts to:

- Consolidate a public value assessment framework for social media by analyzing the literature on public value and social media.
- Identify the relationship between social media adoption in New Zealand and the perceived public value by citizens as key stakeholders in the public value creation process.
- Identify the mechanisms contributing to creating public value for citizens on social media.
- Identify the mechanisms contributing to the erosion of public value for citizens on social media.

The research focuses on the perceptions of citizens on public value creation from the use of social media by their government and the mechanisms through which public value may be created or eroded on social media platforms as a result of government-to-citizen interaction. The focus on citizens' perceptions of public value follows popular adaptations of public value theory in operational assessment frameworks such as Jørgensen and Bozeman's inventory (2007), the PVAT (CTG, 2011), or Moore's public value account scorecard (2013) provides new insights into the impact of governmental social media use on citizens' lives and democracy by studying widely used social media platforms in government for communication purposes.

1.5. Research Significance

This research targets the gap in the literature in constructing a public value assessment framework by consolidating the latest theoretical development in research on public value and social media, including Moore's latest public value account scorecard (2013), the PVAT (CTG, 2011) and the recent academic research discussing public values in social media. The developed conceptual framework will be used to assess the viability of using social media for government-to-citizen communication and collaboration. In addition, scholars and public managers can use the conceptual framework designed in this research to plan and assess public value creation of social media practices and initiatives.

The research also provides new empirical insights into one of the cases (New Zealand) where public value enablers are highly present, and citizens and the government widely use social media for communication and collaboration. Such insights might help researchers conduct further studies in similar contexts and help practitioners in New Zealand carry out social media practices that maximize public value and avoid practices that minimize public value.

Moreover, the focus of the research on the citizen as the primary stakeholder in the public value creation process on social media helps strengthen the citizen-centric approach to public value creation. Such focus offers insights into how to involve citizens in public value assessment as direct beneficiaries of government social media practices.

1.6. Study Outline

The study consists of nine chapters. The following chapter explores the literature and debates regarding adopting social media and creating public value. It looks at commonly addressed values in the literature on social media and the enablers of public value creation. Furthermore, it examines the sociodemographic factors that shape public value perceptions on social media and discusses relevant literature. Additionally, it identifies gaps in the literature and highlights other factors that affect public value perceptions on social media. Finally, it evaluates the impact of social media use on public values from recent literature and uses this information to develop a framework for assessing public value in Chapter 3.

The third chapter introduces the theoretical framework for the study, which will help shape the discussion and analysis for both chapters 5 and 6 on surveying public values from social media adoption in New Zealand and chapters 7 and 8 on the mechanisms of public value creation. The chapter discusses the drivers of social media adoption, which helps shape the mechanisms for public value creation and understand the causes that trigger public value creation and erosion. It also discusses strategies for social media adoption, stages of social media adoption, and challenges to social media adoption, which all help in the analysis of the context of social media adoption in New Zealand and the understanding of the context that surrounds the process mechanisms for public value creation and erosion. Last but not least, the chapter explains the theoretical framework for the research's main dependent variables of public value, capitalizing on the values discussed in recent

literature and explored in depth in Chapter 2 and the theories of public value assessment discussed in the theoretical framework chapter.

The fourth chapter explains the research design. The chapter is broken into two parts. The first part focuses on the quantitative methods used to answer questions about the public value perceptions and sociodemographic characteristics of citizens with different public value perceptions on social media. It also discusses the choice of using surveys to learn about the public value perceptions among citizens of New Zealand who use Facebook and Twitter. It also explains the data collection and analysis methods, such as sources, collection techniques, and strategies for dealing with self-selection bias.

The second part discusses the qualitative methods used to answer the remaining research questions. It explains the reasoning behind using process tracing to understand the causal mechanisms of public value creation or erosion among New Zealanders with high and low perceptions of public value from social media use in government. This part also presents a hypothesized mechanistic model for public value erosion and creation alongside a plan for collecting fingerprints and empirical evidence while considering ethical data collection and analysis issues.

The fifth and sixth chapters are concerned with answering the first two research questions about citizens' perceptions of public values from the government's use of social media in New Zealand and sociodemographic features related to different public value perceptions by analyzing the results of the surveys.

In the fifth chapter, the case context is explored in depth to frame the discussion of findings from the survey in chapter six. The chapter discusses general topics that frame the context of social media use in New Zealand, such as social media penetration, defining moments in the history of social media use in New Zealand, the governance mechanisms for social media in New Zealand, and the way the government integrates social media in their practices.

Chapter 6 analyzes the two major surveys on Facebook and Twitter with two aims. First, to gain insights into New Zealand citizens' perception of public value from social media adoption. The second is to explore sociodemographic factors connected to such perceptions, which assist in finding empirical evidence for the causal mechanisms of public value creation and erosion discussed later in chapters 7 and 8. The analysis of surveys revealed that the potential for public value creation on Twitter is relatively higher than on Facebook. It also identified two main groups of citizens and users of social media platforms in New Zealand: a group that experienced high public value from government use of social media and consists of mainly younger citizens, recent adopters of social media, and followers of government accounts, and another group that did not realize public value from government use of social media and consists of older citizens, early adopters and non-followers of government accounts on social media. The analysis confirmed several theories discussed in the literature review chapter, such as the relationship between citizen trust and public value in the digital

government context and age as a sociodemographic factor correlated to public value perceptions. In addition to exploring sociodemographic factors that are related to different public value perceptions, the survey's open-ended questions and data from the expert interviews showed two plausible causal mechanistic models, one for public value creation for the first group of users and one for public value erosion for the second group of users. Chapters 7 and 8 rely on both models as starting points for process tracing.

Chapter 7 explores the context of the four chosen case studies for the qualitative process-tracing study. The chapter focuses on the enablers of public value creation, the stages of social media adoption, and the strategies used in the case studies - all essential components discussed in Chapter 3 (the theoretical framework chapter). Most of the New Zealand organizations under study were found to have the organizational capabilities and citizen-centric service design methods necessary to produce public value through social media. The context explored in this chapter supports the hypothesis that the selected organizations can create public value through social media.

In Chapter 8, the ideas presented in the Theoretical Framework Chapter are used to explore the initial process tracing models deduced in Chapter 6. The study utilizes deductive reasoning to iterate over the two causal mechanistic models for public value creation and erosion for the two distinct groups identified in Chapters 5 and 6. In the Chapter, the mechanistic models are refined through deductive reasoning, using the empirical evidence planned in Chapter 3. As a result, two mechanistic models for public value creation and erosion on social media are presented, providing a comprehensive overview of the processes involved in each.

First, the study presents one mechanistic model for public value creation deduced from the data collected from users with high perceptions of public value from social media adoption. The model consists of four stages, beginning with the driving forces or triggers of certain public value-generating practices, followed by the adoption of strategies and practices by public institutions. External promoters then act as a catalyst to maximize the reach and voice of public institutions. Finally, citizens react to the maximized reach and perceive public value from social media use by their government.

Second, the study presents two mechanistic models for the erosion of public value on social media deduced from users who have low perceptions of public value and share similar demographic and behavioral characteristics. The models are divided similarly to the public value creation model and consist of triggers, practices on social media, external actors, and citizens' reactions. The two models have two different causes that act as driving forces for low public value perception. The first cause relates to the activities and opinions of citizens who oppose the government on social media on controversial topics. Government and social media, in turn, moderate and censor such activities, introducing distrust and limiting the process of public value creation. The second cause is the type of content public institutions share on social media, which is irrelevant, excessive, or uses inappropriate language for the targeted audience. Finally, the last stage in both models consists of citizens'

reactions to platform moderation and the type of content the government shares on social media. The adverse reactions from citizens in both models lead to low public value perceptions among citizens on social media.

The ninth and last chapter concludes the study, proposing policy recommendations for optimizing public value creation on social media in New Zealand. These recommendations cover an array of topics. One is establishing an enabling environment for public value creation on social media. Such an enabling environment would nurture trust between citizens and government, enrich organizational capabilities, and develop citizen-centric service experience on social media. The other area of recommendations covers social media governance, which entails the moderation of the platforms, the continuous evaluation of social media practices, and the interaction of the government with stakeholders. It discusses through findings the importance of such strategies in effectively utilizing social media to deliver public value. The final set of recommendations targets the practices and strategies on social media followed by public institutions and how they can optimize them to promote public value.

The research limitations have also been addressed in the ninth chapter, contextualizing the study and the proposed recommendations within New Zealand and the limits of the examined data. In addition, it presents a future research agenda with questions that the study could not address. For example, do the identified causal mechanisms apply to other countries and contexts where the enablers of public value are present? Do they apply for platforms other than Facebook or Twitter?

Chapter 2 : Literature Review

This chapter discusses the latest public value and social media research by identifying research trends and literature gaps. The chapter consists of three main sections. The first focuses on recent research findings about the enabling factors of public value creation on social media. Exploring those findings will support framing the context of social media utilization in New Zealand. It will also help eliminate other factors unrelated to social media adoption that can prevent public value creation within the case. The second section discusses literature about the sociodemographic factors shaping different perceptions of public value creation on social media, which addresses the first two research questions of the study related to the factors that correlate to the perceptions of public value among citizens. Finally, the third section reviews recent studies that address public values created by the government's adoption of social media in New Zealand.

The literature review identified a research gap in studying public value creation and measurement of social media. However, it found studies about specific public values that are either enhanced or diminished by social media use. It also identified studies that discuss public value creation on social media in the context of digital government, highlighting the factors contributing to the success of social media strategies that produce public value.

The research builds on the identified research gaps to offer a consolidated view for measuring public value creation and erosion on social media.

2.1. Enablers and Challenges of public value creation on social media

Before discussing specific public values on social media, the foundation should be laid for what is considered an environment that enables or hinders public value creation through social media, as discussed in recent literature. Those enablers and challenges are often discussed in social media literature. Therefore, it is essential to illustrate them in this chapter before discussing values shared on social media platforms.

Creating public value on social media is enabled or challenged by several factors discussed in the literature. Enablers can be divided into two main categories: a) external enablers that relate to the community, such as citizen's trust in government and citizens' trust in platforms (Lopes et al., 2019; Susanto & Aljoza, 2015; Arshad & Khurram, 2020; Maheshwari et al., 2007; Myers, 2018), b) internal enablers that are existing within the realm of the public institutions, which are: organizational capabilities (Moore, 1995; Teece et al., 1997.; Eisenhardt & Martin, 2000; Pang et al., 2014; Kattel & Mazzucato, 2018), citizen-centric service design, which includes things like responsiveness and usability of the platform (Kabanov & Vidiasova, 2019; Arshad & Khurram, 2020; Susanto & Aljoza, 2015; Gjermundrød & Dionysiou, 2015), and strategies of operation (Mergel, 2013; Macaya et al., 2019; Al-Hujran et al., 2015). The table below summarizes the enablers of public value creation in literature.

Table 2.1

Enablers of Public Value Creation in Literature

Category	Enabler	Literature
Internal	Organizational capabilities	Moore, 1995; Teece, Pisano, & Shuen, 1997.; Eisenhardt & Martin, 2000; Pang et al., 2014; Kattel & Mazzucato, 2018
	Citizen-centric service design	Kabanov & Vidiasova, 2019; Arshad & Khurram, 2020; Susanto & Aljoza, 2015; Gjermundrød and Dionysiou, 2015
	Strategies of operation	Mergel, 2013; Macaya Alves, Meirelles, & Cunha, 2019; Al-Hujran, Al-Debei, Chatfield, & Migdadi, 2015
External	Citizens' trust in government and platform	Lopes et al., 2019; Susanto & Aljoza, 2015; Arshad & Khurram, 2020; Maheshwari, Kumar, Kumar, & Sharan, 2007; Myers, 2018

On the other hand, challenges can be divided into two main categories: a) internal challenges, which are related to the public institutions and the way they organize themselves, such as technological, legal, cultural, informational, or systemic barriers, and b) external challenges that are related to the way social media platforms operate, such as visibility on the platforms, algorithmic governance, and platform governance.

In the following section, I review the latest research on social media public value enablers and challenges.

2.1.1. Internal Enablers

2.1.1.1. Citizen-centric service design

In order to create public value, citizens must first participate in the digital initiatives promoted on the respective government agencies' web pages or social media accounts (Lopes et al., 2019; Alarabiat et al., 2021). However, it is vital to know first what influences citizens' digital interaction with their government, especially on social media channels. As an example, the study of Alarabiat et al. (2021) attempted to look at indicators of citizens' intention to engage in government-led participation initiatives on Facebook. The study shows that Facebook could become a valuable tool for delivering public value. The study measured important public values such as transparency, efficiency, and citizens' satisfaction. The study focused on Jordan and used Facebook advertising tools to reach out to a random sample of Jordanian citizens using and interacting with Facebook daily. The research results suggest that citizens' attitudes, participation efficacy, and perceived behavior control are vital behavioral traits that correlate to citizens' intention to engage in such initiatives. The three factors have collectively explained 64.9% of the variance in citizens' intentions. Additionally, the results indicated other factors shaping citizens' attitudes towards government-led initiatives on Facebook. The factors were the perceived usefulness and compatibility of Facebook and perceived value, all of which explain 39.9% of the variance in the attitude.

Moreover, another study by Kabanov and Vidiasova (2019) surveyed citizens in Saint Petersburg, inquiring about factors influencing their trust in platforms and their perceptions of public values created through digital initiatives. The study found that responsiveness and perceived user experience are key factors that enable public value creation. To be more responsive in the eyes of citizens, some authors point out that delivering quality information and an active presence on social media are relevant factors (Arshad & Khurram, 2020).

The above factors align with what other authors have already established in their research. For example, a study by the Indonesian Immigration Office (Susanto & Aljoza, 2015), which collected feedback from 40 online service users, found that perceived usefulness and ease of use are the most relevant factors for desiring to use an e-government service over traditional physical channels. The usefulness of digital services was explained by the same research in relevance to the perceived contribution to saving citizens' time, effort, and money. Service design, usefulness, and ease of use often relate to simple navigation, responsiveness, good and smooth interfaces, and accessibility at

any time and place (Susanto & Aljoza, 2015). The findings about usefulness, ease of use, and their effect on public value are consistent with previous and recent findings. For instance, Maheshwari et al. (2007) stated that the design of the portal itself would influence how public values are perceived. Moreover, the e-service design is also relevant to citizens' decision to adopt the technology. As stated by Lopes et al. (2019), the design would be one of the motivating factors of digital service usage (Gjermundrød & Dionysiou, 2015).

In other words, citizens' experience navigating the government's service delivery platforms alongside government responsiveness to citizens are critical factors for creating public value. This has been addressed by Le Dantec in his book *Designing Publics* (Le Dantec, 2016), pointing to the importance of designing the experience with citizens to improve the overall experience and participation of citizens.

Although the decisions about the design and user experience of social media platforms originate predominantly from the tech companies owning the platform, the responsiveness factor is still part of the equation governments can tackle as an enabler for value creation on social media. Like other business entities, social media platforms have established complex and state-of-the-art mechanisms for developing user interfaces and seamless features (Chilana et al., 2012). The efforts of social media platforms to continuously improve their user experience and responsiveness, in part, could enable better public value creation on the platform, unlike public digital platforms that the government designs itself, which often lag behind business standards (Morgeson III & Mithas, 2009; Kupi & McBride, 2021).

Another critical factor in public value creation on social media is whether the targeted citizens for service delivery are active users of the platform and whether the government can utilize the platform's affordances to achieve its objectives. Mergel (2013) emphasizes the importance of establishing a proper strategy that considers the audience and objectives as a fundamental task in reaching citizens. She also recognizes that not all government-generated content is relevant to social networks. In addition, not all agencies have citizens as their primary audience in communication and organization activities. Some public organizations serve internal government purposes, and their presence in social networks may be inadequate and even cost-ineffective (Mergel, 2013).

Macaya et al. (2019) conducted an empirical study that looked at the audience as part of the government's strategy for a digital initiative. Using quantitative methods, they looked at the case of Service Center SP156 of São Paulo City, a platform used by the government of Sao Paulo, Brazil, to deliver online services to citizens as an alternative to physical spaces. Usage information obtained in the study showed a statistically significant correlation between income level and service use. Such data shows that the transformation of services from the physical to the virtual domain is eroding the public value of accessibility and inclusiveness for citizens of Sao Paulo, where only a segment of the population can access digitally transformed services (Macaya et al., 2019).

Thus, the institution should consider its target, especially when selecting a social media platform to offer services or communicate with citizens. Likewise, the institution should verify that objectives are consistent with using a particular social media platform and the content they plan to share with citizens. Other non-digital initiatives and awareness activities can accompany social media and digital strategies, which helps minimize the divide among citizens targeted with the strategy (Al-Hujran et al., 2015). These considerations can enable the creation of public value through social media.

2.1.1.2. Organizational Capabilities

Moreover, delivering public value has often been linked to organizational capabilities and configurations. Since Moore's (1995) original conceptualization of the public value theory, capabilities and resources at the organizational level have been central to the discussion of public value creation and management, especially concerning digital initiatives (Pang et al., 2014). However, research often overlooked the importance of organization capabilities in public-value creation (Panagiotopoulos et al., 2019). In this regard, Pang et al. (2014) study the relationship between IT resources, organizational capabilities, and public value creation. They identify five specific capabilities that support public value creation: (1) public service delivery, which refers to the ability of the institutions to deliver the greatest number of services with the available resources; (2) public engagement capability, which corresponds to more involvement of citizens and stakeholders in general in public consultation processes; (3) co-production, which relates to the integration of the different systems, even beyond the public sector.; (4) resource acquisition capability, the capacity of public services to obtain the resources to respond to public needs; (5) public-sector innovation capability, which refers to the search for greater efficiency in the tasks performed and greater adaptation to meet new challenges. These capabilities have a dynamic nature associated with the change adaptation of resources and competencies (Eisenhardt & Martin, 2000; Teece et al., 1997), thus fundamental for digital government implementation and public value creation. So much so that authors such as Kattel and Mazzucato (2018) establish that "dynamic capabilities are the missing element for the public sector to be genuinely seen as creating value in the economy instead of only facilitating or redistributing value" (as cited in Panagiotopoulos et al., 2019, p. 3).

2.1.2. Internal challenges

Despite various organizational enablers for public value creation on social media in public organizations, several challenges could still hinder the process of public value creation. These challenges have been identified by several researchers studying social media (Mergel, 2012; Criado & Villodre, 2021; Dekker et al., 2020).

Mergel (2012), on the one hand, classified barriers to social media adoption into five distinct categories: First is systemic barriers, which are related to decentralization and change management. The more the institutions are decentralized in decision-making and agency, the more social media practices become inconsistent among different departments and eventually harder to homogenize. In addition, the slow pace of adapting to change in some public sectors might lead to difficulties in

coping with fast-changing affordances, trends, and events on social media platforms (Mergel, 2012). The second category of barriers Mergel (2012) identified are the organizational and cultural barriers, which relate to the organizational culture and values shared among civil servants. In some cases, such culture might become a barrier to sharing information on social media platforms, such as that of police or legislative departments not sharing information that might involve a current case or investigation. The third category concerns informational challenges, including public administration information management. Without a proper information management system, the information shared by citizens and that shared by public institutions could remain on social media platforms in isolated silos. As a result, it would be harder to integrate later into the organizational knowledge management systems. The fourth set of challenges is related to technological aspects, such as the security of accounts on social media platforms or the unexpected lifetime of new social media platforms that attract a wide range of citizens, which may disappear from the market and render public investments in resources and capacity building useless. Another indirect technological barrier is digital illiteracy and outdated IT systems in public administration, which, in some cases, hinder the adoption of social media in public institutions. The fifth and last set of challenges is related to legal systems and the pace by which new legal frameworks and guidelines evolve in correspondence to the evolving practices of public servants on social media. Such barriers include establishing guidelines and approved ways of dealing with, sharing information, and interacting with citizens on social media.

Other researchers (Lovari & Bowen, 2020) highlighted another set of challenges for adopting social media, especially relevant to disaster management. Those challenges are related to personnel training and resources, especially across different platforms where communication practices differ in principle due to different platform limitations or features. Another challenge Lovari and Bowen (2020) identified relates to evaluating the impact of using such platforms for communication with citizens and whether the metrics offered by social media platforms, such as the number of fans for a page or account on social media, are enough for evaluating policy outcomes.

Another recent study (Dekker et al., 2020) followed Mergel's (2012) footsteps to group barriers and challenges to social media adoption based on theories of adoption of innovation (Coursey & Norris, 2008; Mergel & Bretschneider, 2013; Brown & Osborne, 2012). Dekker et al. (2020) classified the structural and cultural barriers that are not only related to the government but also to citizens on social media platforms and their interaction with their government. The structural barriers identified by (Dekker et al., 2020) seem to follow Mergel's (2012) systemic and organizational category, focusing on organizational management and from citizens' perspective on technological struggles and inequalities created by social media bubbles. The other category of cultural barriers is addressed under Mergel's cultural category. The following table summarizes the types of structural and cultural barriers in Dekker's (2020) view from both the government and citizens' sides based on the reviewed literature and theories (Mergel, 2012; Criado & Villodre, 2021; Dekker et al., 2020)

Table 2.2*Barriers to social media adoption*

Government	Citizens
<p>Cultural</p> <ul style="list-style-type: none"> – Lack of cultural fit for social media in public organizations – Ineffective communication on social media due to challenges related to the adaptability to the (changing) social media landscape or fitting communication to each platform’s target audience and features. – Risks to reputation and legitimacy due to heightened visibility of organizational work on social media. 	<p>Cultural</p> <ul style="list-style-type: none"> – Misinterpretation of anonymous, unstructured, and informal social media requests. – Mismatch of social media in the style of communication. – The limited trust of citizens in government accounts causes limited willingness to engage in fear of state surveillance;
<p>Informational</p> <ul style="list-style-type: none"> – Incoming information from citizens on various social media platforms is hard to integrate into internal knowledge management systems. – Information shared on social media by public institutions is hard to track. – Evaluation of social media impact is hard to conduct in practice on various platforms without appropriate strategy, tools, and trained personnel. – Digital illiteracy among personnel. 	<p>Informational</p> <ul style="list-style-type: none"> - High interactions and informational flow from citizens on certain issues make it hard for governments to sort through them.
<p>Technological</p> <ul style="list-style-type: none"> – Limited hardware and software resources. – Security concerns. – The short lifetime of some social media technologies on the market. 	<p>Technological</p> <ul style="list-style-type: none"> – Digital inequalities and unequal reach of communication.
<p>Systemic and Organizational</p> <ul style="list-style-type: none"> – Limited human resources. – Lack of managerial commitment. – No embedding of social media in existing organizational processes. – No management of social media communication. – The pace is much slower inside public institutions than on social media. – Decentralized decision-making for social media adoption can cause desynchronization in practices. 	
<p>Legal</p> <ul style="list-style-type: none"> – Lack of clear protocols and guidance. – The slow pace of developing guidelines and strategies to help public servants deal with, share information, and interact with citizens on these platforms. – Compliance with privacy and data protection laws regarding citizens’ requests and interaction with public servants on social media. 	

Although Dekker's (2020) research focused on the policing sector, such challenges seem to fit in other departments. The unique feature of such classification is that structural and cultural challenges related to citizens are incorporated into the view of challenges to social media adoption by the government. Such classification completes the picture Mergel's (2012) framework lacked at the time. Looking at challenges to social media adoption in government from a citizen's perspective opens the door to new possibilities for analyzing issues that hinder social media adoption or influence subsequent interaction or engagement, creating public value on the platforms.

2.1.3. External Enablers

2.1.3.1. Citizens' trust

Citizen trust in government and the digital platform is considered one of the key enablers of citizens' participation and collaboration in the digital sphere that the government seeks to build (Lopes et al., 2019; Maheshwari et al., 2007). For instance, Susanto & Aljoza (2015), who study the intention to engage in e-government in a developing country, establish that trust in the digital platforms and their social influence are relevant factors when deciding to use an e-government service. Additionally, a recent quantitative study conducted by Arshad and Khurram (2020) in Pakistan found that trust in public institutions is key to more citizen participation in government activities on social media.

Lopes et al. (2019) studied key enablers of public value that could improve citizens' adoption of government digital services. Their study takes Brazil as an example, where there is a high adoption rate of digital service and overall general positive perceptions of public value among citizens. On the one hand, the study recognizes direct enabling factors for e-service adoption, such as citizen trust in the government and the e-service design, and other indirect factors, such as the collaborative process between the government and citizens and governmental e-readiness. On the other hand, they found that public value perceptions among citizens depended on the level of digital literacy, the distribution of e-services, and citizens' preferences for receiving the service physically versus virtually (Lopes et al., 2019).

Lopes et al. (2019) found that most citizens who do not engage with the government's online services do not trust the Internet as a medium to offer services due to concerns about data security. At the same time, citizens who engaged with government services online had confidence in the technology. Their findings come in line with the information gathered in the ICT Households 2016 survey, where 47 percent of the individuals said they did not use e-government services in the last year due to their concern about data security and protection (CGI.br, 2017, as cited in Lopes et al., 2019). Other factors can also contribute to citizens' low trust in the technology or the government online, such as attempts of censorship or surveillance, which influences citizens' perception of freedom of expression online and, thus, their willingness to interact with the government online (Myers, 2018).

Researchers who study trust, such as Branch and Origgi (2022), indicate that openness and honesty constitute cornerstones for public institutions to gain trust from the lay public. In times of crisis, the accuracy of information and engagement with hesitant voices help in gaining the trust of the lay

public, positioning the source of information as a trusted expert. This has been demonstrated, according to Branch and Origgi, in government efforts during the COVID-19 pandemic.

In conclusion, citizens' decision to participate in governmental-led digital initiatives and to collaborate online largely depends on their trust in the government. It also depends on their trust in the digital platform, which stems from their perception of their data security and how freedom of expression could be enabled or challenged on those platforms.

2.1.4. External challenges

In addition to challenges facing organizations internally in adopting social media in their work, external challenges play a role in public value creation. External challenges are often related to the nature of the platforms and the affordances they offer to governments and citizens. Based on the literature review, there are generally three main challenges that are relevant to social media adoption: The first is the threat of invisibility, which represents a dilemma between the competition of content-creators, including the government to disseminate information to citizens and the algorithms developed by the platforms to define what type of content should gain more visibility for users. Such a dilemma drives content creators to change their strategies and practices to stay visible to their targeted audience on social media platforms. The second challenge is algorithmic governance, which is concerned with how social media platforms filter content and sort it for users, prioritizing one type of content over the other. Sorting and filtering algorithms challenge public institutions on social media as they attempt to maintain a high reach for their content, especially in times of crisis. The third and last challenge concerns the multi-stakeholder nature of the governance of social media platforms. On social media, it is not only governments that can push for certain directions of platform governance through the law, but other stakeholders such as the platforms' companies, media, users, and other businesses that provide services to the platforms. In the following sections, I will address each of the three challenges mentioned above, highlighting relevant literature and academic debates.

2.1.4.1. Visibility on social media

Furthermore, the core functionality of social media is to deliver messages and increase the message's source's visibility among the targeted population. Invisibility can threaten those who need their message delivered (Beer, 2009; Bucher, 2012; Gillespie, 2014). For public institutions and political figures, invisibility can translate into being disconnected from the public and what occurs in their virtual domain (Gillespie, 2014). In Bucher's (2012) paper on algorithmic power and the threat of invisibility, she described the influences of the earlier versions of Facebook's newsfeed algorithm on empowering certain users by giving them visibility over others. She also investigated how Facebook's algorithms might promote certain behaviors on the platform in pursuit of visibility. The concepts of visibility control by media institutions or visibility pursuit by individuals and institutions are not new to research (Beer, 2009; Bucher, 2012; Lupton, 2016; Van Dijck, 2013). Media institutions have practiced visibility control in diverse ways, from the order of articles in the printed press to the space on radio or TV channels (Bucher, 2012; Thompson, 2005). The difference with a

platform such as Facebook or any other social media platform using algorithms to sort posts and give visibility is that they are hardly regulated or controlled. The forces influencing how they do their business trespass national borders and boundaries. For example, with traditional media, a national law or a union's code of conduct can regulate how media outlets provide balance in covering their topics or push them to align with certain values. However, on social media, there would be fewer mechanisms that could control how those platforms give power to specific groups of users. Another difference with traditional media is that the algorithms used to filter and sort content are often based on proprietary code and require skilled craftsmanship to understand the way they are and be able to challenge them.

2.1.4.2. Algorithmic governance

With the expansion of algorithms used by social media platforms such as Facebook and Twitter, multiple actors started to take part in shaping such algorithms. Thus, a significant yet controversial concept started to emerge, and that is algorithm governance. In 2013, Müller-Birn, Dobusch, and Herbsleb presented the concept as a coordination mechanism opposed to social governance. Nevertheless, its notion can be recognized much earlier with various ideas about technology and other artifacts taking control of society and human interaction, even seen by some authors as a factor that regulates social behavior (Katzenbach & Ulbricht, 2019).

These ideas about the power of algorithms have grabbed researchers' attention from various disciplines in different contexts. Moreover, such a concept started a scholarly debate about the complexity of studying algorithms, where the economic, cultural, and political context in which platform owners develop algorithms determines algorithmic governance (Katzenbach & Ulbricht, 2019). In this regard, Katzenbach and Ulbricht (2019) define algorithmic governance as “a form of social ordering that relies on coordination between actors, is based on rules, and incorporates particularly complex computer-based epistemic procedures” (p. 2).

The same authors emphasize that a critical domain for algorithmic governance is digital communication and social media. In this context, scholars have studied the effects of subjectivation produced by search engines and how social media platforms structure the information online (Couldry & Langer, 2005). Platforms use different measures, such as 'engagement,' to prioritize content and determine what information seems more relevant and important to the platform's audience. This mechanism also regulates content by blocking or filtering unacceptable or illegal publications (Gorwa, 2019). Another important domain for algorithmic governance is public sector service provisions, citizen management, and surveillance. The use of algorithms in these domains aimed to increase the efficiency and efficacy of state services (OECD, 2015). Some scholars also recognize the use of algorithmic governance on a meta-level as “a mode of coordination that offers new opportunities for participation, social inclusiveness, diversity, and democratic responsiveness” (König, 2019; Schrape, 2019, as cited in Katzenbach & Ulbricht, 2019, p. 5). Some examples of it are electronic petitions and crowdsourcing.

However, all these different studies of algorithm governance have identified recurring controversies and concerns, translating them into several challenges in working with them, especially for the public sector. Examples of such challenges are surveillance and datafication, agency and autonomy, transparency and opacity, de-politicization and re-politicization, and bias and fairness (Katzenbach & Ulbricht, 2019). Furthermore, Katzenbach and Ulbricht (2019) argued that the connotation of the above challenges may change depending on the context due to algorithm governance's multifaceted nature.

The challenge to this rapid growth of algorithms used by social media, particularly filtering algorithms, stems from the ambiguity around how those algorithms operate and the ambiguity of the number of actors involved in governing how they operate. Facebook and Twitter have dedicated online spaces to discuss how their algorithms work, what kind of behavior they incentivize, and what they do not incentivize. However, there is no clear information about the scoring system or how the algorithms calculate aggregate scores for showing or hiding posts. That, in turn, poses even more significant challenges for public institutions on how they conceive their interaction with citizens in the future over these platforms and whether those incentives are comprehended by employees dealing with social media and affecting their daily practices.

2.1.4.3. Platform governance

The abrupt growth of social media platforms and the degree to which they penetrated societies in the public and private spheres have allowed new concepts to emerge and new governance mechanisms to form to cope with this growth. The theories of platform governance can explain the evolution of the platform ecosystem and the several aspects of the dynamic nature of the platform companies, with governments and citizens as users and stakeholders.

“Platform governance is an approach necessitating an understanding of technical systems (platforms) and an appreciation for the inherently global arena within which these platform companies function” (Gorwa, 2019, p. 4). This theory considers platforms as political actors who govern or shape, as architects of online environments, the online experience and algorithmically determine which information to make visible or invisible in their interaction with users (Bucher, 2018; Gillespie, 2010, 2015). The theory also considers governments as the entities that establish the general ground rules for those interactions (Helberger et al., 2018) with the help of other stakeholders and advocacy groups that play an increasingly responsible role in examining platforms' practices (Gorwa, 2019).

In explaining the way platform governance can be influenced by and can influence internal and external actors, Gorwa (2019) puts forward three major arguments: platforms govern users, platform companies are companies, and internal and external actors govern platforms. The first argument pertains to the idea that platforms can influence users' behavior (Bucher & Helmond, 2018; Weltevrede & Borra, 2016). Moreover, as Lessig states, "code is law" (Gorwa, 2019, p. 5), meaning that the algorithms platform designs are a type of regulation. The second argument explains that platforms, despite their links with different spheres of society, such as politics or economy, are still

companies, and they usually act like one, maximizing profits, minimizing costs, and seeking to increase their customer base. Like multinational corporations at the time, they represent challenges at the governance level because they operate for users in different countries and contexts and with different needs, putting current legal and regulatory frameworks to the test. Finally, the third argument states that several actors govern those platforms. While platform governance can be external (e.g., laws related to telecommunication and the internet and media and information policies), it can be internal (such as collective or individual movements among employees of the platform company) (Gorwa, 2019).

Building on the three major influence directions by Gorwa (2019), one can see platform governance in three different ways. First is self-governance, where platforms make decisions with minimal external oversight and have transparency, mostly as a voluntary issue. In that case, platforms are generally not responsible for what users do as long as they take appropriate steps to repair the third-party notice (Suzor, 2019). Second is external governance, which means government intervention through different policy levers such as privacy and data protection laws, the repudiation of intermediary liability protections, and the application of competition and monopoly regulations. The third is co-governance, which is the common way of social media governance. In this type of governance, internal and external actors have a say in platform governance, having initiatives that look for values of democratic accountability without drastic policy measures (Gorwa, 2019), to which some scholars such as Nooren, van Gorp, van Eijk, and Fathaigh (2018) suggest, due to the nature of such platforms, the approach should be to seek principles-based regulation instead of a rules-based regulation.

Moreover, since governments are key players in governing social media platforms due to their ability to regulate some of their activities on their sovereign territory, public value creation poses itself as an important concern when discussing their communication initiatives over these platforms, putting forward several key questions, such as how public institutions can balance their role as users and governance stakeholder for social media platforms? How do governments utilize their role as governance stakeholders in maximizing the public value of using social media in communicating with citizens?

2.2. Sociodemographic factors and public value creation on social media

Once enablers of public value creation are present, governments can create public value. However, the perceptions of public value among citizens on social media vary from one group to the other based on different demographic factors. Such factors can be citizens' trust in the platforms and the government or demographic and behavioral factors related to social media use. Several studies highlighted sociodemographic characteristics shaping groups who perceive public value creation differently from the presence or interaction with the government on social media. Such characteristics of user groups are outside the control of public institutions and are not related to their practices and activities on social media. Understanding such groups and their sociodemographic

features is useful to examine the perception logic for various groups in society and eventually help public institutions diversify their strategies and practices on social media. Even though several studies discuss those factors, there has not been any research that answers the question of why public value perceptions vary with such factors. Below is a summary table for research covering different factors that are correlated to users' perceptions and engagement on social media.

Table 2.3

Sociodemographic factors correlated to behavior and perceptions on social media.

Factor	Correlation	Literature
Trust in government and social media platforms	Engagement on social media	Lopes et al., 2019; ALotaibi, et. al., 2016; Maheshwari et al., 2007
Frequency of use of social media platforms	Perception of usefulness and influence of social media	Sago, 2013; Moreno, 2015; Alarabiat et al., 2021
Following pages and accounts on social media	Awareness about the organization, mission achievement, and increase in website traffic	Kim, 2020; Agam, 2017; Ioannis et. al., 2020; Manika et al., 2015
Demographic factors such as age, gender, education, and income	Positive perceptions about decision-making and the importance of social media presence in facilitating such a process.	Todisco, et al., 2021; Goncalves et. al. 2015; Jha & Ye, 2016

2.2.1. Trust related factors

Trust in government and trust in social media are both important factors in forming perceptions about public value from social media use by the government. As discussed earlier in this chapter, they also act as enablers of public value creation. Trust in the government increases the levels of engagement with the government on social media (Lopes et al., 2019; ALotaibi et al., 2016). It helps to ensure citizens have confidence in the government's ability to deliver on its promises and act in the public's best interests. This trust is especially important when governments use social media to provide their constituents with information, services, and resources. When citizens trust the government, they are more likely to engage with the content it shares, which can lead to increased public value from social media use. Trust in social media is also important (Maheshwari et al., 2007; ALotaibi et al., 2016), as well as an enabler. It might help ensure citizens can access accurate, reliable information. When citizens trust their privacy, security, and the content shared on social media, they are more likely to engage with it, leading to increased public value from social media use.

Additionally, when citizens trust the content they consume on social media, they are more likely to act on it and take the necessary steps to benefit from the public value offered by the government's use of social media. Trust in both government and social media is essential for citizens to form positive perceptions about public value from social media use by the government. Without trust, citizens may be more skeptical of the content shared on social media and less likely to engage with it, leading to decreased public value from social media use. Additionally, citizens may be more likely to doubt the accuracy of the information shared on social media and less likely to act on it, leading to decreased public value from social media use. Overall, trust in the government and trust in social media are both important factors in forming perceptions about public value from social media use by the government. When citizens trust the government and the content they consume on social media, they are more likely to engage with it, increasing public value from social media use.

2.2.2. Behavioral related factors.

In addition to citizens' trust in the government and social media, their behavior on social media might influence their perception of public value. An example of such behavior is the citizens' frequency of using the platform or whether they follow government pages and accounts.

The frequency of use of social media has been reported in several studies to influence users' perceptions of the platform's usefulness for communication and collaboration. For example, sago (2013), in his study of Facebook, Twitter, and Google+ users, examined 352 users' perceptions of the usefulness, ease of use, and enjoyment of the social media platform against the frequency of their platform use. His study found a relationship between the frequency of using the platform and the positive perceptions of the social media platform. Therefore, for users who are spending more time on the platform, it is more likely they would enjoy their time there and trust the platform more, enabling the perception of public value creation through the platform. The results were similar to another study by Moreno (2015), which investigated the effect of the frequency of use of social media on the perceptions of social media among 2000 practitioners of social media communication across Europe. The results demonstrate that those who utilize social media heavily prioritize it, recognize its influence on internal and external stakeholders, and understand the importance of key gatekeepers and stakeholders. Both studies show the importance of the frequency of use in determining users' positive perceptions of the platform's usefulness. In a more recent study of the local government-led initiatives on Facebook in Jordan (Alarabiat et al., 2021), with a sample size of 400 Jordanian citizens who use the platform, it was found that citizens' intention to engage in government-led e-participation Facebook initiatives, which are a direct creator of public value, is correlated to citizens' perceived usefulness and compatibility of Facebook, participation efficacy, and perceived value. Thus, the frequency of use can help indirectly shape citizens' intention to participate in government initiatives on social media and thus possibly create value or increase perceptions about public value creation.

Another behavioral trait is how users follow certain social media accounts and how that increases their engagement with the followed accounts and increases their awareness and trust. In business-

related studies, it has been found that following a page or account on social media influences a brand's sales outcomes (Kim, 2020), which is the major mission for businesses. It was also found to increase general brand awareness (Agam, 2017). It is the same in other fields, such as journalism and media, where it was found that a newspaper's competitive standing in the market can be estimated by the number of social media followers it has, which also influences its website traffic (Ioannis et al., 2020). Few studies in the digital governance field show a correlation between the number of subscribers or followers and the traffic to government websites, such as the study of Manika and others (2015) of government social media accounts for world informational cities. However, few studies have applied such concepts in digital governance, which gives importance to part of this study looking at following government accounts as a sociodemographic indicator that is related to positive public value perceptions on social media.

2.2.3. Demographic related factors.

Another category is the demographic indicators for groups with different public value perceptions. Such indicators are related to the profile of users on social media, such as their gender, age, education, location, or occupation.

Age plays an important role in public value perceptions. In a study of the Italian public sector, perceptions about public value creation on social media were explored among civil servants (Todisco et al., 2021). The findings suggest that age is an important variable. Younger civil servants view social media most positively as valuable tools for public decision-making. According to Todisco, this goes back to familiarity with the technology for younger users, the lack of comfort with new technologies, and the sense of being poorly prepared to accept the digital challenge among the older groups.

Moreover, other demographic characteristics, such as gender, play an important role in determining the success of government social media accounts. For example, a study (Goncalves et al., 2015) of government social media presence in Finland suggests that the number of female followers of government accounts determines the success of social media communication policies. The study reasons the finding with the gender differences reported in previous studies in the means of communication and use of technology, where female users prefer to receive and provide more positive comments than men, thus increasing the reach and effectiveness of posts and pages they interact with. Another research study conducted by Jha and Ye in 2016 also revealed that different demographic groups, defined by gender, age, education, and income, have varying perceptions of the importance of continued Facebook usage in the USA for business.

However, there is still a gap in the literature on the role of other demographic factors, such as education, income, and population density of cities, on the perceptions of public value, which this research attempts to fill.

2.3. Impact of social media adoption on public values

In the previous section of the chapter, I reviewed the literature about the enabling factors for public value creation and the sociodemographic factors that characterize groups with different public value perceptions. In the following section, I discuss the impact of social media on public value creation and erosion. Additionally, I discuss recent literature that explored several public values that are particular to the nature of social media as a communication and organization platform. Such values are transparency, citizen engagement and participation, decision-making, mission achievement, citizen satisfaction, trust in government, freedom of expression, and direct benefits for citizens and the community. The table below summarizes the research covering each value discussed in this section.

Table 2.4

Public values and the authors that contribute to its study concerning social media.

Public Value	Literature
Transparency	Arshad & Khurram, 2020; Bertot et al., 2012; Guillamón et al., 2016; Song & Lee, 2016; Lopes et al., 2019; Arpit, 2012
Citizen engagement and participation	Abdelsalam et al., 2013; Agostino & Arnaboldi, 2016; Althaqafi et al., 2018; Arshad & Khurram, 2020; Bertot et al., 2012; de Bastion et al., 2014; Faber et al., 2020; Gálvez-Rodríguez et al., 2018; Guillamón et al., 2016; Haro-de-Rosario et al. (2016); Lee & Kwak, 2012; Ross et al., 2015; Welp & Marzuca, 2016
Better Decision-making	Althaqafi et al., 2018; Barry, 2014; Criado et al., 2017; Mergel, 2013; Mossberger et al., 2013; Todisco et al., 2021
Mission achievement	Chu et al., 2020; de Bastion et al., 2014; Garavaglia et al., 2021; Graham et al., 2015; Guillamón et al., 2016; Houston et al., 2015; Huffman & Prentice, 2008; Islm et al., 2021; Lindsay, 2011; Mat Dawi et al., 2021; McGuire et al., 2020; Newton, 2017; Teichmann et al., 2020; Wendling et al., 2013; Bertot et al., 2012; Starke et al., 2016; Tang et al., 2019
Accessibility	de Bastion et al., 2014; Guillamón et al., 2016; Jaeger et al., 2012; Lopes et al., 2019; Lux Wigand, 2011; Macaya et al., 2019
Citizen satisfaction	Gellerstedt et al., 2020; Park et al., 2016; Widiyanto et al., 2016
Trust in government	Arshad & Khurram, 2020; Song & Lee, 2016; Porumescu 2016
Freedom of Expression	Bradshaw & Howard, 2017; King et al., 2017; Myers, 2018; Van Dijick et al., 2018
Direct benefit to the citizens and the community	Lopes et al., 2019; Omar et al., 2013

2.3.1. Transparency

The use of social media in government has transformed how people interact with each other and their governments and has also changed how governments promote transparency online (Bertot et al., 2012). According to Guillamón et al. (2016) and their study of 217 municipalities in Italy and Spain that used Facebook in 2014, the high use of Facebook by local governments provides evidence that citizens perceive their governments as more transparent by being able to observe and evaluate governments' information, data, and processes. Likewise, research subjects in the Lopes et al. (2019) study viewed social media as a channel that offers the public a voice and the chance to participate and collaborate in government-led initiatives, which in turn can promote openness and transparency by the government. Additionally, Arshad and Khurram (2020) analyzed factors influencing transparency perceptions by analyzing 388 survey responses from followers of the Punjab Food Authority (PFA, a food standards agency in Pakistan) on Twitter and Facebook. The study points out that delivering quality information on social media is key to better perceiving transparency. Furthermore, this improvement in the perception of transparency can mediate different public values, finding that transparency also leads to greater trust in government (Arshad & Khurram, 2020; Song & Lee, 2016).

Moreover, transparency offered by social media might positively affect other democratic processes, such as corruption-fighting. Such a stance is based on the idea that social media can provide the public with the power to monitor their government (Bertot et al., 2012). Arpit (2012), in his paper, points out that, in general, the use of e-government can help fight corruption due to its ability to reduce the chances of arbitrary action by tracking data and transactions carried out in the system. In his work, he analyzes different applications developed by different countries to make their governments more transparent with benefits on the level of corruption. He also mentions that governments can combine their e-government platforms with other resources, such as social media, to enable more open and transparent services efficiently and effectively with a citizen focus. Examples of these are the dissemination of information through Twitter (<https://twitter.com/usdatagov>) and GitHub (<https://github.com/GSA/data.gov>) accounts of the US government open data initiative (www.data.gov) (Arpit, 2012). Thus, social media can be used as an effective tool to disseminate information and collaborate with citizens, leading to a better perception of government transparency and increasing trust in the government.

2.3.2. Citizen Engagement and Participation

The second public value often discussed in research is citizen engagement and participation. According to Bertot et al. (2012), governments' practices on social media tend to deliver value through citizen participation and engagement, making it one of the most important public values for the government on social media and an enabler for the creation of other values such as improvement of decision making and mission achievement. In the work of Lee and Kwak (2012), who developed a model of open government maturity, field interviews were carried out in five case studies among the United States Healthcare Administration agencies to understand factors contributing to the maturity

of open government initiatives. They found that citizen participation is one important aspect often associated with the government's social media presence, allowing citizens to manifest themselves by sharing posts of different kinds (e.g., pictures and videos) with the government and reflecting on data shared by the government. Also, at this level, the government enables interaction with its communities in a receptive, flexible, and spontaneous way, receiving the opinions and knowledge of the people (Lee & Kwak, 2012).

Although it is evident in research that social networks have increased participation and citizen engagement online (de Bastion et al., 2014; Skoric et al., 2016), I found two crucial criticisms in the literature regarding the role of social media in promoting this value. On the one hand, it is evident that the platforms encourage participation in the short term (de Bastion et al., 2014), but it is not that clear that the same happens in the long term. Such a finding leads to a discussion of how governments should use social media for sustainable citizen engagement and participation (de Bastion et al., 2014). Additionally, it has been identified in research that with all the tools that social media offer to promote citizen participation, there are many cases in which governments use them merely for the delivery of information in a unilateral way, with minimal interaction with citizens (Abdelsalam et al., 2013; Ross et al., 2015; Welp & Marzuca, 2016). Researchers such as Lee and Hawk (2012) reasoned this with social media-based citizen engagement being an unexplored area in the study of public administration and governments lacking expertise and knowledge to engage with citizens (Lee & Kwak, 2012).

Agostino and Arnaboldi (2016), in their work about local governments in Italy, pointed out that an effective communication strategy is a prerequisite to achieving greater public participation and engagement through the platforms. Likewise, Althaqafi et al. (2018) highlighted through semi-structured interviews with experts from a municipality in Saudi Arabia that using the different functionalities of social networks affects citizen engagement, which is fundamental for enhancing participation and collaboration. The latter implies the need to know and be able to manage the different resources that the platforms offer, especially those that enhance interaction (Faber et al., 2020; Gálvez-Rodríguez et al., 2018).

Furthermore, Haro-de-Rosario et al. (2018) conducted a study in Spain exploring citizens' engagement via social media. The study found that online transparency, citizens' attitudes, the amount of social media activity, and the interactive practices of the local government page administrators are factors that influence the levels of citizens' engagement. Arshad and Khurram (2020) have also found that delivering quality information helps incentivize citizen engagement and participation.

Some researchers (Agostino, 2013; Bonsón et al., 2014; Lev-On & Steinfeld, 2015; Sandoval-Almazan & Gil-Garcia, 2012) found that levels of engagement between citizens and governments on social media vary between different levels of governance. They found that citizens tend to engage more with social media channels on the local and municipal levels than on the federal and national

levels due to geographic proximity and greater knowledge of the needs of the population in that place (Ellison & Hardey, 2014).

To sum up, increased citizen participation and engagement are among the most evident values when using social media as a government communication and organization tool. One of the fundamental elements for promoting such values is the interactive practices set forward by public organizations, using the different engagement features and tools provided by the platforms, creating effective communication strategies, and delivering quality information to citizens.

2.3.3. Better Decision making

Another value that is discussed in the context of digital government and social media is the improvement of decision-making through collaboration and public sensing (Mergel, 2013; Todisco et al., 2021). Todisco et al. (2021) studied civil servants' perceptions of the effectiveness of digital tools and social media in improving decision-making processes and the government's connection with citizens. The authors interviewed 281 civil servants from various departments and levels of public administration in Italy. The results showed that the total mean of social media effectiveness (SME) was 3.83 (1 to 5 Likert scale, one the lowest and five the highest perception), meaning a positive perception of social media's impact on decision-making. However, such perceptions vary with age and years of service in government. The younger civil servants are (ages 35 and younger), the more they perceive social media's impact on decision-making. Also, the more time spent in the organization working with social media, the more positive impacts are perceived. As in the case of citizen participation and engagement, the research suggested that the type of public institutions and their proximity to citizens have a role in the effectiveness of social media in delivering public value. Local and municipal levels of government showed a higher tendency than the central administration to perceive social media as a helpful set of tools for public decision-making processes (Todisco et al., 2021). The variance shown in the above studies can be explained by the proximity of local administrations to the citizens (Mossberger et al., 2013; Peters et al., 2001, as cited in Todisco et al., 2021) as well as the common use of participatory practices within local and municipal levels of government (Agostino, 2013; Berry et al., 1993; Oakerson, 1999). Althaqafi et al. (2018), in their study on social media adoption in Saudi Arabia, also found that using different platform features helped improve decision-making by monitoring citizens' feedback about the organization, facilitating data-driven decision-making.

Another study of Spanish municipalities (Criado et al., 2017) validates the theory that governments can effectively improve decision-making through social media. Their study pointed out that with social media, citizens can participate easily in dialogues that can help in the decision-making process in a context bounded by openness, transparency, and cooperation. Likewise, another research that looked at the use of social platforms to consult citizens on cattle grazing on parklands in San Francisco (Barry, 2014) concluded that social media could aid in a more nuanced appreciation of citizens' perspectives, contributing to better decision-making.

All the papers above point to the same thing: social networks could indeed be useful for improving decision-making by government agencies. The main reason is that the interaction over those platforms can allow the public to express their opinion of government initiatives and views that governments can feed into the decision-making processes. It also helps the government approach issues from citizens' perspectives and understand their mindset (Mergel, 2013; Todisco et al., 2021), especially those who are actively present on those platforms.

2.3.4. Mission achievement

Another impact discussed in research is the mission achievement of a given government agency through adopting a set of social media practices. Such impact can be realized when practices on social media align with the institutional mission. For example, one of the most successful use cases where social media is crucial for a government's mission achievement is in its use for emergency or crisis management (Graham et al., 2015; Houston et al., 2015; Lindsay, 2011; Mat Dawi et al., 2021; McGuire et al., 2020; Newton, 2017; Teichmann et al., 2020; Wendling et al., 2013). In this case, the success in mission achievement depends on the nature of social media as a fast and wide-reaching tool for communicating with citizens. Different studies showed that using social media in countries where the digital divide is not large can facilitate reaching groups that previously could not be reached (de Bastion et al., 2014). For example, a study of local governments and Facebook usage conducted in Spain and Italy found that Facebook's capabilities to reach out to low-income groups are high and effective (Guillamón et al., 2016). The speed of information sharing on social media platforms is another aspect that often helps in mission achievement, especially in natural disasters and crises. This characteristic of social media can be useful in situations such as covid-19, where due to social distancing, many governments used social media to communicate key messages to limit the spread and negative impact of the virus (Chu et al., 2020; Garavaglia et al., 2021; Islam et al., 2021; Mat Dawi et al., 2021; McGuire et al., 2020; Teichmann et al., 2020).

The benefits of using social media in emergency management have been apparent for several years. So soon as governments started to adopt social media for emergencies, some studies emerged discussing their benefits in those situations (Huffman & Prentice, 2008). Huffman and Prentice point out that one of the great advantages of using social media in moments of crisis is maintaining the credibility of the government since delivering information in real time allows for a constant exchange of information and transparency. According to their study, it also allows the government to listen to the opinions and feedback of those affected by the emergency. Moreover, it guarantees information delivery from the primary source, ensuring that the government can deliver the message on time with less manipulation and modification by intermediaries (Huffman & Prentice, 2008). Other recent studies, such as that of Garavaglia et al. (2021), investigated the use of social media during the recent global COVID-19 pandemic. The study focused on how different issues were dealt with in 25 municipalities in Milan, Italy, concerning the COVID-19 crisis. Through qualitative questionnaires to the mayors, they were able to find that one of the most important actions attempted by government agencies was to find new channels of communication with citizens, also highlighting

the important role of the available technology in facing this emergency in different areas, with the necessary speed, clarity, and scope (Garavaglia et al., 2021). Another aspect highlighted during the pandemic appears in the work of McGuire et al. (2020), who studied the communications approach of the Prime Minister of New Zealand, Jacinda Ardern, with the public. In this work, an interesting aspect of the use of social media is discovered, which is its great contribution to delivering more authenticity and closeness to the audience (McGuire et al., 2020).

In terms of mission achievement, the debate in literature focuses on the role of social media in helping government organizations in their mission to deal with emergencies on time, especially given social media's advantages as a fast and efficient means of communication. It also enabled citizen interaction and created closeness and authenticity in some cases. At the same time, it allows the different public agencies to provide the necessary information to promote corruption control.

2.3.4. Access to public officials

As mentioned before, one of the significant advantages of social media promoting its use in government is the fast and broad reach of information (de Bastion et al., 2014; Guillamón et al., 2016). Although access to public officials on social media is a contested value, especially in contexts where the digital divide prevails, it remains a key public value to the discussion of social media adoption in government. Social media is often complementary to traditional means of communicating with citizens and delivering public services. Being free to use and with easy-to-use features, social media have increased their accessibility for individuals and governmental institutions. In turn, access to organizations and public officials enables more collaboration, participation, and transparency (Lux Wigand, 2011). Accessibility is crucial to give rise to other public values, being the initial step that leads citizens to interact with the government on social media since if the use of these technologies is not adopted, the creation of public value is not achieved (Lopes et al., 2019).

Despite the benefits of social media in increasing accessibility to government, public organizations, and civil servants, there are several concerns related to the digital divide. As social media becomes more utilized for communication in government without proper complementary approaches, citizens who do not have access to this technology or have limited access to it would be even more disadvantaged and excluded than those who are on social media more often and who are more comfortable when using them (Jaeger et al., 2012). In other words, governments should consider the target audience on social media and their contexts, as well as their goals and objectives of adopting a specific social media platform. This way, they can ensure accessibility and inclusiveness (Macaya et al., 2019).

2.3.5. Citizen satisfaction

Another public value discussed by scholars when it comes to social media is citizen satisfaction (Gellerstedt et al., 2020; Park et al., 2016; Widiyanto et al., 2016). Scholars discuss this value from

two main perspectives: the influence of social media government practices on citizen satisfaction and the conditions or factors determining the level of citizens' satisfaction.

Some studies show a correlation between government use of social media and citizens' satisfaction (Gellerstedt et al., 2020). A study carried out by the Swedish government using four official municipal databases in Sweden confirmed this correlation (Gellerstedt et al., 2020). The study focused on analyzing social media practices on the municipal level of governance. The study found significant relationships between municipalities' Facebook performance metrics (rate of engagement and interaction on the platform) and citizens' satisfaction with their municipality and municipal service provision. Additionally, it found that citizens' perception of their municipality as a good place to live could be improved by promoting the municipality and its services on social media (Gellerstedt et al., 2020).

On the contrary, other studies show a negative correlation between the government's use of mass media and citizens' satisfaction with public services. The study of Porumbescu (2016) examined the impact of online mass media on people's opinions of the government. The researcher surveyed 1,100 residents of Seoul in 2012 and found that using online mass media for government information reinforced negative views. Those who relied more on online mass media were more dissatisfied with public services and had less trust in the government, particularly when they had high expectations. The study suggests that online mass media can contribute to anti-public sector sentiment by raising public expectations about services that may not match reality.

Another study by Ceron and Memoli (2015) confirms some of the negative effects of certain social media practices on citizens' satisfaction with democracy. The study utilizes Eurobarometer data to assess the influence of the internet on European citizens' satisfaction with democracy. The findings indicate that consuming news from traditional media sources online positively affects satisfaction with democracy. On the other hand, engaging with social media platforms has a negative effect, partly due to the level of online disagreement and the potential emergence of contentious discussions. Such contentious discussions on social media play a significant role in shaping citizens' satisfaction with the functioning of democracy.

As for the conditions that determine the level of citizen satisfaction, in their study of a random sample of the South Korean population, Park et al. (2016) concluded that it is important to recognize the characteristics and affordances of a particular social media platform in order to better use it to maximize citizen satisfaction through their interaction with government. Another study conducted by Widiyanto et al. (2016) for the Ministry of Education and Culture (Kemdikbud) in Indonesia, drawing on a sample of 150 followers of social media platforms, found that intrinsic information quality (i.e., accuracy, credibility, reputation, and impartiality) has a large impact on citizen satisfaction from communication practices on social media.

The observed research shows a debate about the potential of using social media in democratic states to improve citizen satisfaction with government service provision. On the one hand, there's evidence for improving citizen satisfaction when the government communicates accurate, credible, and impartial information to citizens, which portrays a positive image of the government. On the other hand, satisfaction levels are negatively affected by citizens facing contentious discussions on social media or by the government, raising citizens' expectations of their public services beyond reality.

2.3.6. Trust in government

Trust in government is yet another public value often discussed in the literature regarding government agencies' use of digital platforms. Trust acts as a value and enabler for public value creation on social media. Song & Lee (2016), in their study of the United States federal government, found that governments can improve citizens' trust in their agencies by using social media to communicate effectively with them. However, the relationship between social media utilization and trust is indirect. The use of social media in a transparent way, for example, might lead to more trust in the government. In this case, the mediator of this relationship is another public value: transparency. The government might gain more trust for its actions and institutions with more access to information and more inclusiveness in social media practices. Arshad and Khurram's (2020) study in Pakistan confirmed similar results. Their study demonstrates that perceived transparency mediates citizens' trust in government agencies, explained by offering pertinent and real-time information openly on social media platforms, where citizens feel more confident about the agency's practices. Furthermore, they found that delivering quality information through social media was also relevant to enhancing trust in government agencies (Arshad & Khurram, 2020).

In another study that researched the Korean government's use of Twitter, the researchers used surveys to collect information on 398 citizens using Twitter to communicate with the central government. They discovered that when a government official, such as a minister, tweets, that action has a mediation role in raising citizens' perception of reliability in the government department's Twitter feed. Such trust in the government on social media eventually leads citizens to trust government institutions and departments (Park et al., 2016).

All the above research points out that trust in government as a value and enabler of public value creation is closely related to the perceived transparency achieved by government agencies through the use of social media. Delivering quality information is important for creating trust on social media and, eventually, trust for government institutions.

2.3.7. Freedom of Expression

Freedom of expression is one of the public values that has generated a lot of controversy regarding the use of government social media. Although platforms such as Facebook and Twitter allow anyone with an account (real or fake) to express their opinion on the platform, the use of moderation mechanisms (e.g., removing comments or censoring content) by the government and the platform can negatively affect the citizens' perception of freedom of expression. The platform and government may use such mechanisms when the content on their pages does not adhere to their social media

guidelines or contains offensive, hateful, or abusive speech. The problem often lies in the clarity of such guidelines, rules and their potential for limiting freedom of expression. As mentioned by Myers (2018) in her research that analyzes the opinion of different social media users regarding their experience with platform moderation, these mechanisms can be of not fully understood by users, as often they are unclear and could aim more to remove comments than to educate users. Such censorship leads to frustration and confusion among users, and even worse, it can lead them to believe that they are left out of their way of thinking or their beliefs (Myers, 2018). Freedom of expression can be encouraged through social media, but it requires clear moderation guidelines that are transparent to users and do not prevent them from expressing their opinions.

Other issues discussed in research could also hinder freedom of expression on social media, especially in autocratic contexts (Bradshaw & Howard, 2017; King et al., 2017). According to Bradshaw & Howard (2017, p. 3), there has been some evidence of governmental agencies deploying cyber troops or political parties assigning teams on social media to misinform and manipulate the public for political gains, consuming considerable amounts of resources. Some of the techniques they use are hate speech, trolling other users, or the use of automated political campaigns (Bradshaw & Howard, 2017). King et al. (2017) studied the case of the Chinese authoritarian regime's social media utilization. Their analysis shows evidence of silencing practices, such as avoiding commentaries that show skepticism towards the government and actively distracting the public by changing the discussed issues.

Therefore, freedom of expression can be considered a public value that can be promoted or eroded on social media. Moderation is one of the mechanisms that governments and platforms can misuse to jeopardize citizens' freedom. The ability of the platforms to allow anyone to express their opinion and spread information can be an enabler of freedom of expression. However, when autocratic governments misuse it, it can lead to self-censorship, surveillance, or manipulation of citizens.

2.3.8. Direct benefit to the citizen and the community

Finally, social media and its use at the government level could also benefit the individual and the community. In this regard, Lopes et al. (2019) show through their research that public value creation is only enabled when citizens subscribe to government social media platforms and benefit directly from them. However, all can perceive the collective benefit of social media use to the community, even those not using social media, through indirect impact. Taking it further, Lopes claims that public value perception could be perceived on a community level even when no individual benefit exists (Lopes et al., 2019). An example of such impacts is clear in Omar, Scheepers, and Stockdale's (2013) study, which discusses how the use of social media contributes to the common good. In their study of local governments, their use of social media, and the creation of public value, they point out that social platforms boost social cohesion as they allow citizens to be part of interest groups through governmental social media, participating in community events that go beyond cultural or social barriers. In addition, local government pages also enable crowdsourcing and dialogue, allowing

citizens to share their opinions and ideas, which also contribute to the public interest (Omar et al., 2013).

2.4. Conclusion

This chapter explores several theories and research studies related to the questions about public value from social media adoption. The chapter discussed internal and external enablers of public value from social media adoption and identified key research as a reference for this research. In the second section, I discussed the public value creation and sociodemographic factors that are common among citizen groups with different perceptions of public value on social media. Finally, the last section discussed the impacts of social media adoption on public values.

I identified several gaps in the research that this research will tackle. There is a gap in identifying demographic factors that correlate to citizens' perceptions of public value creation or erosion on social media. There has also not been a consolidated framework to assess the impact of social media adoption on public value creation. Such gaps present an opportunity for this research to contribute to the academic debate and the knowledge about the public value creation and erosion processes on social media, along with factors that influence such perceptions of public values.

Chapter 3: Theoretical Framework

This chapter extends the discussion of the recent debates in literature to explore theories about the relationship between the dependent and independent variables of the study. In this chapter, I attempt to consolidate research findings about social media and public value and develop a framework for analyzing public value creation on social media. The theoretical framework constructed in this chapter is used to answer the research questions in light of the collected evidence in chapters five through eight.

The chapter consists of three main sections. The first section explains relevant concepts such as public value and social media, which are vital for the discussion in the rest of the chapter. The second section focuses on public value, serving as the principal dependent variable in this study. In this section, I build on theories of public value to establish a consolidated framework that can effectively gauge public values manifested on social media platforms. This framework aims to provide a solid foundation for understanding and assessing the impact of social media on the creation and erosion of public value.

In the third section, the chapter delves into the unique characteristics of social media adoption within governmental contexts. It explores various drivers of social media adoption. It also examines the process of adopting and maturing social media within government institutions, beginning with establishing an official presence on social media and extending to the full integration of social media into service delivery and the operations of public institutions. By understanding social media adoption in government, I can discern specific components of the causal mechanisms that facilitate or impede public value creation. It also helps understand various strategies and practices that public institutions adopt, which may positively or negatively impact public value. By synthesizing insights from the literature and later process tracing, I can ascertain the efficacy of particular strategies and practices and their potential contributions to the overall creation of public value.

3.1 Relevant concepts

3.1.1 Public Value

In the private sector, the success of any project or policy is often measured by the increase in revenue, the number of products sold in the market, or the company's share price. A company can claim to have had a successful social media campaign if the expenses of that campaign had a positive impact on its revenues and the number of customers they have. However, such indicators do not work the same in the public sector since there is no clear definition of profit or customers (Cordella & Bonina, 2012). In the case of the public sector (i.e., citizens), the customers are not paying customers for a particular service, such as in the private sector. However, they are taxpayers whose contributions get distributed through other political means to various public organizations without being influenced directly by the number of services citizens receive from each public organization or their satisfaction with the service provision. At the same time, public organizations provide service and impose obligations on citizens by enforcing law and order. The theory considers the differences and similarities between both sectors regarding stakeholder engagement and public accountability. Moore (1995) considers in his framework the differences between democratic accountability and market accountability, given the role democratic governments should have in helping citizens realize a good and just society. That, in addition to the differences between the arbiter of value, which is not an individual consumer, but instead a collective public expecting fairness, justice, and the minimum use of state authority in delivering services. Those ideas have inspired different scholars and practitioners to develop a way to assess the success or failure of policies in the public sector, which differ in principle from those used in the private sector.

Public managers and civil servants rely on several frameworks to assess a public program or policy (Ammons, 2014; Moore, 1995, 2013; Poister et al., 2014). Most of those frameworks consider assessment factors other than costs and benefits for measuring the impact of a program or policy. Some frameworks attempt to evaluate the success or failure of a specific program by considering factors such as the degree of involvement of stakeholders in the planning process or the number of performance issues detected in the implementation process (Poister et al., 2014). Other frameworks use efficiency rating mechanisms (Ammons, 2014) or analyze the impact on organizational mission achievement and the democratic values created and strengthened due to the policy or program (Moore, 1995).

Among the policy measurement frameworks, public value (Moore, 1995, 2013) is considered a distinctive approach for addressing the impact of government programs and policies on citizens. The framework takes a citizen-centric approach to measure the contribution of policies to democratic values such as fairness, justice, and equality. The framework can help in measuring the impact of adopting social media in public institutions where citizens are the direct beneficiaries of the communication and organization policies and practices and where the changes induced via social media adoption might influence the way democracy is practiced online and offline (Cordella & Bonina, 2012).

The theory of public value has developed over the last few decades since its inception by Moore in 1995. He presented public value as a way for public managers to plan for delivering value to citizens who benefit from the organization's services. The theory adopts a multi-stakeholder approach covering private sector partners and non-governmental organizations and obligatees burdened by duties resulting from a government's policy, such as policing or tax-related policies.

Moore initially theorized four necessary enabling conditions for public value creation in the public sector. First, managers should have a higher degree of agency and be involved in policymaking activities in their organization. Second, budget allocation for public organizations takes into account their performance and programs. Third, managers are free to implement new policies and practices. Fourth, democratic participation and citizen engagement are in place since the theory focuses on citizens and their satisfaction. The upward link of representation is a crucial enabler for assessing public value creation.

Once enablers of the public value are present, the value creation process takes different forms and can be detected at various levels of the policy cycle. In the following section, I explore the theories about the process of public value creation and when it can be created or eroded in relevance to the policy cycle.

3.1.2 Social Media

Social Media is defined as a set of web portals or platforms where users interact with one another in the form of a closed, open, or semi-open network sharing information and content created by the users (Kietzmann et al., 2011). Those users can subscribe and access such platforms using various devices connected to the internet. With the growth of internet infrastructure in different parts of the world, such platforms have become populated with many users. Globally, average users spend about two hours on social media platforms daily (Kemp, 2018). The rate with which users are subscribing to social media accounts per year is approximately ten times that of population growth (Statista, 2019a), which means that if such a rate of new subscriptions continues to be the same, everyone on earth would hypothetically have a social media account by 2024.

Due to the multifaceted nature of communication over social media platforms, users have been able to mobilize themselves, participate in social movements and actions that transform their physical domain, such as in the case of the Egyptian revolution in 2011 (Sayed, 2012), or the protests against the population projection white paper released by the Singaporean government in 2011 (Van der Wal, 2017, p. 213) or the Occupy Wall Street movement in the USA in the same year (Thorson et al., 2013). Such an ability to mobilize the masses using social media adds to the pressure on governments and public administration to think strategically about their presence on social media.

On social media, users primarily interact and form networks as individual users. Still, when public institutions interact on social media, they create a network with others as an organization or as an individual representing an organization, portraying a particular image to the public and reflecting the organizational identity, seeking visibility. Various aspects constrain such interaction, such as the

design of the social media platform (Gillespie, 2018), the algorithms that mediate the interaction among all users (Van Dijck et al., 2018), the resources put forward by public institutions to create content and engage with their users and finally the norms, values that are fostered by the platform design. The interaction is also bound by the norms and values of the public institution, the enactment of everyday practices using social media, the level of decentralization, and the institutional state of legitimacy and accountability towards citizens interacting with them or following their social media accounts. As such technology penetrates public institutions and is used by employees for daily private and business-related activities, there might be reciprocal influences between the materiality of social media and the institution as a whole, which might affect the institutional values, identities, and how they work.

Many social media platforms have adopted web 3.0 technologies, where users are not only interacting with one another but also interacting with machines, bots, and algorithms mediating conversations and even interfering in the content being shared online (Aghaei et al., 2012; Bucher, 2012; Gillespie, 2018). Such algorithms even incentivize certain user behaviors on the platform (Gillespie, 2018; Van Dijck et al., 2018). For example, a platform such as Facebook and Twitter created a newsfeed/timeline feature driven by machine learning and artificial intelligence algorithms to filter and order posts on every user's homepage according to specific criteria set by the platforms' owners, making Facebook in control of what their users can see and interact with regularly (Bucher, 2012). With such algorithms in place, users would see only content on their homepage from their network (contacts, pages) and advertisers that the social media algorithms classify as relevant to them. The Facebook sorting and filtering algorithm of the newsfeed gives visibility to specific posts based on several factors, some of which are known to us, and some are still ambiguous. One of these factors is the affinity score, calculated based on the relationship between the user posting and the recipient of information on the Facebook timeline. This relationship is determined by, for example, the number of times the profile page is visited or how often both users/pages interact on the platform. Weight is another score, representing the amount of engagement on posts between the two users. The last factor is time, where Facebook prioritizes more recent posts (Bucher, 2012). Twitter, on the other hand, sort content in the users' timeline using algorithms that determine the importance of the tweet to the user according to several factors, such as the popularity of the author among the users' network, the relevance of the post to the user, and the way information in those posts are credible (Twitter, 2019a).

3.2. Public Value on social media

3.2.1. When can public value be created?

Creating public value through innovative policies is a topic that captures the interest of some researchers, such as Hartley (2015), who focused on identifying the differences and similarities in public value creation in the public and private sectors. His theories can be applied to policies such as

adopting social media for communication and organization in public institutions as an example of bringing innovation to the public sector.

According to Hartley (2015), the innovation lifecycle has three stages where public value can be created, identified, and measured. Those stages are invention, implementation, and diffusion.

Table 3.1
Public value creation in digital innovation policies

	Invention	Implementation	Diffusion
Activities	Agenda setting Ideas for Implementation	Budget allocation Practice adjustments	Normalization Establishing practice guidelines
Catalysts	Political leadership, Creative public managers and civil servants	Stakeholders Legitimacy of innovation	Political leadership Incentives
Mechanisms of public value creation	Rhetorics of innovation	Implementation Practices Stakeholder engagement	Identifying best practices Sharing best practices across organizations

In the invention stage, the idea for an innovation is pushed to the agenda of public managers and decision-makers. It is the stage where ideation and research are promoted and carried out. Unlike the private sector, the items on the public sector’s agenda and the related research activities could target multiple sectors at the same time. Adopting a new internal communication system across government organizations is an example of such innovation, where research activities would touch almost all sectors, from health to policing to education, figuring out ways to embed the innovation in their organizational practices, unlike the private sector, where the sector or industry is defined, making it easier to invent ways of adopting the innovation in organizations.

Political leaders or advisors usually drive the invention stage in the public sector (Hartley, 2015). They often mandate the adoption of an innovation to their subordinates or motivate public managers and civil servants to devise concrete plans and identify possible ways of implementing an innovation (Albury 2005; Moore & Hartley 2008). An example is Obama's call for creating “an unprecedented level of openness in government in the USA” in 2009 (The White House, 2017). The role of political leaders often extends to providing a supportive innovation culture in their administration or a proper climate where civil servants can take up innovative initiatives and feel encouraged (Hartley, 2015).

Besides political leadership, there are other catalysts for inventing in public administration, including the creativity of civil servants and public managers, who might copy innovative ideas from a different organization or sector and try to apply them to their domain (Hargadon, 2002). Networks are another source of invention where ideas come from through cooperative approaches and memetic

waves (Inkpen & Crossan, 1995). Finally, citizens and recipients of public services may also play a role in a democratic setting to push for innovation in policy.

In the invention stage, public value emerges through the rhetoric of innovation (Hartley, 2005; Hartley, 2015). When an innovative policy is on the political agenda, the discussions created among the public can create momentum for public value creation. An example is the discussions on climate change-related innovations or possible innovative ways of combating the global COVID-19 pandemic. Such rhetoric at this stage might already have an influence on changing people's behavior (Hartley, 2015) and thus creating public value at an early stage of innovation adoption.

The second phase in Hartley's model is the implementation phase, where the public administration takes the policies further, allocating budgets and adjusting their organizational norms, culture, and values when needed. This stage is crucial for creating public value. Unlike the private sector, in such a stage, measuring success is quite challenging since sales or profits cannot be used as a measurement tool. However, indicators such as efficiency, effectiveness, or quality of service delivery could be used. Several stakeholders are usually involved in the public sector's policy implementation process, which may slow innovation implementation (Hartley, 2015).

The third phase is diffusion. In this phase, innovation spreads within and across organizations, and public value scales up through organizations adopting the innovation. In social media policies, this could happen through public institutions sharing best practices and lessons learned for maximizing public value.

Once the public value is identified through the policy process, it becomes crucial to illuminate the methods for assessing and quantifying it. The following section looks at measuring public value, especially for social-media-related policies.

3.2.2. How to measure public value?

The traditional approach to measuring delivered value in public administration is to create an accounting system that considers the activities carried out by the government at different points in time against the performance indicators identified by the organization (Moore, 2015). Measurements are often conducted throughout the process of service delivery in which government assets are transformed into value (implementation phase of Hartley's model) and not in the agenda-setting or diffusion phases. The output of this accounting system is then shared with political constituents and stakeholders as a control mechanism exercised over the government's actions and assets. Compliance audits are one of these accounting systems still used to ensure that government assets and resources are not spent without a valid purpose (Hood, James, Jones, Scott, & Travers, 1999).

Although these audit systems functioned in governments for a long time, they posed several challenges, which incited the need for a new system. One of the challenges is that compliance audits and internal evaluations predominantly remained within the organization's boundaries and were usually bound to the activities being carried out. They often focus on the direct output of the

activities versus the organizational policies, guidelines, and procedures, undermining the indirect effects of the activities on citizens, the social outcomes, and fairness and justice in implementation.

Moore's framework (1995) considers citizens at the heart of the value creation process, where mission achievement and the consequences of policies and activities in the broader society are considered.

"...governments cannot insulate themselves from continuing public concerns about the protection of individual rights, the fair treatment of those it regulates and to whom it provides benefits, and its success in producing a civil and just society... To the degree that citizens want a government that acts fairly and justly and helps to encourage fairness and justice in the society as a whole, there must be some method for incorporating these concerns into the measurement of public sector operations (Moore, 2015, p. 118)

The early conceptualization of public value by Moore (1995) faced practical challenges related to the operationalization of values. According to Talbot (2009), Jørgensen, and Bozenam (2007), the values posed by Moore were rather abstract and complex to operationalize. Jørgensen and Bozenam (2007) produced an inventory of public values that consisted of 72 different values covering different types of policies and initiatives. The inventory was drawn from literature and empirical studies and was categorized according to their relation to the stakeholders involved in the public value creation process.

Another public value assessment tool that gained much attention among public managers and practitioners is the PVAT (Open Government Portfolio Public Value Assessment Tool) (CTG, 2011). The tool was developed in 2009, following Moore's initial conceptualization of public value and Jørgensen and Bozenam's (2007) public inventory. It was developed by the Center of Technology in Government at the University at Albany in response to the need for an operational tool that can be used to assist public managers in planning and implementing open government initiatives in a way that maximizes public value. Although the tool was designed to help in planning open government initiatives, it is also used by public institutions to evaluate the public value of previous initiatives. The tool uses a predefined set of public values essential for any policy or initiative, such as efficiency, effectiveness, enablement, and intrinsic enhancements. Other sets of public values were added later to the toolkit to adapt it to the specificity of open government initiatives, such as transparency, participation in decision-making, and collaboration. The tool helps public managers first describe their initiatives in terms of purpose and public values that should be delivered through the initiative.

Additionally, PVAT helped public managers identify stakeholders and prioritize them in a way that would help facilitate the assessment in a later stage. Those stakeholders are the partners in delivery and the beneficiaries of the services, such as citizens. The Department of Transport in the US is one of many organizations that have and continually uses such tools to plan and measure public value with different stakeholders (Cresswell, Cook, & Helbig, 2015).

Moore's recent contributions to the public value theory (Moore, 2015; Moore, 2013) put forward a better conception of the notion of the public value account scorecard, which is a set of broad values shared in a democratic society and that can be measured throughout the process of value creation. The scorecard is inspired by the work of Kaplan and Norton's (1992) scorecard, which was developed and used by business organizations. Moore's scorecard considers the nature of public organizations and focuses on public value creation in democratic societies.

In creating this scorecard, Moore (2015) put forward three main assumptions that must be considered for a successful public value measurement creation and measurement. The first assumption is that developing ways to measure public value is an iterative process that takes time and continuous learning and development efforts to feed back into the system and improve it over time. The second assumption is that such values need to be integrated into organizational processes and operations with an envisioned strategy for improving and building on different measures of public value. The last assumption is that several types of efforts are required to integrate public values into organizational practices and structures fully.

According to Moore (2015), *technical work* is required by managers to develop accurate instruments of value measurement throughout the delivery process. This technical work is complemented by *philosophical work* by managers to relate empirical measurement processes to the corresponding public values and, accordingly, to the organizational mission and vision. Measuring public values also requires *managerial work* to establish internal procedures of rewarding good performance and punishing bad performance. Finally, *political work* is required to successfully embed public value in organizations, where support and legitimacy are sought to empower managers and organizations to perform the required technical and managerial work.

The public value account scorecard (Moore 2013; Moore, 2015) takes the form of a balance sheet, which managers can use to create public value and stakeholders can use to measure public value from a given policy. The scorecard has two sides: one that consists of the social and material cost of a policy and the other that holds positive values that are considered as the material and social revenues of a policy. On the costs side, the scorecard considers not only the financial and material costs incurred by an organization but also the unintended negative consequences of a policy or the social cost of using state authority. On the other hand, the scorecard focuses on values such as the achieved outcomes related to the organizational mission, the unintended positive consequences, justice and fairness in operations on both the individual and aggregate levels, and client satisfaction, whether on the level of service recipients (citizens) or the obligatees who undertake a legal duty mandated by a particular policy.

The factors considered by Moore's public value account are illustrated in Table 3.2.

Table 3.2

Moore’s public value account Scorecard (Moore, 2013)

Public Value Account	
Use of Collectively Owned Assets and Associated Costs	Achievement of Collectively Valued Social Outcomes
Financial Costs (Internal and External)	Mission Achievement
Unintended Negative Consequences	Unintended Positive Consequences
	Client Satisfaction <ul style="list-style-type: none"> - Service Recipients - Obligatees
Social Costs of Using State Authority	Justice and Fairness <ul style="list-style-type: none"> - At the Individual Level in Operation - At Aggregate Level in Results

However, knowing the values that should be measured does not answer the question of how to measure public value. Should a survey of key constituents be conducted by a public institution, or should an independent committee be established to evaluate the contributions of policies to the value scorecard?

Meynhardt (2015) illustrated four critical factors for establishing a measurement mechanism for public value creation. The first factor is that value exists in relationships between various stakeholders involved in public value creation. This suggests that values are subjective to the context of the relationship between stakeholders and can be shaped differently across time and space. The second factor is that the public is inside, which means that the concept of the ‘public’ is also contextually shaped, but it should be linked to the collective and not the individual perception of value. The third factor is that values are experienced through basic needs, which vary individually and collectively. Those needs are conceptualized in Meynhardt’s (2015) view based on the psychological work of Epstein (1993; 2003), in which he defined the basic needs that help individuals shape their realities, which in turn shapes their experience of values. Those basic needs involve basic self-evaluation, maximizing pleasure and avoiding pain, gaining control and coherence over one’s conceptual system, and maintaining positive relationships. The fourth and last factor is that public value is perceived and not delivered and is relative between people based on their realities inscribed by their basic needs. Meynhardt stresses that...

‘A measurement must focus on human perception, not pure facts, which only give rise to emerging valuations. Assessing public value creation thus involves measuring subjective meaning and value.’ (Meynhardt, 2015, p. 149).

The four factors above are weaved into five different empirical mechanisms for measuring public value by tapping into the perceptions of stakeholders and value receivers. The first mechanism is surveying constituents to prioritize opportunities and risks associated with a policy relevant to public values. The second mechanism is a consensus mechanism for policymakers that is often carried out in a dialogue format and was used by the German Employment Agency (Weise & Deinzer, 2013) to assess prospects of public value creation or erosion in received proposals for new public services. The third mechanism is the surveying mechanism, in which a Likert-scale survey is used and distributed among constituents and service recipients to understand their views on public value. This mechanism was used by German Schools abroad to analyze their impact on public value creation (WDA, 2014). The fourth mechanism is conducted by an exploration attempt combining the above surveying mechanism with a qualitative approach to answer the question of what makes the institution valuable to the public. The fifth and last mechanism is sensing, which incorporates new technologies in public value measurement by analyzing opinions shared by constituents on social media platforms and the like through software to interpret statements, questions, intentions, and opinions. Those opinions are then mapped to the corresponding values in the scorecard.

A study of public value creation in the Georgian Department of Transportation in 2016 (Thomas, Poister, & Su, 2015) followed the surveying mechanism of Meynhardt (2015). The study conducted qualitative interviews with department employees across the organizational hierarchy to identify stakeholder groups to which the surveys should be deployed. The study relied on the public value inventory by Jørgensen and Bozeman (2007) to select the range of public values that should be questioned and refine the list during focus groups with stakeholders. During the interviews, the researchers also mapped the service touch points that needed to be studied and where feedback on public value should be gathered. In this case, the stakeholders' map was quite complicated, with eight more groups benefiting from the department's services other than Georgian residents. The results of the surveys from various stakeholder groups were compared with one another to conclude areas where public value creation can be improved.

As seen in the previous example and many others in the literature, such measurement techniques for public values are often discussed for policies that impact citizens in the offline domain, not in the virtual one. Nonetheless, it is worth exploring whether there are disparities when examining digital policies and their impact on public value. The subsequent section delves into theories that address the measurement of public value in the context of digital government.

3.2.3. Public Values and digital government

In digital government, the measurement of public values often differs from traditional government policies and programs (Panagiotopoulos et al., 2019). This difference is due to the nature of digital innovations and the complexities associated with their integration and organization in public institutions. For example, in regular service delivery, when a government wants to know how many people benefit from their services, they can count the number of citizens interacting with the service touchpoints. However, suppose they would like to know how many people a social media post

reaches. In that case, the platform must provide a feature to allow them to measure such influence or implement this measure, which in a few cases might be difficult or require specific technological capacities or knowledge in the institution to collect such insights. The success of public institutions in delivering value through digital technologies depends not only on the level of democratization, decentralization, and agency of civil servants but also on organizational capabilities and resources (Panagiotopoulos et al., 2019). These enabling capabilities are often characterized by their dynamic nature, which changes with the changes in technology and plays a vital role in the creation of public value (Pang, Lee, & DeLone, 2014; Pablo, Reay, Dewald, & Casebeer, 2007); Klievink & Janssen 2009) An example of such capabilities are the IT resources and infrastructure, the expertise and resource acquisition from inside or outside the government in a rapidly changing digital landscape.

There are several values discussed in the literature with digital government policies, such as transparency, integrity and honesty, openness, fairness, equal access, accountability, efficiency, and respect for citizens (Panagiotopoulos et al., 2019; Bannister & Connolly, 2014).

Several empirical studies are carried out to analyze public values created and promoted through digital government initiatives. An example is a study conducted by IPPR (Kearns, 2004) on digital government programs in the United Kingdom. Their study highlighted some public values addressed by the program's objective to improve the provision of information to citizens, such as openness and transparency.

Additionally, citizen satisfaction was a central public value addressed in planning and implementation and traced back to digital government programs in evaluating the program (Kearns, 2004). While evaluating the program, public values such as fairness and accessibility were bounded by the context of the digital divide in various regions in the UK, where access and reach could be limited by technology, infrastructure, and scopes and modes of implementation of digital policies (Kearns, 2004).

Cost-effectiveness is yet another value that is closely linked with digital government programs. It is often addressed as a driving force for the digital transformation of government service provision and used to gain legitimacy for digital initiatives (Kearns, 2004).

Mission achievement is another value addressed in Kearns' research (2004), studying the UK digital government programs. The impact of digital government on mission achievement varied between different government sectors, with positive influences recorded in sectors such as education, health, and transport.

In studies assessing public values and digital government (Thomas et al., 2015; Guarini, 2015), citizens' perception surveys are widely used to address values such as citizen satisfaction with service delivery, transparency perceptions, accessibility, and other public values. At the same time,

values such as cost and mission achievements rely on government data such as spending on digital products and services, training costs, and resource allocation for digital transformation.

Additionally, the values discussed in research on the digital government are closely linked to Moore's public value account scorecard conceptualization. Values such as cost-effectiveness, fairness, accessibility, mission achievement, and citizen satisfaction are often considered in research. In addition, some values, such as privacy and security, are particular to digital government initiatives, given their dependency on information management and technological infrastructure.

3.2.4. Public Value and social media

The process of public value creation through social media is quite different from that of other digital government initiatives (Van Dijck et al., 2018). The main difference lies in the nature of social media, as platforms owned and operated by multinational tech giants who consistently moderate content and organize data flows on them. Although governments and citizens are stakeholders in social media governance directly or indirectly, they still use the platform to collaborate on information and content. Social media is designed to enable a networked collaboration and the creation of workflows that are not unidirectional and involve multiple stakeholders, unlike regular digital government initiatives. Therefore, when conceptualizing public value creation over social media, it is essential to consider that creating and eroding public value is a multi-stakeholder process where different parties can shape public value, including tech companies, users, media, and governments.

Van Dijck et al. (2018) theory of the platform society has conceptualized the networked process of public value creation on social media. The platform society portrays the interplay between digital platforms such as social media and society in forming and reforming public values on both the micro and the macro levels. Platforms, as described by Van Dijck et al., are a composite of infrastructure, algorithms, and affordances that are steered by their owners to achieve economic and social gain and to create an envisioned impact that influences different actors in the society, including citizens, governments, nonprofit and for-profit sectors. Even though platform owners advocate and push for their norms and values, society actors, including governments, institutions affected or replaced by these platforms, and citizens try to push their norms and values as well through their interaction with the platform in a way to maximize their own economic, social, and political gains. Such interplay influences how platforms change over time and affects public value creation and erosion for platforms' stakeholders.

Several tech giants in the US and China power social media platforms, profiting from data flows between their users through advertising or selling their data to third parties. The platforms are governed by their business model and the user agreements, the social contract with users upon which users subscribe to those platforms. Most social media platforms, such as Facebook, are considered infrastructural platforms, meaning several other services are based on and built using their

technologies. In contrast, smaller platforms like Twitter are considered sectoral, offering specific features, such as short messaging and tools designed for news sharing. Sectoral platforms compete with organizations in the formal sectors in the non-digital sphere, such as newspapers. Even large infrastructural platforms, such as Facebook, have features that target specific sectors, such as news sharing or eCommerce, thus acting partially as a sectoral platform. Social media, as a sectoral platform, although claiming to offer their services for free to users, influences several social actors, some of which are the government, media agencies, and citizens. It does that by offering an efficient tool for fast and grass root communication, news sharing, and reporting, challenging the formal communication and media sectors that pre-date their existence. They connect providers to consumers through pages and groups, where former news agencies, businesses, governments, public figures, and all those interested in communicating with the masses can create a page to offer services, and users of the platform can interact with their services through the platform. The formal media sector, challenged by social media platforms, was once used by governments and non-profits to interact with citizens. Now, governments are shifting to social media platforms to reach out to citizens faster, easier, and more cost-efficient, with news delivered directly to citizens without intermediaries. Media agencies were encouraged to join the platform as a service provider where their business models became contested and where their competitors are no longer journalists sharing a set of professional values but also individuals, politicians, public figures, and even independent groups of journalists and others interested in both news and fake news production. Several social media platforms started acquiring more sectoral power, especially Facebook, which opened its marketplace to compete in the purchasing goods and services sector. They also started their Facebook pay feature, acquiring new sectoral positions in the financial sector and competition with the formal sectors. The dependency of users on such platforms and their frequent use encouraged more players to interact with them. Governments are considered one of the largest suppliers of public goods and are using social media to interact with their citizens, inform them, consult them, and create public value for them on social media.

While trying to create value through social media, governments are confronted with values endorsed by platform owners. Such values are mainly emerging and controlled by geopolitical powers represented in countries that dominate such platforms, including the US and China. Governments in some countries take those value conflicts to international courts and force those platforms to operate under certain conditions, such as in the case of the general data protection regulation (GDPR) law in the European Union, which forced Facebook to adjust their platform to comply with the legal framework in order to operate in the EU. The struggle is not only between social media platforms and governments. It is also between users in different parts of the world. An example of such conflict is when users started leaving the platform in 2018 following the disclosure of information in what is known as the Cambridge Analytica scandal. Users' data were used to manipulate voters for the Trump campaign. After being exposed, Facebook was pushed to adopt several changes to the platform to regain users' trust and comply with court decisions. Those changes, for example, resulted

in the development of the privacy toolkit feature, which Facebook created to inform their users and walk them through privacy features designed to limit their data misuse by third parties. They also restricted access to the former graph API (abstract programmable interface), which Cambridge Analytica used. The API allowed third parties like Cambridge Analytica to search and query users' public data massively. It was used to design interventions that manipulated the masses, influencing their political decisions (Ma & Gilbert, 2019).

Like other platforms, social media promises to provide features that promote values such as transparency and responsiveness among users and enable them to communicate and organize in ways never thought possible before. Some of these promises are complemented by developing new features that offer possibilities and affordances to realize these values. However, in practice, endorsing these values on social media is contested. The main reason is that the developed features' core algorithms and building blocks are mostly black-boxed, which obfuscates the mechanisms through which the promised values might be created. An example of that is the promise of Facebook to make their users more connected to their families and friends through their news feed sorting and filtering algorithms. It is nearly impossible to verify if that is achieved without looking at how the algorithm works.

Additionally, while those platforms claim to provide a digital sphere for free speech, they block accounts and obstruct freedom of speech when it conflicts with the platform owners or their country's political agenda. An example of that is Facebook and Twitter blocking several accounts for Palestinian activists in 2021 following the clashes between Palestinians and Israelis in the same year (Dwoskin & De Vynck, 2021) and limiting the possibility of conducting ads of a political nature. At the same time, the platform promotes ads for Ukrainian activists among the Russian population (Stokel-Walkerarchive, 2022), raising the question of the neutrality of their values concerning freedom of speech.

Social media platforms are like other platforms, where public value can still be created by the proper interference of actors in a way that advocates for a change, pressures through regulation and formalization to change ways through which platforms operate and by maximizing the good values that inherently gets created and promoted through the use of the platform, such as keeping people informed, communicating effectively and rapidly with people, organizing the community in crisis such as the covid pandemic or earthquakes and many other applications where the existing tools and interfaces offered by the platforms get used for enabling public value creation rather than eroding it.

As Van Dijck et al. (2018) highlight, public values are created through social media mechanisms. Those mechanisms are the mechanisms through which social media operates: datafication, commodification, and selection.

The datafication mechanism involves collecting data from users about every aspect of their interaction on and off the platform. That includes their location, interests, owned devices and

properties, education, relationship statuses, and other information that might be used for advertisers or other third parties interested in this data. Although such a mechanism is quite contested given the legal developments in several countries and regions worldwide, such as the GDPR in the European Union or the New Zealand and Australian Privacy Acts, it remains one of the primary sources of revenues for such platforms. It continues to be used with limitations in several parts of the world.

The second mechanism is commodification, which is the use of data that results from the datafication process to build services and products. Commodification activities can range from data analytics offered to businesses, governments, and interested parties on and off the platform to actual services developed inside the platform through which revenue can be generated, such as Facebook's marketplace and Twitter ads services.

The third mechanism, which is the most important for this research, is the selection mechanism, in which social media platforms carry out two main activities: the *personalization* of users' experience through continuous measurement of trends for the larger population of users on the platform and the *moderation* of content on the platform.

Personalization works based on algorithms that pick on triggers of users' behavior to identify the degree of relevance of content from certain accounts to a particular user. How platforms develop their algorithms for filtering and sorting user content might impact voices and issues discussed on the platform. An example of that is Twitter's famous historical hashtag of #OccupyWallStreet, which was for quite a while not appearing even in trending hashtags, driving a wave of suspicion over the objectivity of the platform until it was discovered that their algorithm functions in a way that only predicts trending topics by accounting only for dramatic shifts in the number of discussions about a hashtag not the actual number of discussions. However, such algorithms are primarily proprietary, which raises big questions about the objectivity of such selection and how they can disseminate messages to the masses. Due to the quantity of information on social media platforms, they are relatively not neutral in showing information, even from friends, family, or accounts a user may have followed.

Moreover, most such algorithms foster the creation of bubbles among platform users, thus determining what users may see or interact with from people they already like and with whom they most frequently interact. With governments' presence on such platforms, the same may occur. Users already trusting the government might most likely receive information from them and their friends who follow the government's accounts, thus leading to more segregation among citizens based on their political views. Therefore, to reach all citizens, governments might have to target advertisements, but since not all government posts might be advertised or promoted, the organic ones might not be able to reach everyone on the platform.

Moderation on the platform is the second most controversial topic relevant to the selection mechanism. Social Media platforms started several years ago to practice editorial rights on content

published by users and accounts. Not only that, but they have also actively sought the removal of accounts that violate the values and rules of such platforms. Although such rules are generally described on the platform, the choice of which content to keep and which content to remove is taken by workers for such platforms who decide to censor content based on some internal guidelines and a proprietary process. Such power exercised by the platforms makes it sometimes hard for citizens to express their opinions freely and interact with governments without having a third-party (social media platforms) review, moderate their discussion, and even block or remove content. Facebook, also one of the largest social media networks, gives page owners the full right to delete users' comments on their posts and pages, where many of those pages also have their own rules and guidelines. Interaction with governments or official bodies might be challenging with those two moderation stages. However, such moderation can be challenging for platforms and page owners for new features such as live videos on Facebook or Spaces on Twitter, where users comment live, and the moderators might not be able to keep up with the speed of users' interactions with a live video or a Twitter space.

The discussed mechanisms of social media governance directly impact several public values created in the interaction process between governments and citizens. The first value is privacy and freedom of expression, given the governments' and platform owners' ability to collect data about users (datafication mechanism) and moderate their content based on their endorsed guidelines and rules (selection mechanisms). Transparency and participation are another set of public values impacted by the mechanisms, which could be fostered or weakened by using social media based on the strategies of social media adoption in governments.

In conclusion, social media platforms target a specific set of public values through their processes of datafication, commodification, and selection. The public values discussed over social media complement those created and shared by digital government initiatives. They relate mainly to citizen engagement and participation as core values, in addition to responsiveness, inclusiveness, and freedom of expression.

3.2.5. A consolidated perspective on measuring public value on social media.

I presented a recent literature review on public values and social media adoption in the previous chapter. This chapter presents three more generic models for measuring the public, including Moor's public value scorecard (2013), Meynhardt's (2015) conceptualization of perceptions, and stakeholders' role in perceiving values. In this section, I argue for conceptualizing a framework that can integrate the enablers of public value creation, stakeholders involved in the process, and operational public values. The consolidated framework is based on public values highlighted in the literature, considering Moore's public value account scorecard (2013) and Meynhardt's conditions for measuring public value.

Enablers of public value often discussed with relevance to social media, as presented earlier, are organizational capabilities, trust in government and platforms, inclusive social media strategies, and responsiveness and user experience when interacting with the government on social media platforms. As discussed earlier, such enablers play an essential role in enabling the process of public value creation and thus constitute the ideal context through which values are promoted.

Once the enablers are in place and considered, several public values come into consideration in an interplay between various stakeholders, namely citizens, social media platforms, governments, and mainstream media. Stakeholders help shape, magnify, or promote those values throughout the platform, with citizens at the center of public value creation and perception.

It is important to note that Moore's conceptualization of the social costs associated with using state authority is rendered less relevant regarding social media since multi-stakeholders primarily govern the platforms. In contrast, platform companies have more authority when enacting certain features, restricting and promoting user actions through their algorithms. Although governments pressure social media platforms to comply with specific rules and regulations, they are still primarily controlled by the platform owners, apart from the countries where the platform owners reside.

Public values relevant to social media communication can be grouped into two main categories. One is of an outward and social nature, concerned more with government social media practices and citizens' perceptions. The other is mainly connected to organizational values, which organizations have more power to shape through social media practices. For example, improving decision-making is highly influenced by the organizations' internal dynamics and institutional logic. Citizens can still perceive the impact of social media on such public value, but it only depends on government strategies and practices on social media to deliver this value. Another example is transparency, freedom of expression, and citizen satisfaction. Some practices on social media can directly influence such values, such as sharing more data, allowing negative comments on social media without blocking or removing user comments, and having constructive dialogue over the platform with citizens.

As part of the consolidated framework, I consider values such as accessibility, transparency, citizen satisfaction, privacy, freedom of expression, and benefit to citizens and the community as social values. Some of these values, such as privacy and freedom of expression, can fall under the category of the use of state authority and the unintended negative consequences of social media adoption envisioned by Moore's scorecard, where governments may abuse their role as a user with more capabilities to censor users' content or use their data for tracing or surveillance. In contrast, citizens' satisfaction and benefit to the community may come as a positive consequence of using social media. They all can be measured from a stakeholder's perspective, where perceptions of citizens and public servants can construct an inclusive measurement of the values. Social media can also produce positive consequences when users and citizens feel they have a space to express their opinions without the scrutiny of their government.

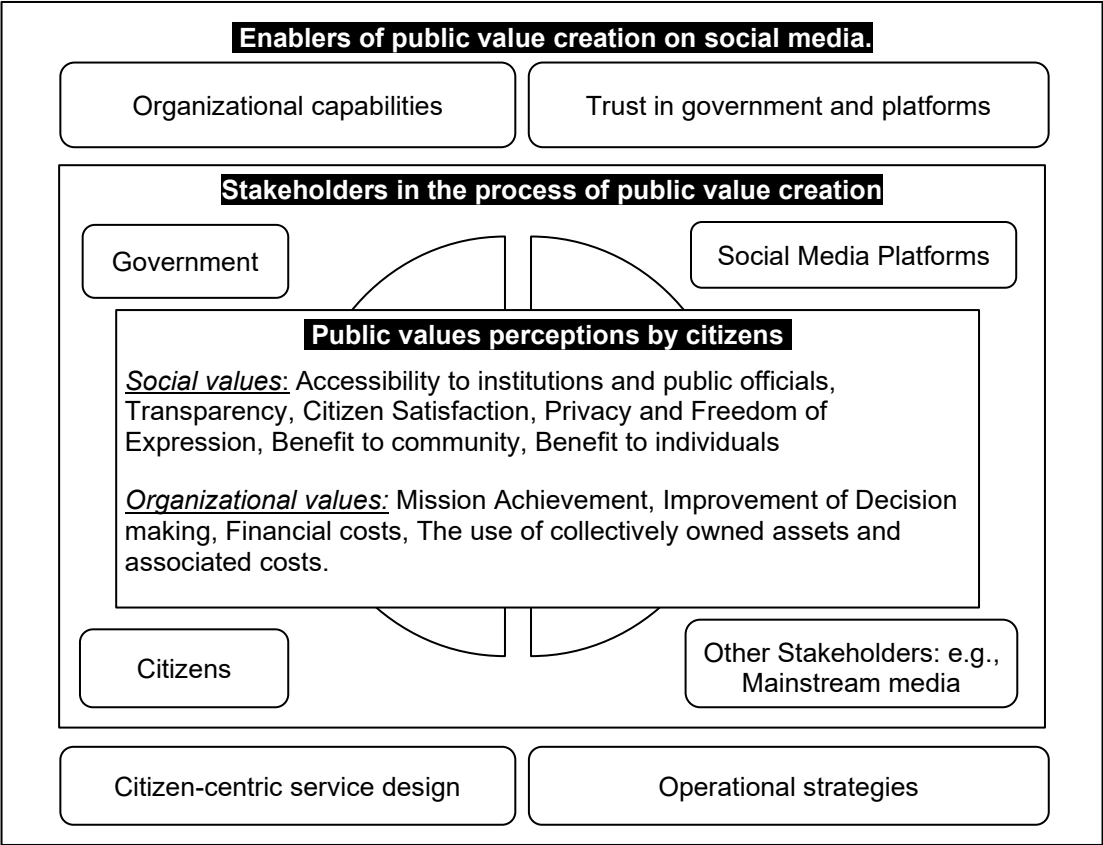
The second set of values includes aspects primarily influenced by the internal organizational logic, including the external and internal financial costs associated with social media adoption and the use of collectively owned assets, remaining essential aspects of public value planning and assessment. As highlighted by Moore (2013), the use of collectively owned assets includes the costs of resource allocation, training, advertising on the platforms, or the use of tools that facilitate moderation and collaboration of work on these platforms.

Other values, such as mission achievement and improvement of decision-making, remain core for social media adoption. Those values can be realized on social media through strategies and communication practices that align with the organization's mission.

This consolidated framework presented in this study and discussed above will guide the research in analyzing and measuring public value creation in social media adoption by the government of New Zealand. It might act as a helpful tool for public managers to plan and assess public value creation in their respective departments.

The consolidated diagram below shows the enablers of public value creation on social media as the primary context surrounding the process of public value creation. The enablers of public values will be used in analyzing the contexts of the case study while looking at the mechanisms of public value creation in Chapter 7. The enablers consist of organizational capabilities, trust in the government and the platform, citizen-centric service design by the government, and operational strategies for social media. Inspired by Meynhardt (2015), the second layer in the diagram shows the stakeholders involved in public value creation or erosion and conceptualizes the interplay between all those parties in shaping citizens' perceptions of social media. Government is one part of the process, and other stakeholders can play an equal and vital role in shaping the perceptions, and that will also be considered while discussing the causal mechanistic models of public value creation and erosion. The final layer is the public value perceptions by citizens. As mentioned earlier, the core values are divided into two groups. The distinction helps draw reflections on complex values such as improvement of decision-making and mission achievement and where perceptions about such values originate.

Figure 3.1
Social Media Public Values Scorecard



3.3. Social media adoption in the government

While analyzing public values on social media, it is essential to understand what makes social media unique, what are the common triggers for public value creation on such platforms, and how can social media adoption be explored through the organizational logic of public institutions in order to reflect on the findings and offer recommendations to improve processes and practices on social media leading to the erosion of public value. As discussed earlier, social media is a digital platform the government uses for collaboration and communication with citizens. Values created through social media transcend those created through other digital platforms. It also follows a similar but slightly different mechanism of value creation, given its nature as a third-party-controlled networked communication and content creation platform. The following sections attempt to discuss the particularities of social media adoption and the related drivers, strategies, and practices to understand the caveats of public value creation that are particular to social media.

3.3.2. Drivers of Change on social media

Various drivers may trigger new social media practices and influence the whole process of public value creation. Since one of the main goals of this research is to find causal mechanisms for public value creation or erosion, triggers and drivers of change on social media are quite an important topic to discuss and theorize.

The use of social media platforms in government ranges from municipal public institutions (Andrijašević, 2017; Faber, Budding & Gradus, 2020; Guillamón, Ríos, Gesuele, & Metallo, 2016; Karkin & Janssen, 2014; Perea, Bonsón & Bednárová, 2021) to national and federal government organizations (Song & Lee, 2016; Todisco, Tomo, Canonico, Mangia, & Sarnacchiaro, 2021; Abdelsalam, Reddick, Gamal, & Al-shaar, 2013; Kabanov & Vidasova, 2019). Some of the reasons investment in social media gained importance in government over the last years are their ability to act as communication and organization tools connecting governments to citizens (Althaqafi, Rahim, & Foster., 2018) and enabling the delivery of public services with more effectiveness (Merickova, Svidronova, & Nemeč, 2016), speed, and reach (Van Dijck et al., 2018; Lopes, Macadar, & Luciano, 2019). Given the variety of goals for using social media and the diversity in the audience that governments target with their social media practices, methods, strategies, and objectives of creating public value through social media can vary between different sectors and organizations in the same government. Several governments have invested in creating or promoting various values through social media (Mergel, 2013). This process has been studied in some research over the last years and is highlighted throughout the literature review chapter.

How social media affordances and algorithms evolve, and how governments and citizens are situated on social media as users and stakeholders make social media adoption in government different from other digital initiatives. Several governments developed strategies and goals for adopting social media in their communication and collaboration practices. Several political and managerial forces often drive their social media adoption and face various challenges bound by the level of digital government maturity.

Ines Mergel's (2012, 2013) work has inspired various theories of social media adoption in the public sector. Her work studying social media adoption has been the basis of further research in the same field that extended beyond the borders of the USA. Mergel and Bretschneider (2013) envision social media adoption in public institutions as a process that begins with early experimentation without formal regulations and structure, establishing standards and rules out of practice, and ends with institutionalizing social media into organizational activities and structures.

According to Mergel (2012), the use of social media in the public sector, especially in the USA, where the major social media platforms such as Facebook and Twitter are incorporated, has evolved partly due to the noticeable success of such platforms in reaching out to the masses for political campaigning, for example in the 2004 US presidential elections where some applications such as Meetup were used by some members to mobilize campaigning events (Wolf, 2009), or during the Obama elections of 2008 where various social media platforms including Facebook and Twitter were used to pull-in voters and support for the president who ended up being appointed for office (Carpenter, 2010). After being appointed, Obama promoted using such technologies during his administration, starting with a mandate in 2009 to “harness new technologies” to increase transparency, participation, and collaboration. Local and federal government agencies started

adopting such platforms as part of their work since then, as depicted by the work of Mergel (2012). Another example of such leadership forces was that in Mexico, with the Puebla Sana program on social media, which was inspired mainly by the governor, who, after several local volcano eruptions, saw the potential in social media as a tool to reach citizens and asking all ministers to increase their participation in social media. Such mimetic forces in government initiated by leaders or intrapreneurs, as Mergel and Bretschneider (2013) call them, are part of the early stage of social media adoption in government, where informal practices emerge and inspire formal practices in organizations. Those mimetic forces are not only taking place between leaders and their respective departments but also on a macro level between different departments inside the same government or between different governments (Mergel & Bretschneider, 2013; Picazo-Vela, Fernández-Haddad, & Luna-Reyes, 2016).

Besides leaders and intrapreneurs, there are two more factors that, according to Mergel (2012), influence social media adoption in the public sector. The first is the design of social media networks as platforms often used to strengthen ties and relationships between individuals already connected in the offline world. Such offline relationship mirroring presents an opportunity for governments to strengthen ties with their citizens that exist offline. The second is the change in the news dissemination scene and the growing use of social media platforms for that purpose, which influences governments to switch to them as a complementary mechanism to traditional media, including TV, newspaper, and radio.

Additionally, the power of social media in dissemination and coordination, especially during times of crisis, is becoming one of the prominent drivers for governments to use social media as a communication strategy, where citizens can be reached quickly, efficiently, and timely (Reuter, Hughes, & Kaufhold, 2018; Lovari & Bowen, 2020; Chen, Zhang, Wang, Ma, & Evans, 2020). According to Lovari and Bowen (2020), citizens typically use social media in times of crisis to check on their offline networks of connection and people of importance to them. Such behavior allows some governments to reach citizens quicker than traditional methods (Lovari & Bowen, 2020). Several governments worldwide have capitalized on such quick reach since the beginning of the global covid pandemic, and they have invested heavily in social media to inform citizens about vaccination, quarantine regulations, and lockdown measures (Chen et al., 2020).

Once social media practices become widespread in organizations, public managers and leaders often seek to consolidate efforts and set guidelines and standards of operation for civil servants and inside public institutions to use social media. Examples of these guidelines are those developed by the New Zealand government in two forms. The first is the high-level guidance on using social media in government (New Zealand Department of Internal Affairs, 2011), which included the code of conduct and general directives for managers. New Zealand also issued another document called the hands-on toolbox for social media use, which entailed best practices and techniques endorsed by the government and established earlier by other civil servants.

The final stage of social media adoption is institutionalization, which comes later when practices and guidelines developed at the top level are embedded in daily practices inside organizations and their civil servants. It is the stage when challenges to social media adoption are met, and the process to overcome them is also institutionalized. In this stage, even new hires can easily integrate and get accustomed to the social media practices employed at the organization (Mergel & Bretschneider, 2013).

3.3.3. Levels of social media adoption

The levels of social media adoption can be expressed in a similar analogy to the adoption of digital government. The transformation towards a digital government began several years ago when information and communication technologies (ICT) were deployed to change state administration and governance. Such transformation was primarily inspired by governments trying to improve responsiveness, accessibility, transparency, efficiency, and effectiveness (Veit & Huntgeburth, 2014). However, with such motives in place, the digital transformation was still relatively slow compared to what took place in the private sector (Veit & Huntgeburth, 2014). In the 1990s, with the introduction of the internet and personal computers, digital government evolved in a way that allowed governments to connect internally between different institutions and offer online services to citizens. Due to infrastructural challenges at that time, this evolution led to a digital divide among citizens and beneficiaries of the government based on who can and cannot access the internet, own a digital device, and interact with the digital government (Janowski, 2015). Despite the promise of the digital government to make public institutions more democratic, efficient, and practical, some governments have utilized digital tools to become even more autocratic and repressive (Qiang, 2019). However, digital transformation has impacted, in one way or another, a wide range of the legislative and executive functions in most governments worldwide and, in turn, citizens living and interacting with these governments (OECD, 2019).

Several digital government maturity models have been proposed, including Di Maio & Howard (2017), where the transformation is divided into five stages. The initial (e-government) stage is where government information sharing and service transactions are conducted using digital tools and platforms. This stage can represent governments establishing their first presence on the platforms for social media adoption.

The second stage, developing (open government), is where information sharing is more up-to-date, accurate, and transparent, and the data is shared with citizens on different levels of governance. In this stage, citizens are involved and consulted. Some tools can be used to consult citizens on certain decisions, like in the case of the New Zealand government using the Delib platform, a third-party for-profit social venture platform from the UK that is used to facilitate online discussions between governments and citizens, to discuss the amendments to the family violence laws in 2019 (Delib, n.d.). Some governments use consultation platforms created to consult citizens on policy proposals,

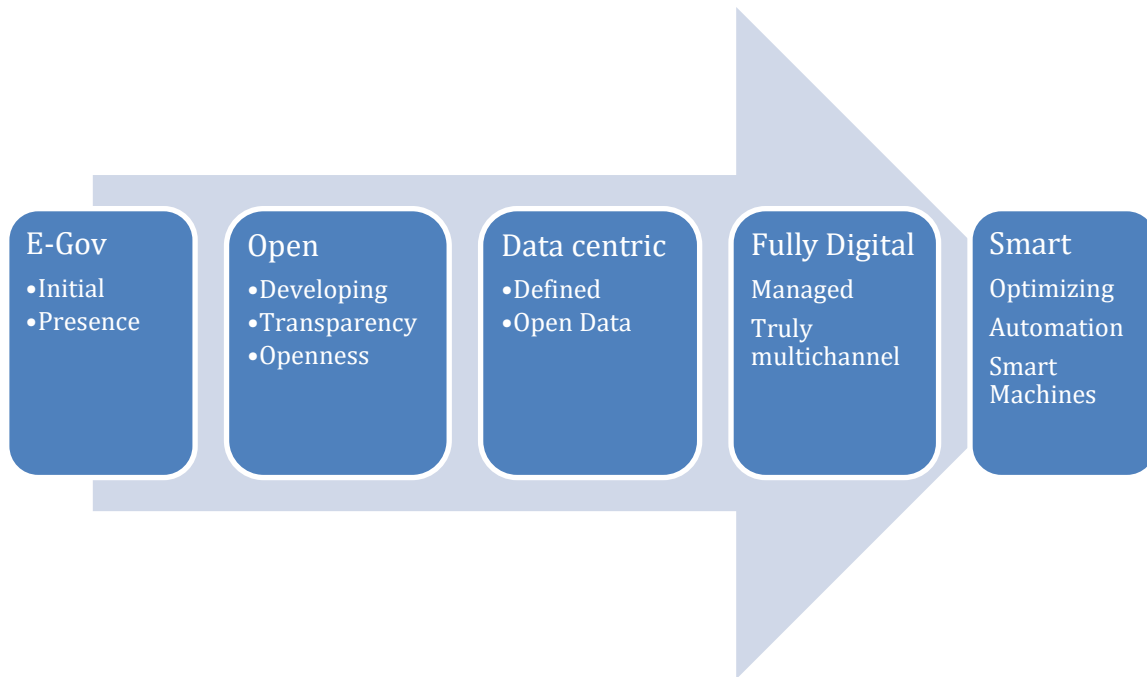
such as the Maltese public consultation platform (Government of Malta, 2020) or the Ministry of Justice consultation platform in New Zealand (New Zealand Ministry of Justice, 2022). Another example is the “shape your city” platform created by the city of Vancouver in Canada, where the city’s plans and proposals are set to open for public consultation.

The third stage is the defined data-centric phase, where citizen needs are at the forefront of digitalization and where innovation in digital public service is data-driven, where big data is harvested and analyzed in and across different agencies to improve the services and functions of the government. In this stage, two-way communication can occur between governments and citizens through social media initiatives, where citizens are consulted and dialogues are created and harvested for improving decision-making and service delivery. An example of this is the #MySydney campaign on social media for citizen engagement in urban planning by the government in Australia (Williamson & Ruming, 2020). However, the maturity stage of social media in government faces several challenges, such as the digital divide, whether it is due to infrastructural access limitations or accessibility limitations that are related to gender, age, language, or other demographic characteristics that define behavior and interaction with digital tools and services offered and used by the government. That, alongside security risks and solicitation, may accompany some of these initiatives (Joshi, Ghafoor, Aref, & Spafford, 2001).

The fourth stage is going fully digital with a public administration that utilizes big data, opens its data, and uses digital tools to help civil servants make better decisions and improve administrative functions and service delivery. The last stage in this model envisions a smart government where the government utilizes artificial intelligence, machines, and data flows and where digital innovation processes are normalized and operational in the government. Such a stage of maturity is rarely observed in adopting technologies like social media. There are instances where artificial intelligence is used to automate, to a certain degree, the interaction with citizens in inbox messages or to limit specific comments that go against posting guidelines on social media, but their use is still experimental in many governments worldwide.

Figure 3.2

Gartner's Digital Government Maturity Model (Di Maio & Howard, 2017)



The social media adoption phases can be inferred based on the digital government maturity model presented above. The government's adoption of social media can be realized, for example, in the first phase of digitization, where a government is present on social media with formal and informal accounts but rarely communicates or interacts with citizens on the platforms. During the second stage of digital government, social media can be used to communicate with citizens, becoming more transparent and open in a responsive manner where citizens can receive live updates from the government and interact with it simultaneously. The third phase may involve some social media practices that are more citizen-centric, where the platforms can be used to actively seek consultation from citizens on those platforms, which happens in a few distinctive cases highlighted earlier. In this stage, social media can be used to assist decision-making by gathering data that are of importance to government functions, such as in the case of natural disasters or emergency management, where such information might be needed to deliver support and aid and to survey public opinion about a particular issue. However, in this phase, using social media in that sense raises several concerns about the quality of the data collected and how useful it might be for decision-making. The digital divide also plays a vital role in using social media for these purposes, which might lead to a significant bias in decisions or the concerns of abuse from government or platform owners to this information. Such techniques are still used and, in a few cases, provide efficient results for different governments worldwide. During the fourth stage, using social media becomes more integrated into the government's decision-making processes and transparency and openness mechanisms. In the fifth and last stage of maturity, AI features of social media platforms are utilized by governments. In addition, digital innovation and integration with social media are operationalized and normalized

across government institutions. However, the final stage is one of the stages where social media as a platform and tool operated and developed by third parties can be much more difficult to utilize due to the complex nature of platform governance. Such challenges will be discussed separately in this chapter.

Although digital government maturity models can explain the phases through which social media can be adopted in government, they do not explain how social media is adopted and used in the daily practices of public institutions.

3.3.3. Strategies for using social media in government.

Once social media adoption begins, public institutions often develop strategies, goals, and objectives for social media use, whether following a bottom-up or top-down approach. The strategies of social media adoption can shape, to a large extent, public values that are created or eroded in the communication process with citizens.

Strategies and goals for using social media in government have been studied by several researchers such as Mergel (2012), Linders (2012), DePaula, Dincelli and Harrison (2018), and lately, Criado and Villodre (Criado & Villodre, 2021). They mainly studied the potential of social media for disseminating information, consulting and interacting with citizens, delivering services, or representing public institutions.

According to Mergel (2012), strategies and objectives for using social media are often contextual and differ from one government body to another within the same government.

Nevertheless, there are four types of strategies that have been identified in research (DePaula, Dincellie, and Harrison, 2018; Mergel, 2012; Criado & Villodre, 2021; Lovari & Bowen, 2020; Zhu & Jiang, 2020; del Mar Gálvez-Rodríguez, Sáez-Martín, García-Tabuyo, & Caba-Pérez, 2018; Yildiz & Demirhan, 2016). The first is a push strategy, where the government informs users about issues and actions of public institutions. The strategy involves posting, advertising, and branding for the government or institution. Researchers denote it as "symbolic representation" (DePaula, Dincellie, and Harrison, 2018), which means pushing information to the public to build trust in the government or maintain a particular image. The second is a pull strategy, where the government consults citizens about a particular topic by inviting them to online consultations or sensing their opinions. The third is a networking strategy (Mergel, 2012), which involves building ties with citizens, interacting, engaging, and collaborating with them. In such a strategy, the government creates, for example, groups or communities on social media where citizens interact with their local government civil servants to talk about issues in their neighborhood. The fourth is a service delivery strategy, where services are delivered partly on social media (Criado & Villodre, 2021). One example of this is moving the live traffic announcements that the Ministry of Transport does from radio to social media or accepting requests on social media for initiating some services that then get directed to the proper

channels afterward (Criado & Villodre, 2021). In the rest of the section, I explain each strategy with more details and examples.

Table 3.3
Social Media Strategies in Government

Strategy	Source	Relevant Public Values
Push	Mergel, 2012; DePaula, Dincellie and Harrison, 2018; Zhu & Jiang, 2020	Transparency, Trust, Accountability
Pull	Mergel, 2012	Engagement with Citizens, Improvement of Decision Making, Consulting Citizens
Networking and Collaboration	Mergel, 2012; Linders 2012	Co-production
Service Delivery	Khan, 2015; Criado & Villodre, 2021	Citizen satisfaction

The push strategy is concerned with disseminating information and is quite popular among practitioners of social media communication in government (Mergel, 2012; Lovari & Bowen, 2020). The information disseminated is typically press releases, managerial activities, open data, events, announcements, and other information that the government typically disseminates through traditional media (Criado & Villodre, 2021). The practices driven by the push strategy take different forms and often serve objectives such as increasing transparency, repairing trust, or improving the accountability of public institutions. Empirical evidence (Rainie, Purcell, Siesfeld, & Patel, 2011) shows that pushing information that citizens perceive as transparent, relevant, and well-prepared influences citizens’ trust in government.

The push strategy is not only common in democratic settings but also in countries with autocratic regimes. It becomes crucial to repair trust with the government (Zhu & Jiang, 2020). In China, during the covid pandemic, the Chinese government has intensely used Weibo, one of the major social media platforms in the country, to spread information to the public about the pandemic, face what they categorized as disinformation, and gain the trust of the public in the ability of the system to deal with the issue (Zhu & Jiang, 2020).

The pull strategy, on the other hand, refers to the approach of creating dialogues with citizens on social media, receiving information from them, and stirring dialogue on various topics to foster public engagement (Bravo, 2012; Eltantawy & Wiest, 2011; Zheng & Zheng, 2014). In Caba-Perez, Rodríguez Bolívar, and López Hernández (2012) empirical study of several South American countries, including Argentina, Brazil, Uruguay, Venezuela, Paraguay, and Bolivia, a link has been established between dialogic strategies of local governments in these countries and citizen

engagement, which was measured in terms of metrics such as popularity of social media accounts, comments and shares on posts. In Italy, Agostino and Arnaboldi conducted a similar study (Agostino & Arnaboldi, 2016) focusing on the relationship between stirring dialogue on social media and public engagement and found a positive correlation.

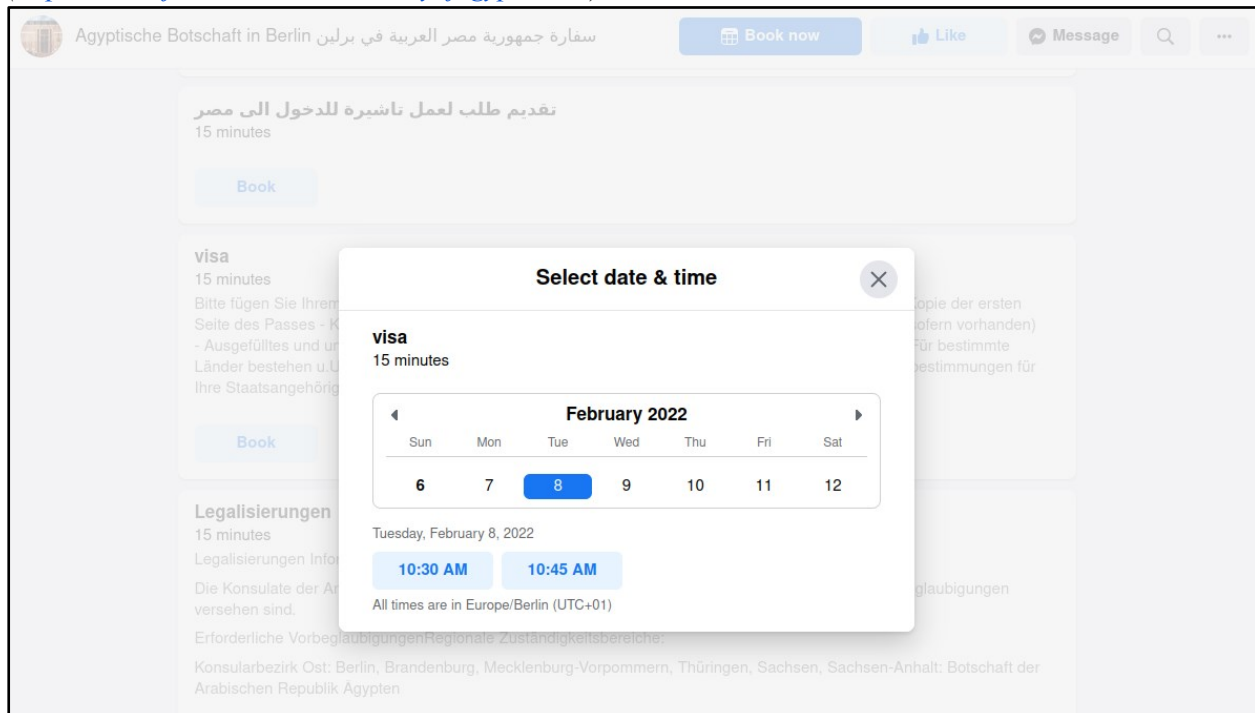
The networking and collaboration strategy has been defined by various researchers such as Mergel (2012) and Linders (2012) as the way for citizen sourcing, where citizens are tasked with collaboration activities such as reporting or proposing ideas. An example of practices that are endorsed by such a strategy is FixMyStreet in the UK (Meijir & Potjer 2018), where citizens are tasked to report and take pictures of issues in their neighborhood (e.g., cracks in pavements or non-functional streetlamps) and report it to the government. Another example is the MySydney initiative in Australia, where citizens were tasked to share their vision for the city to support its future planning. Collaboration strategies also include practices that encourage citizens to form communities and groups to help one another.

The last type is the service delivery strategy. The recently developed research on the use of social media in public service delivery and especially in emergency management (Chatfield and Reddick, 2018; Criado & Villodre, 2021; Yildiz & Demirhan, 2016) has provided some empirical evidence from different parts of the world that social media can be used as a tool to assist in service transactions. Although social media platforms are not designed originally for public service delivery (Mergel, 2012; Zavattro & Sementelli, 2014), various features that have been developed on social media have been used for this purpose (Criado & Villodre, 2021; Bertot, Jaeger, & Grimes), especially in times of crisis and disaster (Criado, & Villodre, 2021; Lovari & Bowen, 2020; Chen et al., 2020; Yildiz & Demirhan, 2016). There are also examples of it used in non-emergency situations to provide service. One example is that of the Egyptian embassy in Germany, which used the appointment booking feature offered by Facebook to page owners to create a booking system for appointments of service delivery through the platform, thus making the process more efficient and more accessible for Egyptian citizens using Facebook.

Figure 3.3

Egyptian Embassy in Berlin offering appointments on Facebook

<https://www.facebook.com/embassyofegyptberlin>



Another example is the Canadian federal government agency for Migration, refugees and Citizenship (IRCC), which actively uses social media as a customer service tool, and its followers seek personalized answers and interaction with government agents (Gintova, 2019).

How do Strategies differ across platforms and governments?

The four strategies of social media adoption may vary across different platforms based on the features and affordances the platform provides. It also varies based on the sociomateriality of the features and the type of users that predominantly use the social media platform.

Affordance theory stems from the work of James Gibson (1986), and it refers to the actions that a specific option in a technology would allow its users to do or prevent them from doing. Users enact those actions enabled by specific technology options in different ways based on their usage goals and how they interact with technology's materiality. That is why affordances can differ from one context to the other (Hutchboy, 2001), even when the materiality of the technology remains the same. For example, a person may use the chat feature of WhatsApp to communicate messages with one person. At the same time, another person could use the same feature to learn about user interface and design to build other similar chatting applications.

On the other hand, sociomateriality pertains to the continuous shaping and reshaping of technology and practice based on work, organization, humans involved, spaces, language, interaction, and day-to-day practices that they become inseparable (Kallinikos, 2012; Kallinikos, Hasselbladh, & Marton, 2013; Orlikowski & Scott, 2008). For example, one study (Miller & Melton, 2015) found that among

college students, posting behavior on Facebook is quite different from that on Twitter, even though the feature is quite similar as they perceive Twitter to be more public than Facebook. In another study conducted by Pew Research (Wojcik & Hughes, 2019) in the US, it was found that Twitter users are characterized by being young, highly educated, and wealthy, which creates a particular context in which the government needs to consider while using a platform like that for communication. On the other hand, according to another Pew Research (Gramlich, 2021), Facebook users are more likely to be teens from lower-income households. It has also been found that most of the content on Twitter comes from a small set of users who represent 10% of the US users, but yet creates 90% of the content, whereas on Facebook, the norm is not the frequency of posting but the form of quality of posts (Picazo-Vela et al., 2016). Therefore, governments may use Twitter more as a push strategy, for instance, where information is being released about the government's actions and updates reaching bloggers and journalists. In contrast, Facebook could be used for organizing activities and events and posting quality material for users to learn more and get informed about a policy.

In the US, decisions about using a particular social media platform in government agencies are often related to the popularity of such platforms among citizens (Mergel, 2012, p. 15). In other countries, such as the Netherlands and the UK, different social media platforms complement one another to target the largest groups of society and close the reach gap between citizens via such platforms (Dekker et al., 2020).

Social media platforms do not offer the same features and affordances to their users and the government. Therefore, their use among government organizations might differ based on their feature set. Based on social media features, Mergel (2012) classified the platforms into five categories: One is for offering networking services, such as Facebook and LinkedIn. They can be used to crowdsource specific tasks of government agencies to the public, such as their use by police departments in asking citizens to identify potential suspects or their use by crisis management agencies to identify survivors in case of a disaster and deliver help and support (Goldsmith, 2015; Flew, Bruns, Burgess, Crawford, & Shaw, 2014; Lovari & Bowen, 2020; Chen et al., 2020; Dekker et al., 2020). The second is for Microblogging Platforms such as Twitter, where information should be short, simple, and shared in real-time. This type of platform is often used for pushing updates from the governments and engaging in themed discussions using features like Hashtags, replies, and retweets. The third is for blogging, with more educational and text-based content. Examples are wiki pages and blogs where the government may publish articles, leave comments, and discuss content with citizens. The fourth is video-sharing platforms, which governments also use. Examples of those platforms are YouTube, Vimeo, and TikTok. The fifth and last type of social media platform is designed for photo sharing, such as Flickr and Instagram, where photos are the main content to be shared. Although those distinctions can help governments decide which platform to use, the differences nowadays between the platforms are pretty hard to distinguish because the platforms keep adding more features to their platform to attract more audiences. For example, Meta has

included a watch feature to replicate YouTube services and act as a video-sharing platform. It is the same for Twitter, which enabled photo sharing, video streaming, and even audio discussions through the Twitter spaces' feature.

3.4. Conclusion

In this chapter, research findings about social media and public value from the previous chapter were consolidated into a framework through which public value creation on social media can be analyzed. The theoretical framework constructed in this chapter will then be used in the following chapters to address the research questions and frame the discussion and analysis. Additionally, social media adoption in government was explored in depth. First, drivers and strategies of social media adoption were explored to understand the triggers of public value creation's causal mechanisms. Second, the process of social media adoption and maturity within the government was discussed, from creating social media accounts to the full integration of social media into service delivery and the work of public institutions. The discussion of adoption and maturity will help to identify critical parts of the causal mechanisms for public value creation and erosion, relate them to specific strategies discussed in the literature, and draw valuable conclusions about which strategies and practices may or may not contribute to public value creation.

Chapter 4 : Methodology

This chapter discusses the methodology used for answering the research questions. The chapter starts with an overview of the research design and methods utilized in this research. In the second section, a discussion follows about case selection and how New Zealand was picked as a case study. Then, I explore the study's approach to operationalize the theoretical framework developed earlier for measuring public value creation on social media in New Zealand.

In the rest of the chapter, I describe the methods used to answer the first two research questions about the general sentiment of public value in New Zealand and the differences in public value perceptions on social media use by the government. This part is divided into two sections. The first section discusses the methods for answering the quantitative questions, including the survey design, the sampling strategy, the analysis, reliability checks, the regression models used, and the indices formed for measuring overall public value perceptions. The section also discusses how the surveys were used to select concrete social media case studies and how a hypothesized causal mechanistic model has been created using the answers in the survey for further analysis related to the third and fourth research questions. The second and last section of the chapter discusses the methods used to answer the qualitative questions of the study about the causal mechanisms for public value creation and erosion. The initial hypothesized causal mechanisms are presented alongside the plan for collecting fingerprints and empirical evidence. Finally, ethical considerations for process tracing are discussed.

4.1. Research design

The study adopts a within-case study approach to explore the interplay between public value creation and the New Zealand government's use of social media platforms. Researchers often choose this approach to capture the complexity of the object of study (Seawright & Gerring, 2008; Stake, 1995). According to Seawright & Gerring (2008), within-case analysis is practical when looking at many variables that might be correlated to the dependent variables, such as the sociodemographic factors and enablers of public value creation on social media in this study. The case study approach also helps explore an understudied phenomenon in depth, which is helpful in the case of New Zealand as a country that is understudied and exhibits high social media utilization in government, democratization, and e-participation.

Since the mechanisms of public value creation and erosion via social media are understudied in literature, as discussed in Chapters 2 and 3, other multi-case study methods, such as comparative case studies, were ruled out (Creswell, 2017), and a single case study was chosen. Comparative methods are often helpful when theories are firmly grounded and a degree of generalization is needed. However, this research is an initial attempt to dive deeper into the causal mechanisms for public value creation and erosion on social media. Thus, it requires a method that can help dive deep, explore the existence of a phenomenon, and understand the process through which it manifests. It

also requires a fixed context where public value creation is enabled in the political and social setting to understand the influence of social media strategies and practices on public value perceptions.

The study is divided into two parts, each attempting to answer some of the research questions in the introduction chapter. The first part takes a quantitative approach to answer the following research questions:

1. How do citizens of New Zealand perceive public value creation on social media platforms?
2. What are the sociodemographic factors that characterize groups with different public value perceptions in New Zealanders?
 - a. Who perceives more public value from social media utilization by the government?
 - b. Who perceives less or no public value from social media utilization by the government?

Answering the above questions is done by utilizing survey methods. Two surveys were used, one on Facebook and one on Twitter. The surveys gathered general and specific perceptions about public values from social media use by the government. Additionally, they gathered various demographic and behavioral factors that may correlate to variations in public value perceptions from social media use in New Zealand.

The surveys also collected qualitative data from respondents through a few open-ended questions. The questions helped to select specific social media use cases for the qualitative analysis. Additionally, they helped develop the initial models for causal mechanisms for public value creation or erosion on social media.

The results from the first part of the study were then used as input for the second part of the study, which attempts to answer the two following research questions:

1. What are the mechanisms through which the government creates public value for citizens on social media?
2. What are the mechanisms through which the government diminishes the public value for citizens on social media?

The second part of the study utilizes process tracing to unpack causal mechanisms that lead to high or low perceptions of public value creation from social media use among the groups identified by the survey. The process tracing mechanisms use empirical evidence and fingerprints to verify the existence or non-existence of the theorized parts and activities and deduce and unpack new mechanisms and parts that can shape the processes under question.

4.2. Case Selection

4.2.1. Country of study

The country selection is based on a set of variables that relates to, on the one hand, the degree of use and adoption of social media in government and, on the other hand, the enablers of public value creation.

Five main variables are used to select the case for this study.

The first two variables are social media penetration and the government's followers on social media. Social media penetration in the country represents the number of social media users from that country with respect to the population. Countries with above-average social media penetration, especially in the selected cases of Facebook and Twitter, were considered (i.e., all countries with at least 50% or more penetration). Additionally, the percentage of social media followers of government pages to the total was used for case selection. Following the government on social media was highlighted in the literature review as a vital enabler for public value creation.

The three remaining variables are the Participatory Democracy Index, participation in eGovernment (both retrieved from the Quality of Government survey (Teorell et al. 2021)), and Democracy Index (retrieved from the EIU report (The Economist Intelligence Unit 2021)). The three variables are related to the degree of democratization and public value creation, which Moore (1995, 2013) described as enablers of public value creation.

The variables above were recorded and tabulated in the following table. The list was then narrowed down to Australia and New Zealand. They both represent cases with high social media penetration, high levels of citizens' interaction with the government on social media, and high levels of democracy and e-participation, which facilitates the process of public value creation.

Table 4.1*Data collected on each country for case selection.*

Country	General Social Media Statistics					Government Presence on social media (Facebook, Twitter)			Public Value enablers		
	Official Language (Arabic/English)	Social Media Penetration % 2021	The annual growth rate in SM penetration %	Facebook penetration 2021	The annual growth rate in Facebook penetration %	Number of government pages in 2021	Total number of Followers for government pages2021	Percent of total followers for government pages from population 2020	Participatory Democracy Index (vdem_parti pdem)	eParticipation in eGovernment (egov_epar)	Democracy Index 2021 (EIU)
Nigeria	Yes	15.80%	1.90%	22.60%	6.19%	17	2001014.00	1.00%	0.37	0.48	4.44
Kenya	Yes	20.20%	2.10%	26.20%	6.35%	20	1172163.00	2.24%	0.32	0.53	5.11
Ghana	Yes	26.10%	3.55%	33.60%	8.80%	15	669455.00	2.22%	0.39	0.63	6.63
India	No	32.30%	4.65%	29.70%	5.80%	118	70773646.00	5.17%	0.32	0.96	7.23
South Africa	Yes	41.90%	0.95%	51.40%	11.86%	49	5392761	9.29%	0.45	0.85	7.24
Egypt	Yes	47.40%	3.70%	62.50%	13.81%	79	29683262.00	29.34%	0.09	0.54	3.36
Indonesia	No	61.80%	2.90%	65.70%	11.41%	108	15797841.00	5.86%	0.43	0.62	6.39
Russia	No	67.80%	9.40%	7.30%	0.98%	43	2611695.00	1.81%	0.15	0.92	2.94
Italy	No	67.90%	4.45%	57.60%	4.58%	60	5266731.00	8.71%	0.69	0.96	7.71
Poland	No	68.50%	10.75%	54.80%	7.05%	39	953552.00	2.51%	0.49	0.89	6.67

Country	General Social Media Statistics				Government Presence on social media (Facebook, Twitter)				Public Value enablers		
	Official Language (Arabic/English)	Social Media Penetration % 2021	The annual growth rate in SM penetration %	Facebook penetration 2021	The annual growth rate in Facebook penetration %	Number of government pages in 2021	Total number of Followers for government pages 2021	Percent of total followers for government pages from population 2020	Participatory Democracy Index (vdem_parti pdem)	eParticipation in eGovernment (egov_epar)	Democracy Index 2021 (EIU)
Saudi Arabia	Yes	69.30%	0.15%	47.30%	6.31%	47	6801447.00	19.92%	0.03	0.71	1.93
Brazil	No	70.30%	1.65%	74.10%	8.80%	346	73745743.00	34.72%	0.49	0.97	6.97
Vietnam	No	73.70%	4.85%	87.30%	13.76%	18	1843783.00	1.97%	0.17	0.69	3.08
Japan	No	74.30%	6.65%	15.90%	0.70%	35	5270626.00	4.17%	0.53	0.98	7.99
France	No	75.90%	8.95%	59.50%	6.30%	358	14663807.00	22.47%	0.62	0.97	7.80
Belgium	No	76.00%	5.50%	69.70%	7.61%	31	3285887.00	28.35%	0.60	0.76	7.78
Colombia	No	76.40%	3.70%	87%	14.04%	123	14019960.00	28.12%	0.45	0.92	6.96
Ireland	Yes	76.40%	4.70%	66.20%	6.28%	20	807818.00	16.36%	0.62	0.93	9.15
Portugal	No	76.60%	5.80%	69.50%	6.48%	65	4317060.00	42.34%	0.66	0.90	7.84
Mexico	No	77.20%	4.60%	92.30%	16.46%	355	52128142.00	39.39%	0.43	0.94	6.19
United Kingdom	Yes	77.90%	4.95%	66%	6.09%	425	28465228.00	41.93%	0.64	0.98	8.53

Country	General Social Media Statistics				Government Presence on social media (Facebook, Twitter)				Public Value enablers		
	Official Language (Arabic/English)	Social Media Penetration % 2021	The annual growth rate in SM penetration %	Facebook penetration 2021	The annual growth rate in Facebook penetration %	Number of government pages in 2021	Total number of Followers for government pages 2021	Percent of total followers for government pages from population 2020	Participatory Democracy Index (vdem_parti pdem)	eParticipation in eGovernment (egov_epar)	Democracy Index 2021 (EIU)
Germany	No	78.70%	16.35%	39.40%	2.95%	94	5783774.00	6.90%	0.62	0.92	8.68
Argentina	No	79.30%	1.65%	86.70%	11.51%	134	19849197.00	44.01%	0.48	0.62	7.02
Australia	Yes	79.90%	3.95%	75%	8.34%	335	23035671	90.34%	0.63	0.98	9.09
Austria	No	79.90%	14.95%	45.60%	2.72%	21	380533.00	4.23%	0.63	0.83	8.29
Spain	No	80.00%	10.00%	53.60%	3.97%	98	3976359.00	8.50%	0.60	0.98	8.08
Philippines	No	80.70%	4.85%	100%	20.78%	60	24423092.00	22.59%	0.37	0.94	6.71
Switzerland	No	81.80%	15.40%	46.40%	3.56%	26	687460.00	7.94%	0.78	0.84	9.03
New Zealand	Yes	82.00%	5.50%	79.40%	9.39%	57	3285915	68.14%	0.67	0.98	9.26
Sweden	No	82.10%	5.05%	73.50%	8.18%	78	2415498	23.92%	0.64	0.94	9.39
Denmark	No	83.60%	6.30%	78.10%	7.87%	70	2370579	40.93%	0.69	1.00	9.22
Singapore	Yes	84.40%	2.70%	74.30%	6.48%	112	8622170	146.93%	0.12	0.97	6.38
Canada	Yes	84.90%	8.45%	67.20%	7.22%	315	13189572.00	34.95%	0.61	0.91	9.15

Country	General Social Media Statistics				Government Presence on social media (Facebook, Twitter)			Public Value enablers			
	Official Language (Arabic/English)	Social Media Penetration % 2021	The annual growth rate in SM penetration %	Facebook penetration 2021	The annual growth rate in Facebook penetration %	Number of government pages in 2021	Total number of Followers for government pages 2021	Percent of total followers for government pages from population 2020	Participatory Democracy Index (vdem_parti pdem)	eParticipation in eGovernment (egov_epar)	Democracy Index 2021 (EIU)
Hong Kong	No	85.60%	3.80%	74.90%	6.98%	37	1700203.00	22.68%			6.15
Malaysia	No	86.00%	4.00%	92.50%	13.99%	81	13656344.00	42.08%	0.22	0.89	6.88
Netherlands	No	88.00%	12.00%	61.30%	5.04%	134	2615093.00	15.26%	0.64	0.99	8.89
Taiwan	No	88.10%	-0.45%	84.90%	6.95%	65	6357594.00	26.69%	0.62		7.73
South Korea	No	89.30%	2.15%	28.40%	0.73%	82	7636398.00	14.89%	0.58	1.00	8.00
United Arab Emirates	Yes	99.00%	0.00%	90.30%	3.96%	90	13,134,346.00	135.66%	0.03	0.94	2.76

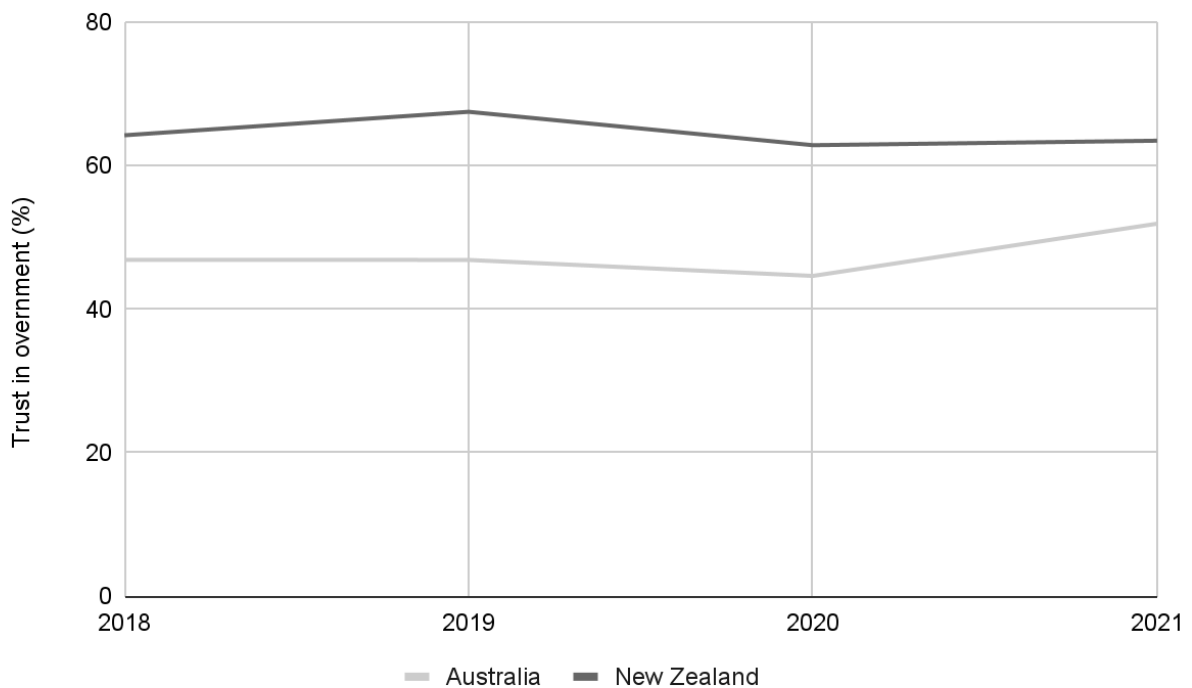
Note: The data on the number of social media accounts and the aggregate followers on those accounts per country were scraped from Social Bakers (2021) statistical portal.

In order to select one case for the study between Australia and New Zealand, another variable was needed. According to the literature review, enablers of public value creation on social media consisted of various factors, one of which is trust in government, which enables citizens to perceive public value from social media, as well as the e-participation index, which highlights the willingness of citizens to participate in digital initiatives.

New Zealand shows consistently higher values of trust in government according to OECD data from 2018-2021 (OECD, 2023). The following chart shows the development of trust in government in the years of the study's conduct. Additionally, the e-participation index data from 2020 shows New Zealand ranked fourth worldwide and Australia as the ninth country (United Nations, 2023).

Figure 4.1

Trust in government between Australia and New Zealand



Even though New Zealand shows more potential in discovering traces of public value creation on social media due to the high e-participation and trust in the government, the study conducted an initial piloted survey in both countries, which showed that the political dismay from the Australian government might primarily affect the outcome of the survey, which also poses a risk of a significant self-selection bias that may lead to biased findings. In addition, response rates were meager and insufficient to render the survey method viable. On the contrary, in New Zealand, the response rate was high, showing a prospect in

selecting the case for further analysis. Some comments on the initial roll-out of the survey in Australia are captured in the following figure.

Figure 4.2

Users' comments on the survey dissemination in Australia (Author, 2021)



The case of New Zealand is selected as a suitable case for the study, where social media penetration is relatively high compared to other countries worldwide (Kepios 2021b). In New Zealand, Facebook, the largest social media platform operating in the country and the world, is highly utilized by citizens, government officials, and public institutions, with a Facebook penetration rate of about 83% as of July 2021 (NapoleonCat 2021b). On the other hand, Twitter's penetration rate is around 11.3% as of January 2022 (Kepios 2022). Additionally, there are over 70 official Facebook accounts for government institutions and dozens more for politicians and public officials. Twitter has 96 official Twitter accounts for the New

Zealand government that I have surveyed as of December 2021. Furthermore, the country's political leadership, represented by their prime minister Jacinda and several MPs and government ministers, rely on Facebook and Twitter to transmit political and administrative messages to the masses, making it an interesting case to study.

4.2.2. Social Media Platforms

Facebook and Twitter are chosen as the social media platforms to analyze in this study on public value creation and social media adoption in New Zealand.

There are several reasons why Facebook and Twitter are selected, among which are the platform's popularity, the diversity among users who interact on the platform, the degree to which governments are using the platform, and the growth rate of users on the platform.

Facebook and Twitter are some of the hundreds of social media platforms existing in the market and are used by citizens daily all around the globe. According to (van Dijck, Poell, and de Waal 2018), the most popular social media platforms are controlled by tech giants that are based mainly in the US and China, who also provide infrastructure platforms that are used by most of the internet services that exist nowadays.

Facebook, now called Meta, is one of the largest social media platforms used by internet users, some of which are Facebook, WhatsApp, Instagram, and Messenger. Other large companies, such as Microsoft, run popular platforms like LinkedIn, whereas Google controls YouTube as a media streaming social media platform. Twitter is another example of an independently run social media platform that does not belong to large corporations but is still used by governments and citizens worldwide.

The digital report (Kepios 2021a) shows Facebook as the most prominent platform among all social media platforms globally. The platform attracts over 2.7 billion active users globally out of 4.2 billion on all social media platforms combined (Kepios 2021a). The platform's user base proliferates each year across the globe despite the revealed threats posed to freedom of expression, privacy, and data misuse by the company. Users spend the most time per month on the platform compared to any other social media, marking it among the most frequently used platforms, with an average of 20 hours per month.

Figure 4.3

The ownership of platforms by American tech giants (Van Dijck 2018)

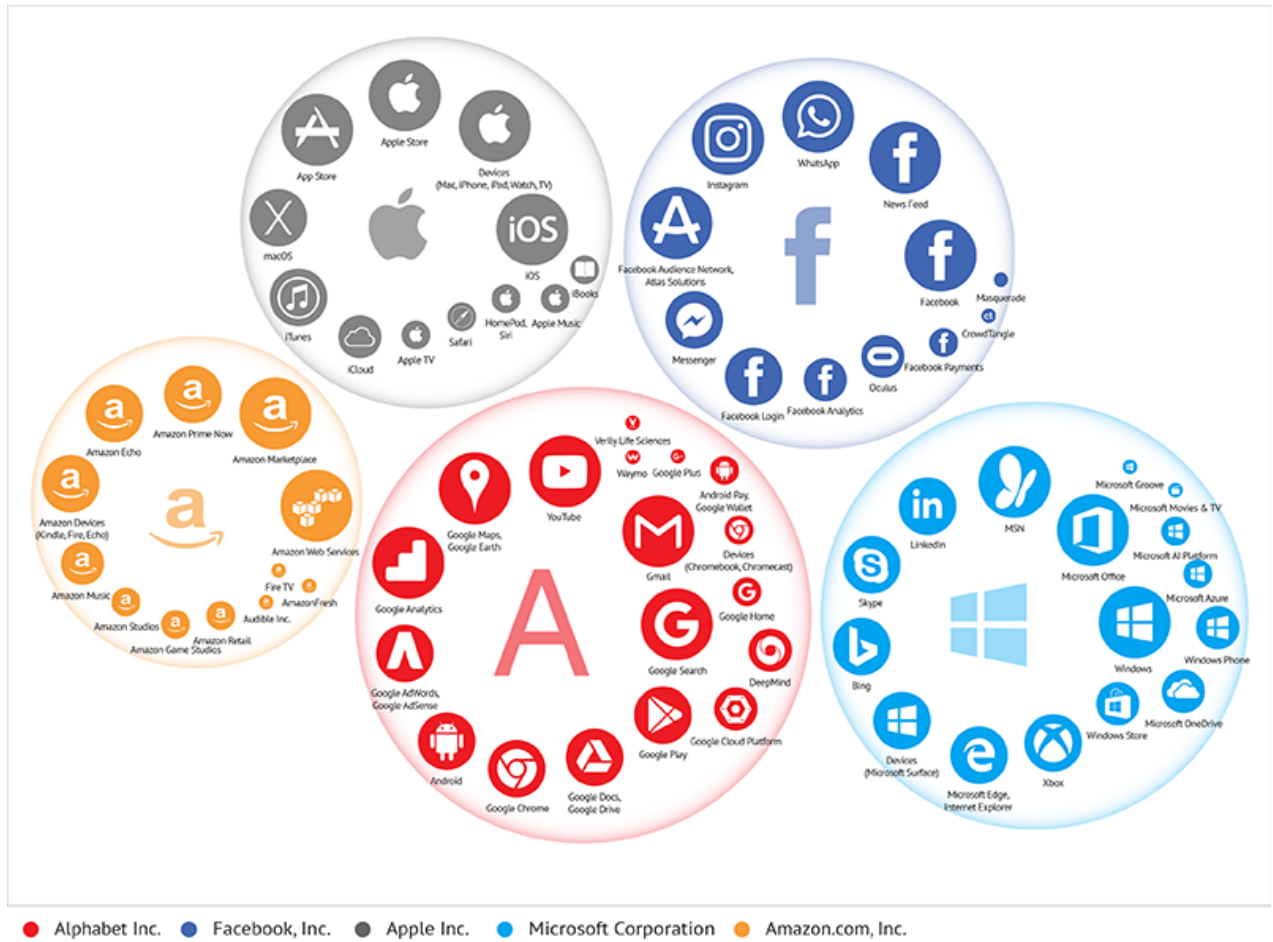


Figure 4.4

Facebook's monthly active users over time (Kepios, 2021a)

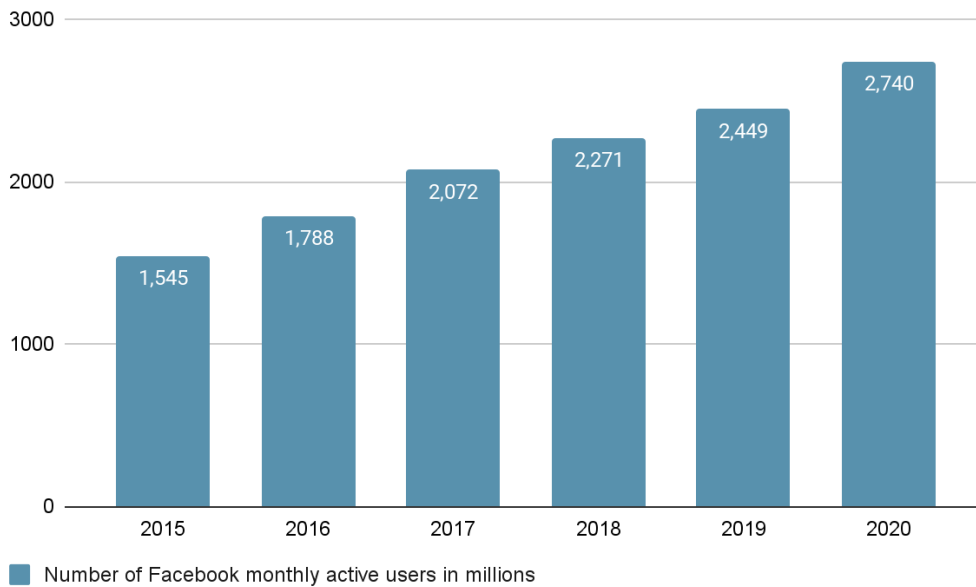
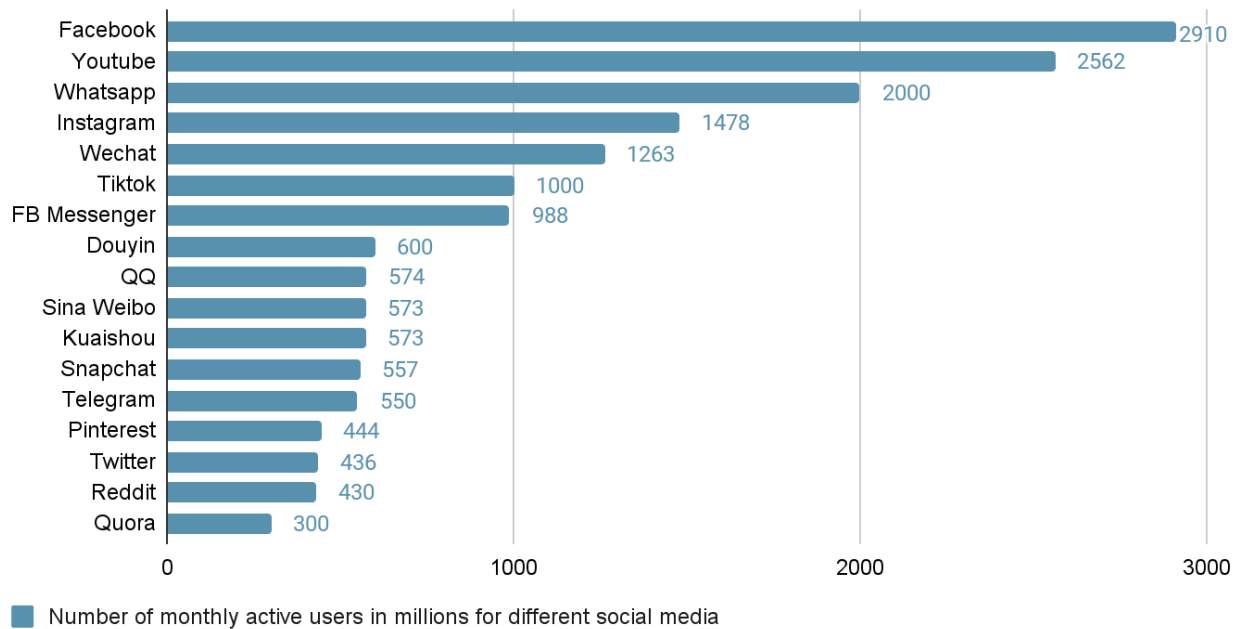


Figure 4.5

Social Media Platforms by the Number of active users (Kepios, 2022)



Another reason Facebook is chosen as a social media platform to study is the type of users the platform attracts. Social Media platforms offer certain functionalities and affordances that define to a great extent what kind of users they attract. This can be illustrated by looking at the social media landscape presented by Rehman et al. (2020). The figure represents the distribution of the social media platforms online based on the functionalities they provide to their users, which are enabled by the platform's features, algorithms, infrastructures, and affordances.

Figure 4.6
Social Media Landscape 2021 (Dev et al. 2021)



Due to the continuous expansion of the Facebook platform, it has developed several functionalities with the hopes of attracting different types of internet users who seek a platform for publishing content, networking, collaborating, discussing, sharing, or even messaging. The platform markets itself as a provider of all these services. They are also expanding in sectoral scope to include e-Commerce, dating, and streaming. For example, platforms such as LinkedIn offer similar features to Facebook, but they market themselves as a networking platform more than a messaging or discussing platform, attracting a particular profile of users. This makes Facebook one of the platforms used by marketers and governments to target a wider variety of audiences.

Twitter is the 14th most populated social media platform globally, according to the latest digital report (Kepios 2022), with 436 million active users. Even though the platform is not as large as Facebook in terms of active users, it can be considered the second largest social media platform in the world that does not belong to any of the tech giants, is not used mainly in a specific geographical area like WeChat, is not

built for a particular set of users with a focus on a specific type of content, such as TikTok (focuses on video content). Twitter is similar to Facebook in the fact that it is a multipurpose social media platform that allows users to group into networks, organize discussions, share different types of media, including text, video, audio, and images, and communicate with one another using messaging services that are built into the platform. The platform is also widely used by governments to share information and interact with the public, which makes it suitable for this study.

Facebook and Twitter are selected as a sample of multipurpose social media platforms through which public value creation can be examined, and mechanisms can be unfolded to understand how such platforms can be used to create or erode value by a particular government.

4.2.3. Cases of social media adoption in New Zealand

In New Zealand, various public institutions adopt social media strategies, policies, and practices. However, to answer the questions about the mechanisms of public value creation or erosion, key institutions had to be selected to conduct an in-depth analysis of their work and understand how public value can be created or eroded for different groups of citizens. The organizations were chosen by including a question in the survey, asking citizens about the accounts they follow on Facebook and Twitter, and then using the most frequently mentioned accounts for further analysis.

The top four accounts that respondents of the surveys mentioned were:

- The Ministry of Health
- The Police Department
- The New Zealand Transport Agency (NZTA)
- The National Emergency Management Agency (NEMA).

The selected organizations vary in terms of sectors and types of organizations. The police and the Ministry of Health are, to some degree, political institutions, whereas NZTA and NEMA are technical agencies. The four organizations also cover various sectors, from policing to crisis management to transport to health; this enriches the findings and brings various perspectives into the processes and mechanisms for public value creation and erosion.

The detailed analysis of the questions in both surveys and how the four institutions were selected is presented in Chapter 6 alongside other survey findings.

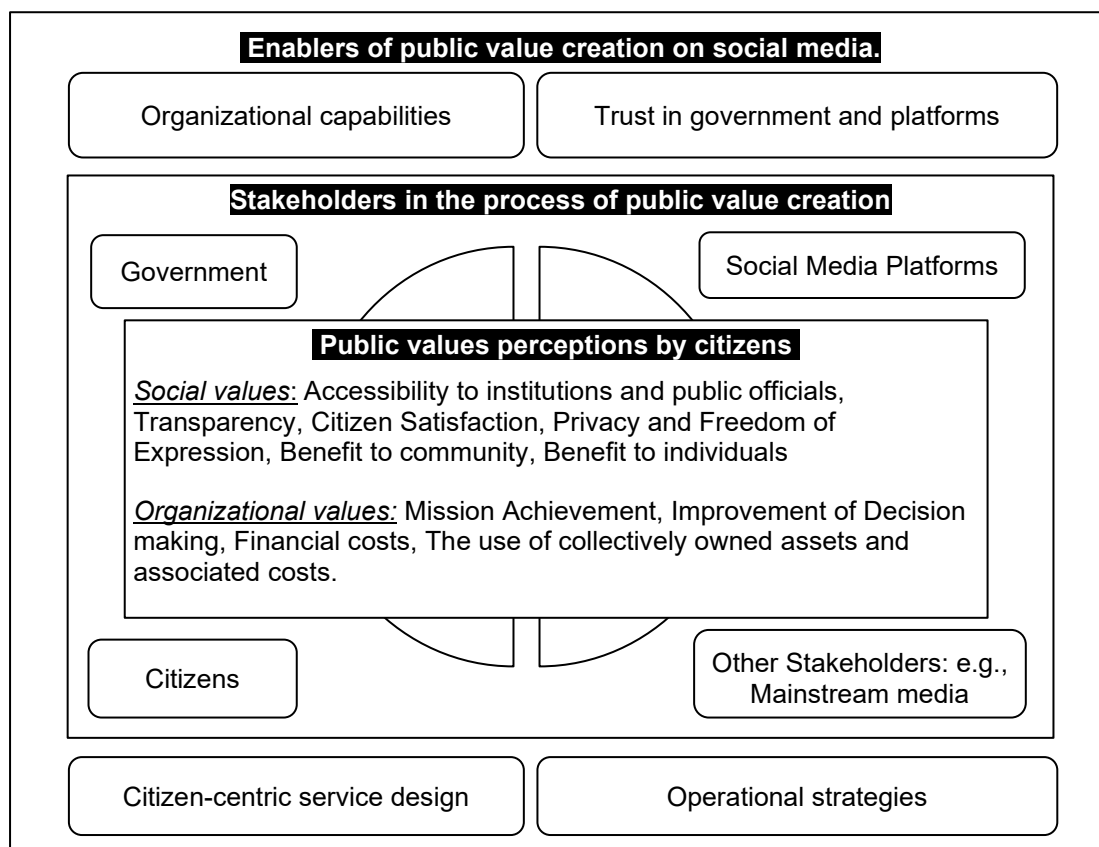
4.3. Surveying Social Media Users in New Zealand.

Surveys were used as a quantitative method for answering the first analytical research questions about general citizens' public value perceptions from social media use by the government in New Zealand.

In chapter two, several sociodemographic factors that define groups with different public value perceptions were discussed. Those factors were explored quantitatively through the surveys. The survey questions explored demographic factors (age, education, gender, living area, occupation), behavioral factors (how often they use social media, how long they have been users of the platforms), and finally, the level of trust for social media platforms and the government. Alongside enablers and sociodemographic factors related to public value, selected public values are measured by eleven selected questions in the survey questions. The questions focus on the theoretical framework developed in the third chapter for measuring public value on social media, represented in the figure below:

Figure 3.1

Social Media Public Values Scorecard



The questions on public values were grouped into two main categories: public value perceptions from government presence on social media and public value perceptions from government interaction with citizens. This grouping was inspired by the recent study conducted by Alarabiat (2021) about determinants of participation in government-led initiatives on Facebook. The study also clearly separated interaction and

presence as different sources that might drive different perceptions about public values. The same study also inspired many questions about public values used in this research.

To simplify the overview of citizens' perceptions of public value, I developed an index for public value perceptions that takes the average of the 11 public value questions in the survey. Cronbach Alpha's reliability check was used to ensure that the 11 variables on specific public values can be grouped into one index, as explained later in the chapter. Another two sub-indices were made, one for presence and one for interaction perceptions, by averaging the related questions.

In the rest of this section, I will discuss the survey questions, the sampling strategy used, data management, and analysis techniques used in the research.

4.3.1. Survey questions and measured variables

The survey is composed of 30 questions divided into four pages. The questions (see Annex I) were divided into five groups. The first group contained questions about the behavior of the user on Facebook or Twitter, including the frequency with which they use the platform, the number of years they have been using the platform, and whether or not they follow a government page or account. The second group of questions focused on citizens' trust in Facebook or Twitter as a platform and how they feel about using it. The third group focused on the respondents' perception of public value created by the government's presence on Facebook or Twitter. The fourth group focused on public value perceptions from interactions between citizens and governments on Facebook or Twitter. The fifth group covered sociodemographic factors related to public value perceptions, such as age, gender, occupation, location, and educational level. At the end of the surveys, respondents were asked whether they would like to be contacted further for an interview or a follow-up on the study results.

The survey was drafted on the uni park platform and analyzed using SPSS software. The survey went through a piloting phase in which it was disseminated to 30 respondents to gather feedback on the questions and the process. Of the 30 respondents, 10 were chosen from my contacts, and the rest were through Facebook ads. The data collected during this phase was disregarded, and the survey questions were adjusted following the respondents' feedback.

4.3.2. Sampling strategy

The survey was disseminated using a random sampling strategy targeting Facebook and Twitter user populations. The platform's advertising and targeting tool for page owners was used to promote the survey. In doing so, I used my own Facebook page (<https://www.facebook.com/mones.haytham>) and Twitter accounts (<https://www.twitter.com/haythammones>) to disseminate the survey via two posts to invite recipients to participate.

Figure 4.8

The advertised posts for survey participants.

 **Haytham Mones**
Published by Haytham Atef · July 3 ·

Participate in a scientific study about the use of Facebook by the New Zealand government. Share your opinion, answer the 7 min survey and have the chance to win a 50 NZD voucher to the store of your choice. To participate in the survey or know more visit: <https://bit.ly/3x5gHya>.



WW2.UNIPARK.DE
Survey Learn More

 **Haytham Mones** @HaythamMones · Dec 5, 2021

Participate in my research on the use of Twitter by the New Zealand government. Share your opinion, answer a 5min survey and get the chance to win a 50NZD voucher to the store of your choice. To participate or know more visit: bit.ly/3GIO8RH #NewZealand #research



Promote

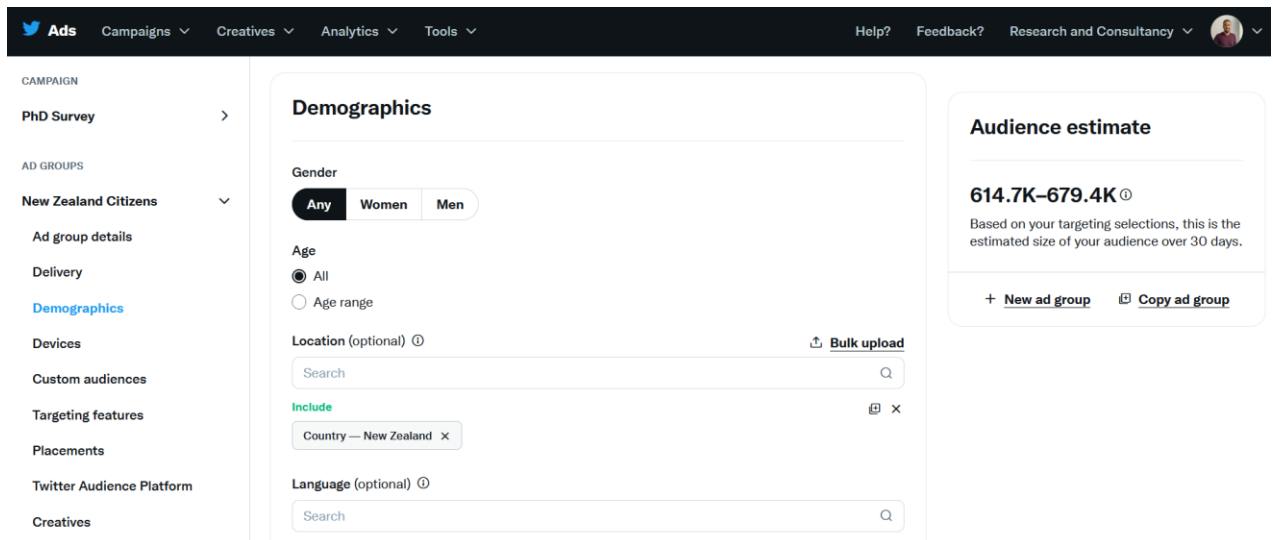
22 31 64

Figure 4.9

The settings used for advertising the survey invitation post in New Zealand

The image shows the Facebook Ads Manager interface for a survey invitation post. The settings are organized into several sections:

- Special Ad Category:** A toggle switch is turned off. Text: "Ads about social issues (such as the economy, or civil and social rights), elections, or political figures or campaigns." A "Learn More" link is present.
- Audience:** A section titled "Who should see your ad?". It includes:
 - Smart Audience:** A radio button is selected. Text: "Facebook will customize your audiences to reach more people who may be interested in your business."
 - People you choose through targeting:** A radio button is selected. Below it is a box for "Audience Details" with "Location - Living In New Zealand" and "Age 13 - 65+".
 - Other targeting options: "People who like your Page", "People who like your Page and their friends", and "Haytham Mones - Consultancy", each with an unselected radio button.
 - A "Create New" button is at the bottom of this section.
- Duration:** A date picker shows "End date Sep 1, 2021".
- Total Budget:** Text: "Estimated 3.7K - 10.7K people reached per day". A large blue number "€ 250.00" is displayed with a slider below it.
- Ad Preview:** A preview of the ad post by "Haytham Mones" (Sponsored). The text of the ad says: "Participate in a scientific study about the use of Facebook by the New Zealand government. Share your opinion, answer the 7 min survey and have the chance to win a 50 NZD voucher to the store of your choice. To participate in the survey or know more visit: <https://bit.ly/3x5gHya>." The ad image features the text "GOVERNMENTS ON FACEBOOK NEW ZEALAND" and an umbrella with the New Zealand flag. Below the ad, it shows "WW2.UNIPARK.DE Survey" and "255 Comments 8 Shares".
- Estimated Daily Results:** A table showing:
 - People Reached: 3.7K - 10.7K
 - Link Clicks: 181 - 523
- Payment Summary:** Text: "Your ad will run for 7 days." A table shows:
 - Total budget: €250.00 EUR



Several recent studies have used the same tool to disseminate their surveys to the targeted population (Aral 2016; Aral and Walker 2014; Bond et al. 2012; Ryan 2012). The study promoted the post to a random sample of Facebook and Twitter users living in New Zealand without targeting any particular age group or gender and without using any targeting information offered by the social media platform, making this ad reachable to a completely random sample of the platform users living in New Zealand. The post invited users to participate in the survey and offered a raffle with a 50 NZD voucher to the store of the respondent's choice.

The ideal sample size was calculated using Smith's (2013) formula that utilizes the z-index (the desired confidence interval), marginal error, and standard deviation to forecast the required sample size. For the study, the z-index was chosen to be 1.95 for a confidence interval of 95%, whereas the desired standard deviation and error margins were set to 0.5 and 0.05, respectively. The sample size was calculated at 385 respondents.

Figure 4.10

The formula for calculating survey sample size (Smith, 2013)

$$n = \frac{z^2 \times \sigma (1 - \sigma)}{e^2}$$

The study used a 300 EUR advertising budget for each platform to reach the required sample size. According to Facebook statistics on the reach of the ad, the post reached more than 50 thousand users in the period from the 3rd of July 2021 until the 5th of September 2021, out of which 463 respondents answered the survey. The Twitter survey was disseminated from 6 December 2021 until 31 March 2022 and received 336 responses.

4.3.3. Data clean-up and re-coding

Once surveys were concluded, the data went through two phases: a data clean-up phase in which I dealt with missing values from the sociodemographic independent variables and a re-coding phase to make variables suitable for the multivariate binomial regression that will be conducted later on the variables.

The privacy and freedom variable from both surveys was reversely coded to match the positive way of formulating the other questions, where more public value perception matches larger values of the variable. Other demographic variables were re-coded as well for binary representation. Those variables are gender, which was re-coded into a binary variable where `is_male = 1` and 0 for other values. Education was also re-coded into `has_university_degree`, which represents if the respondent has a bachelor's, master's, or doctorate degree. For employment, the variable was decoded as binary and indicated whether the respondent was employed. Another variable that was re-coded was the location, where rural areas were coded with 0, and urban areas were coded with 1. The rural and urban data was based on census data and the district health boards (Ministry of Health, 2002; Stats NZ, 2022).

Four new variables were created as averages constituting scales and combined variables. The first was the trust in the social media platform, which was composed as the mean of the two questions in the survey about citizens' trust in the social media platform as secure, robust, and safe for their use. The other variable was the overall public value perception, which was the mean of all the 11 public value-related questions. The third and fourth new variables were the public value from the presence and the public value from interaction, respectively.

Public value scales were split later into two variables each, one representing a binary variable for the high perceptions, taking the values of 4 and 5 in the developed Likert scale (corresponding to I agree, I strongly agree) and another binary variable for the low perceptions, taking the values of 1 and 2 in the developed Likert scale (corresponding to I disagree, I strongly disagree).

Furthermore, the data was cleaned up for missing input in essential variables, especially those related to the independent variables (sociodemographic factors).

In order to assess the impact of removing missing data on the regression, a new variable was created to indicate cases with missing data points for the independent variables: gender, occupation, location, and `followed_government_page`. The new dummy variable was coded 1 for missing data and 0 for non-missing data.

The following chart shows the missing cases in the dataset of Facebook and Twitter, respectively.

The charts are obtained by running the following command in SPSS:

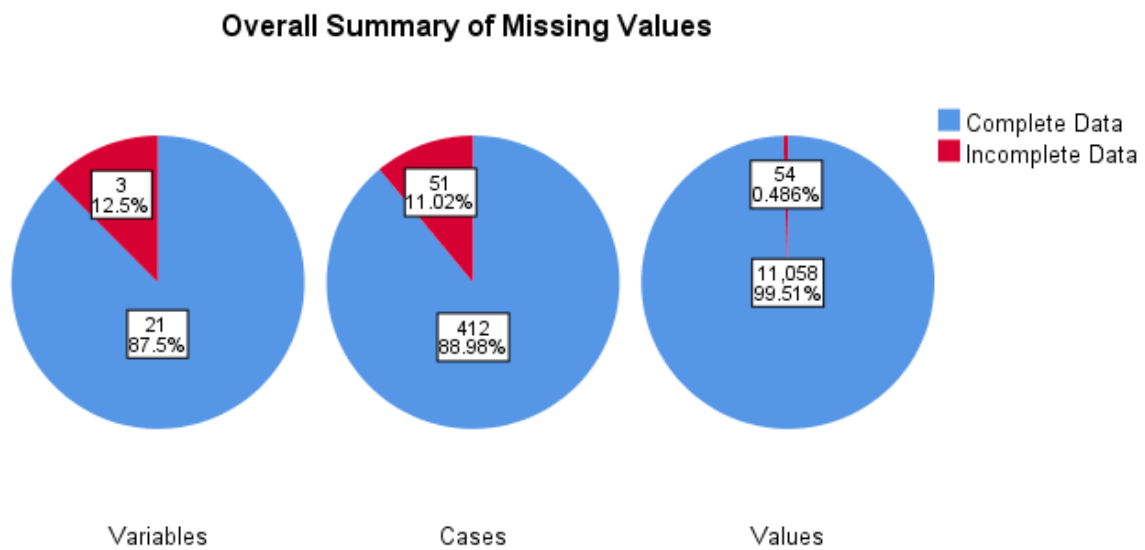

```

MULTIPLE IMPUTATION years_using_facebook hours_using_facebook_per_day
citizen_trust_facebook_safety_comfort citizen_trust_facebook_safety_reliability_robustness
mean_trust_in_facebook gender age has_bachelor_degree has_postgraduate_degree occupation
location_dhb location_followed_government_page public_value_accessibility public_value_informing
public_value_transparency public_value_decision_making public_value_no_threat_privacy_freedom
public_value_mission_achievement public_value_citizen_satisfaction
public_value_interaction_individual_benefit public_value_interaction_good_idea
public_value_interaction_community_benefit
public_value_interaction_advantages_outweigh_disadvantages
/MPUTE METHOD=NONE
/MISSINGSUMMARIES OVERALL VARIABLES (MAXVARS=100 MINPCTMISSING=0.01) PATTERNS.

```

Figure 4.11

Summary of missing variables from the survey datasets on Facebook



Variable Summary^{a, b}

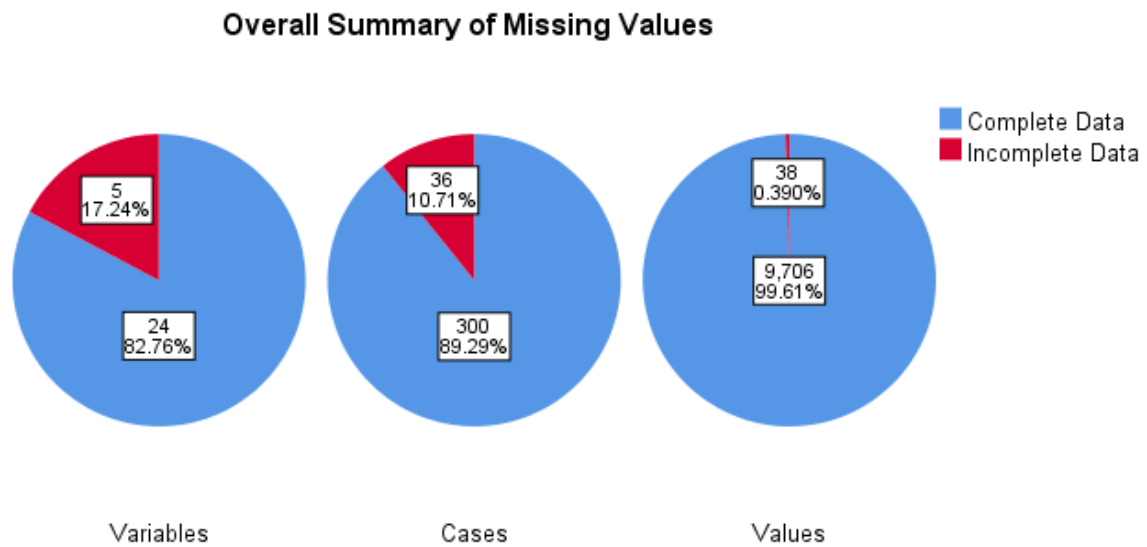
	Missing		Valid N
	N	Percent	
Gender	30	6.5%	433
Follower or fan of a Facebook account for a government agency or a public official	23	5.0%	440
Location Region	1	0.2%	462

a. Maximum number of variables shown 100

b. Minimum percentage of missing values for a variable to be included: 0.0%

Figure 4.12

Summary of missing variables from the survey datasets on Twitter



Variable Summary ^{a, b}

	Missing		Valid N
	N	Percent	
Follower of a Twitter account for a government agency or a public official	18	5.4%	318
Work	9	2.7%	327
Gender	6	1.8%	330
Living area	3	0.9%	333
Location Region	2	0.6%	334

a. Maximum number of variables shown 100

b. Minimum percentage of missing values for a variable to be included: 0.0%

In order to make sure that the missing values do not represent a particular group in the dataset with a substantial impact on the dependent variables, I ran independent sample tests on both the Facebook and Twitter data. I also ran Levene's test for equality of variances for the same purpose. Levene's test is a statistical inferential test used to compare variances of two groups to ensure that the variances in data from both groups are equal. The null hypothesis of Levene's test is that the variances of the two groups are not significantly different from the total population, and by achieving a significant p-value of < 0.05, such a hypothesis can be rejected.

SPSS was used to conduct the independent sample t-test using the dummy variable that indicates if the case has missing data as a variable that defines both groups under test. If the significance of the t-test becomes

lower than 0.05, then the missing data, in this case, might become different from the total population. Therefore, any replacement or deletion of this data might not be recommended.

For Facebook data, the T-test was conducted for all dependent public value variables, and the results show that the missing values are remarkably different from the total population, as shown in the following table:

Table 4.2
Levene's test for equality of variance for all dependent variables on Facebook

Variable	Levene's Test for Equality of Variances	
	F	Sig.
Accessibility	.016	.899
Informing	1.470	.226
Transparency	1.137	.287
Decision making	.021	.884
Privacy and Freedom of Expression	.111	.740
Mission Achievement	.871	.351
Citizen Satisfaction	.749	.387
Interaction Benefits to Individual	1.223	.269
Interaction is a good idea	.112	.738
Interaction value to the community	.195	.659
Interaction advantages to disadvantages	.030	.864
Mean public value	.146	.702
Mean public value from the presence	.143	.706
Mean public value from the interaction	.000	.990

The same test was conducted on the Twitter data, and the missing data appears to have a different mean and variance than the total population. Therefore, in the case of Twitter, the data was not omitted.

Table 4.3
Levene's test for equality of variance for all dependent variables on Twitter

Variable	Levene's Test for Equality of Variances	
	F	Sig.
Accessibility	3.121	.078
Informing	2.722	.100
Transparency	8.618	.004
Decision making	2.363	.125
Privacy and Freedom of Expression	2.939	.087
Mission Achievement	.136	.712
Citizen Satisfaction	.178	.673
Interaction Benefits to Individual	1.298	.255
Interaction is a good idea	4.499	.035
Interaction value to the community	.227	.634
Interaction advantages to disadvantages	3.305	.070
Mean public value	1.191	.276
Mean public value from the presence	.863	.353
Mean public value from the interaction	3.711	.055

Two strategies were investigated to deal with the missing. One is multiple imputations (the technique is used when data is missing and sample size needs to be maintained), and the other is case-wise deletion. In the case of Facebook, since the results of the independent sample T-Test indicated that the missing data are missing at random and that the dependent variables are unaffected by this data, I decided to perform the case-wise deletion. For Twitter, the data were left intact to avoid any biases in the analysis.

4.3.4. Dealing with self-selection bias

Self-selection bias or under-representativeness are among the most common issues with online surveys (Greenacre 2016). In order to tackle self-selection bias, the sample distribution was compared to that of the total population. Such comparison can indicate which adjustments are needed to the data to overcome self-selection bias or under-representativeness (Bethlehem and Biffignandi 2021).

The following tables represent the characteristics of the respondents' sample in both surveys based on the collected data from the auxiliary variables of age, gender, education, and employment.

Table 4.4

Characteristics of the Twitter respondents' sample

Category	Variable	Count	Percent
Age	18-24	19	5.7
	25-34	30	8.9
	35-49	114	33.9
	50 +	173	51.5
Gender	Male	189	56.3
	Female	141	42.0
	Prefer not to say	6	1.8
Education	High School Degree	40	11.9
	Diploma Degree	40	11.9
	Bachelor's degree	127	37.8
	Master's Degree	78	23.2
	Doctoral Degree	29	8.6
	Other	22	6.5
Occupation	Employed for wages	174	51.8
	Self-employed	83	24.7
	Out of work and looking for work	7	2.1
	Out of work but not currently looking for work	3	0.9
	A homemaker	7	2.1
	A student	12	3.6
	Retired	36	10.7
	Unable to work	5	1.5
	Other	9	2.7
	Location (Region)	Auckland	66
Bay of Plenty		12	2.6
Canterbury		64	13.9
Capital and Coast		28	6.1
Hawke's Bay		15	3.2
Hutt Valley		5	1.1
Lakes		9	1.9
Mid-Central		28	6.1
Nelson Marlborough		25	5.4

Northland	34	7.4
South Canterbury	8	1.7
Southern	45	9.7
Tairāwhiti	7	1.5
Taranaki	19	4.1
Waikato	49	10.6
Wairarapa	23	5.0
West Coast	18	3.9
Whanganui	7	1.5

Table 4.5
Characteristics of the Facebook respondents' sample

Category	Variable	Count	Percent
Age	< 18	14	3
	18-24	46	9.9
	25-34	91	19.7
	35-44	82	17.7
	45 +	230	49.7
Gender	Male	298	64.4
	Female	135	29.2
	Other	9	1.9
	Prefer not to say	21	4.5
Education	Diploma Degree	89	19.2
	Bachelor's degree	126	27.2
	Master or Doctoral Degree	71	15.3
	Other	177	38.2
Occupation	Student	50	10.8
	Employee	241	52.1
	Retired	126	27.2
	Unemployed	46	9.9
Location (Region)	Auckland	66	14.3
	Bay of Plenty	12	2.6
	Canterbury	64	13.8
	Capital and Coast	28	6.1
	Hawke's Bay	15	3.2
	Hutt Valley	5	1.1
	Lakes	9	1.9
	Mid-Central	28	6.1
	Nelson Marlborough	25	5.4
	Northland	34	7.3
	South Canterbury	8	1.7
	Southern	45	9.7
	Tairāwhiti	7	1.5
	Taranaki	19	4.1
	Waikato	49	10.6
Wairarapa	23	4.9	
West Coast	18	3.9	
Whanganui	7	1.5	

The geographical distribution of the sample in New Zealand is visualized in the two following figures. The largest districts with response rates were Auckland, Canterbury, and Waikato, the most populated New Zealand areas, with participation rates of 14%, 13%, and 10%, respectively.

Figure 4.13

Geographical distribution of Facebook survey respondents in New Zealand

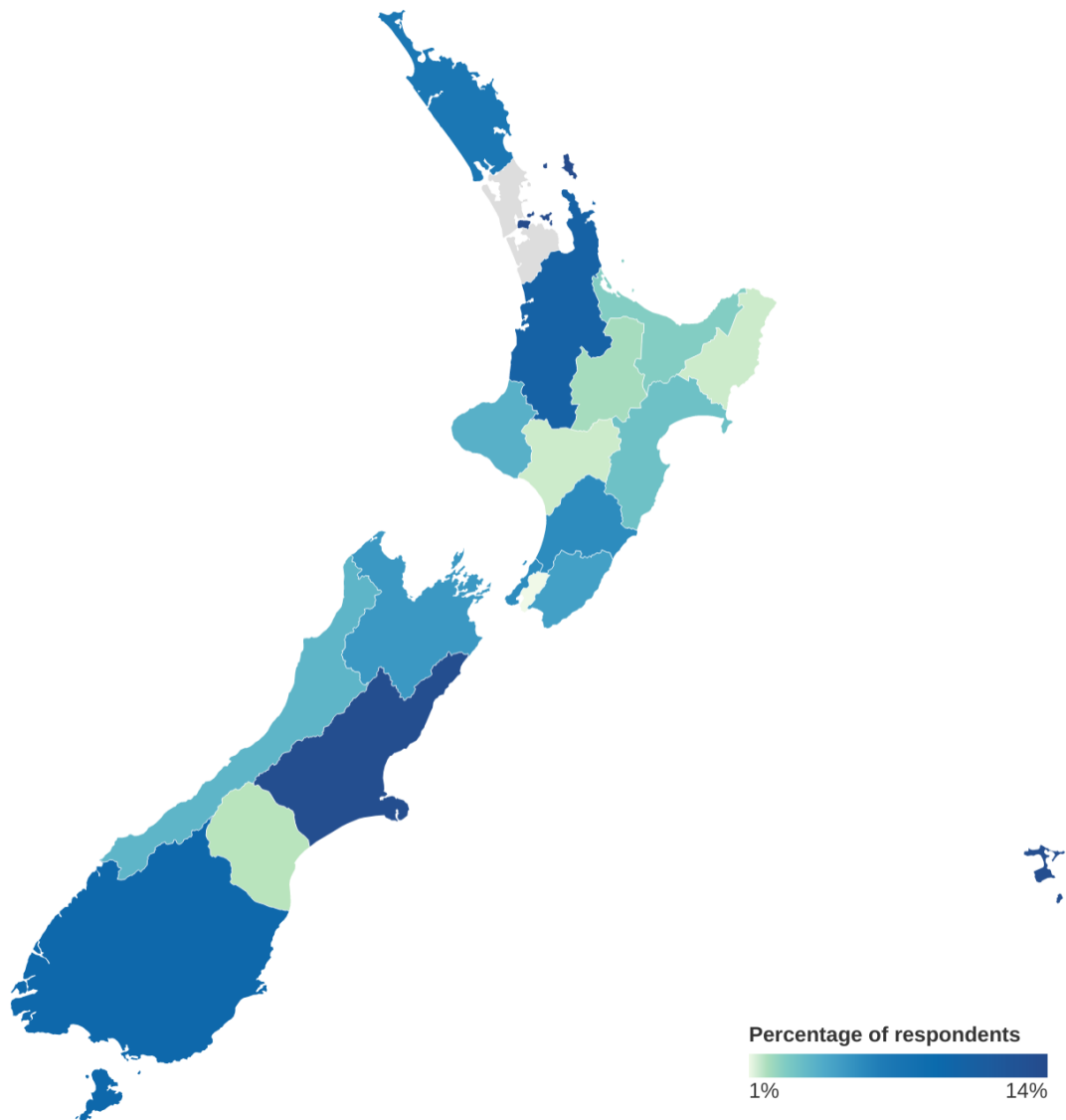
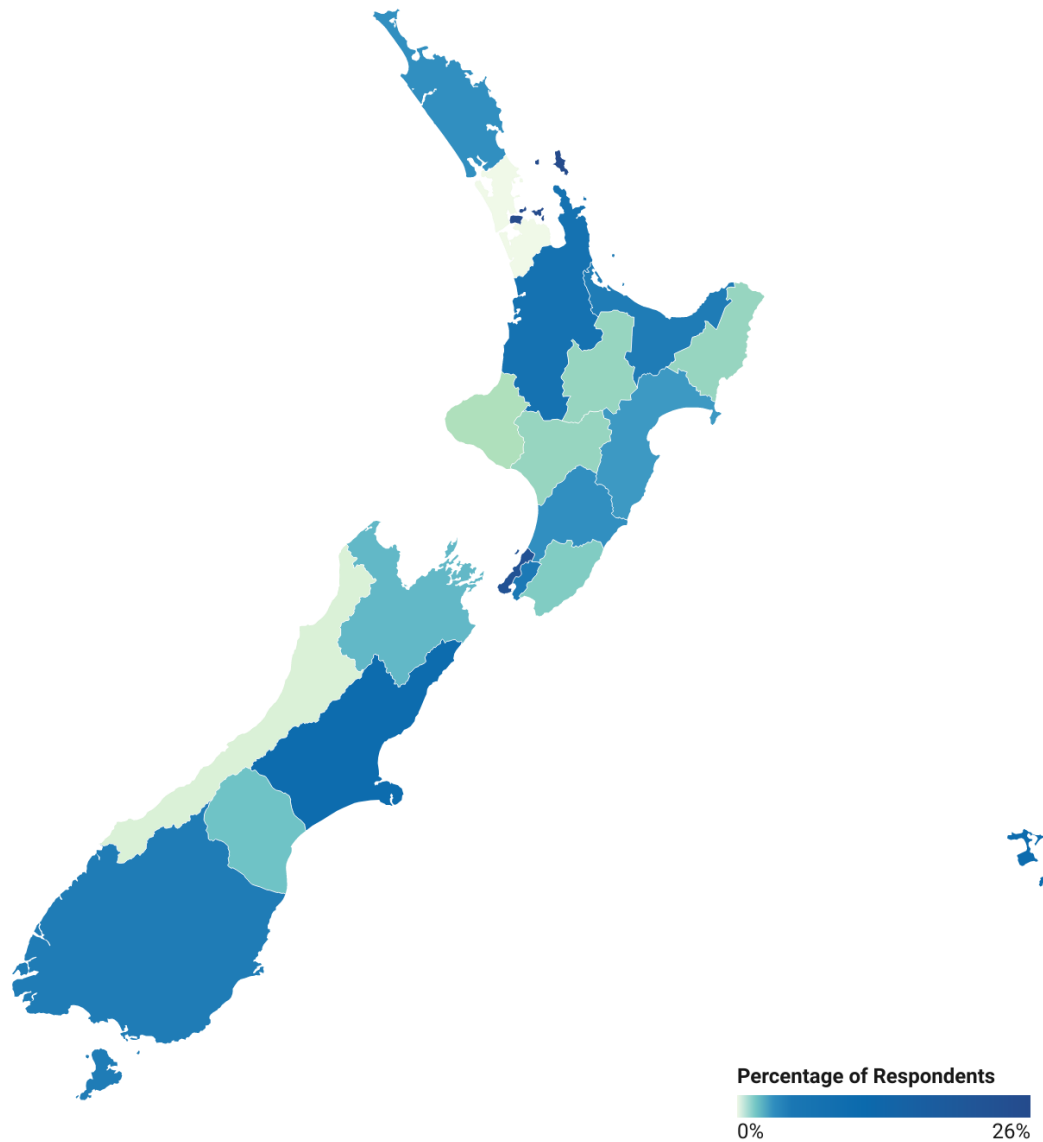


Figure 4.14

Geographical distribution of Twitter survey respondents in New Zealand



4.3.5. Post-stratification weighting

The sample's auxiliary variables were then compared to those representing the actual population of Facebook and Twitter users in New Zealand. However, the data about the location, education, or occupation of Facebook and Twitter users were not attainable at the time of doing this research. Therefore, only data about gender and age were used for the sample bias correction.

The data collected about the gender and age of the population of Facebook and Twitter users in New Zealand (NapoleonCat 2021a, Twitter, 2021) shows that for the Facebook survey, groups with ages above 45 years were overrepresented. In contrast, groups of age 18-24 years were slightly under-represented. Concerning gender, females were underrepresented when compared to male respondents. In the Twitter

survey, respondents with ages above 50 were also overrepresented, and those below 34 were also underrepresented. Concerning gender, females were overrepresented in the Twitter sample. The differences in the representativeness for groups based on the gender and age variables indicate that weighting of the sample might be needed to adjust for self-selection bias.

Table 4.6

Facebook sample representation

		Population (%)	Response (%)	Difference (%)
Age	< 18	4.8	3	1.8
	18-24	19.2	9.9	9.3
	25-34	24.4	19.7	4.7
	35-44	17.1	17.7	-0.6
	45 +	34.5	49.7	-15.2
Gender	Male	46	64.4	-18.4
	Female	54	29.2	24.8
	Missing/Other	-	6.4	-

Table 4.7

Twitter sample representation

		Population (%)	Response (%)	Difference (%)
Age	< 18	3.56	0	3.56
	18-24	15.45	5.7	9.75
	25-34	36.31	8.9	27.41
	35-49	20.18	34	-13.82
	50 +	24.5	51.4	-26.9
Gender	Male	73.07	45.25	27.82
	Female	26.93	41.95	-15.02
	Missing/Other	-	1.8	-

Post-stratification weighting (Bethlehem and Biffignandi 2021, p. 465-476) was used to correct over and under-representation. Post-stratification weighting is one of the most popular and common techniques for adjusting for self-selection bias and under-representation in web surveys. The method applies different weights to responses based on auxiliary variables such as age and gender. The weights are calculated according to the formula in the following figure using information about the sample and population. In the weight calculation formula, N refers to the number of people in the entire population. In contrast, N_b refers to the number of people in the entire population representing a specific characteristic (e.g., age > 45). The symbols n and n_b indicate the number of people in the sample and the number of people representing a specific characteristic.

Figure 4.15*Calculating correction weights (Bethlehem and Biffignandi 2021, p. 466)*

$$c_i = \frac{N_b / N}{n_b / n}$$

The weights were calculated according to the above formula and then added to SPSS in a separate variable named weight, which is then used to calculate the weighted means of dependent variables.

Table 4.8*SPSS sample weights*

		Age				
		< 17 years	18-24	25-34	35-44	> 45 years
Gender	Male	1	1.69	0.98	0.70	0.455
	Female	3.22	3.37	1.88	1.89	1.41
	Other input (only by age)	1.6	1.94	1.24	0.97	0.69

4.3.7. Reliability checks for scale variables.

Additionally, a reliability check was carried out for variables representing public value perceptions to determine if their mean can be used as an index to constitute an indicator for the perception of public value. For that, Cronbach's alpha coefficient for the 11 questions about public value from the government's presence or interaction with citizens on Facebook was calculated. Cronbach alpha is one of the reliability tests used to assess whether, for a given dataset, the items that compose a scale, in this case, the median of public value, explain the data variance. This study applies the test to the Facebook and Twitter data to assess whether it makes sense to construct a scale for measuring public value from the survey questions. The Cronbach value is from 0 to 1, and the closer the Cronbach value is to 1, the more consistent and reliable the items used to indicate variation in the scale chosen. An acceptable Cronbach value is anything above 0.6.

The results showed that the data represented by the questions in the survey achieved high reliability with a Cronbach alpha coefficient of 0.892 for the Facebook survey and 0.829 for the Twitter survey.

4.3.6. Analysis of study variables

After the data cleanup, post-stratification, and reliability checks, binomial regression was used to explore the relationship between the study variables: demographic and behavioral factors (independent variables) and public value perceptions (dependent variables).

This type of regression analysis is one of the statistical predictive techniques used to map the relationship between dichotomous dependent variables and independent variables that are continuous, ordinal, or nominal.

Binomial regression was chosen to explore correlations between high perceptions of public value among citizens (dependent variable) and respondents' age, gender, location, occupation, education, trust in social media, frequency of using the platforms, trust in government, and following government's pages or accounts on social media. The same regression was performed for low perceptions of public value as a dependent variable.

The logistic regression equation is illustrated below, where p is the probability that the dependent variable is estimated correctly, and $1 - p$ is the probability that the estimation is incorrect. b indicates the regression coefficients for independent variables.

$$\ln \frac{p}{1 - p} = b_0 + b_1x_1 + b_2x_2 + \dots + b_kx_k$$

Three main assumptions are considered while using binomial regression as a predictive technique.

- The dependent variable is dichotomous.
- There are no significant outliers in the data.
- There is no multicollinearity between the independent variables.

A few tests were carried out to prove that the data meets those assumptions and that binomial regression can be used:

For the assumption that there are no data outliers, a case listing of residuals was performed on SPSS to detect if there were any significant outliers in the data, and none were found.

In order to test the multicollinearity assumption, the variance inflation factor (VIF) was calculated for each independent variable to detect potential multicollinearity issues. VIF is an estimate of the strength of the correlation between independent variables, and it takes values of more than 1. Values of VIF from 1-5 indicate that there is moderate multicollinearity and that there are no actions that need to be taken. Values above 5 indicate there is data multicollinearity.

The tests performed validated the assumption that binomial regression can be used for the available data to infer correlations between the dependent and independent variables.

4.3.8. Text analysis of open-ended questions:

Following the analysis of study variables, the two open-ended questions were explored. The first question was designed to capture users' opinions about the New Zealand government's utilization of Facebook or Twitter, and the other was to understand which government-related pages respondents usually follow on Facebook or Twitter. The first question about respondents' opinions was answered by around 336 respondents to the Facebook survey and 311 respondents to the Twitter survey. The responses to the opinion question were first tagged and labeled into three categories (positive, negative, and neutral opinion). After tagging, a quantitative text analysis was performed on RStudio to detect the frequency of

words used in different categories and highlight the main issues that needed to be looked at in depth during the analysis process. As part of the quantitative text analysis phase, filling words, symbols, or characters were removed. Words were then reduced to their stem to capture the frequency of unique word repetition to detect trends and patterns in respondents' answers. Finally, answers that construct the context of the frequently repeated words were analyzed in the context of the responses to understand users' positive, neutral, or negative perceptions and sentiments and to build the corresponding initial mechanistic models.

4.4. Understanding Mechanism of public value creation on Social Media

The second research question about how public value is created or eroded on social media is answered using process tracing. Several iterations of inductive and deductive process tracing (Bennett and Checkel 2015) are used to uncover public value creation and erosion mechanisms. In doing so, the research explores online and offline traces left by governments' interaction with citizens on social media to unpack different causal mechanisms that lead to public value creation or erosion on social media and that shape citizens' perceptions of public value. Different mechanistic models are constructed as part of this process.

Process tracing, as described by Beach (2017), is a research methodology designed for the development and testing of theories. Researchers often use the process (Beach 2017; Schimmelfennig 2001) as a qualitative method for qualitative investigations of within-case studies. This "within-case" method allows for inferences to be drawn based on causal mechanisms, making it suitable for both inductive (theory-generating) and deductive (theory-testing) purposes. In the context of theory testing, process tracing involves presenting the observable implications (hypotheses) of a theory, along with alternative explanations that contradict the theory. These implications are then empirically tested to determine which can be observed and which cannot.

One of the limitations of process tracing is that it is a context-dependent method that gives the evaluator less control over the research process. This means that the causal mechanisms that are identified and traced in a specific case may not be generalizable to other cases or populations.

In process tracing, a causal mechanism is conceptualized as a series of interacting parts composed of entities that engage in specific activities, thereby linking a cause to an outcome. The 'parts' refer to the components or elements of the mechanism, akin to the cogs in a machine, each playing a specific role in the overall function. The 'entities' are the actors or elements that engage in activities, representing the parts of the mechanism, much like the toothed wheels in a gear system. The 'activities' are the actions or processes that the entities engage in, serving as the producers of change or the transmitters of causal forces through a mechanism similar to the movement of the wheels.

Beach (2017) posits that these parts, entities, and activities interact to transmit causal forces from the explanatory variables through the mechanism, ultimately producing a given outcome. This interaction

allows for a detailed understanding of the causal process, enabling researchers to move beyond mere correlation to gain a deeper understanding of the 'how' and 'why' of causal relationships.

Process tracing places emphasis on the temporal sequence of events and necessitates fine-grained case knowledge. It relies on the 'fingerprints' left by the entities and activities, which are uncovered through evidence collection.

The use of Bayesian probability is integral to the assessment of the quality of evidence found in process tracing activities. Bayesian inference, a method of statistical inference, updates the probability of a hypothesis as more evidence or information becomes available. It is based on the degree of uniqueness and certainty of evidence in explaining a part of the causal mechanism. In process tracing, Bayesian probability represents rational degrees of belief in propositions given the inevitably limited information. This approach provides a uniquely consistent extension of deductive logic to situations where information is scarce and uncertainty is prevalent. Using Bayesian probability in process tracing allows for the systematic and transparent assessment of the weight of evidence for a hypothesis, providing best-practice guidelines for formal (quantified) Bayesian analysis (Beach, 2017).

4.4.1. Initial mechanistic models for public value creation and Erosion

The initial mechanisms for public value creation and erosion are constructed from the literature review and open-ended questions of the surveys.

The triggers of the mechanisms highlighted in Figures 4.16 and 4.17 were constructed from theories in chapters two and three about the drivers of social media adoption and the use in government (Garavaglia et al. 2021) and how that influences public institutions in using social media to work with crisis management (Graham, Avery, & Parket, 2015; Houston et al., 2015; Lindsay, 2011; Mat Dawi et al., 2021; McGuire et al., 2020; Newton, 2017; Teichmann et al., 2020; Wendling, Radisch, & Jacobzone, 2013), and in turn how that leads to more engagement with citizens in the long term and more trust in government institutions (Arshad & Khurram, 2020; Song & Lee, 2016; Porumescu 2016). The answers to the two surveys conducted on Facebook and Twitter were in line with the findings in the literature. They showed a more detailed overview of the mechanisms and the relationship between different parts.

In addition to citizens' opinions, expert interviews were conducted with seven specialists and researchers in social media in New Zealand. Expert interviews aim to validate the process of tracing causal mechanisms and rule out contextual issues before collecting evidence. The interviews were planned by compiling a list of all academic experts working on social media or public value topics. The directories of the major universities in New Zealand were used for the search, and results were filtered out by those who had social media mentioned in their list of publications or fields of interest. An invitation letter for an interview was emailed to 32 individuals, out of which seven were interviewed. The sample of experts who

were interviewed represented a variety of ages and gender, which encompasses different views on the mechanisms and the interlinkages between different processes that lead to public value creation or erosion.

The interview was conducted in an unstructured format, where the experts expressed their opinions on how public value can be created or eroded on social media by the government. They were then presented with the initial causal mechanisms and asked for commentary.

Below is the list of the respondents (names are removed for anonymity):

Table 4.9
Summary of expert interviews conducted for process tracing.

Respondent	Institution	Topics/Research worked on
R1	The University of Waikato /School of Social Sciences	Political communication and social media.
R2	Open Polytechnic of New Zealand / Kuratini Tuwhera /School of Information and Social Sciences	Communication and social media
R3	Victoria University of Wellington/School of Government	Democratic theory, Network governance, Science and technology studies, Scandinavian politics, Information and communication technology policy, electronic government/democracy, Policy Analysis
R4	University of Auckland/ Social Sciences » Faculty of Arts	Researcher in policies, politics, and behavior around online interaction, technology, and gender, especially on Twitter
R5	Victoria University of Wellington/School of Government	Trust in government (related institutions)
R6	Victoria University of Wellington/School of Government	Using Social Media for Effective Public Engagement
R7	Victoria University of Wellington/School of History, Philosophy, Political Science, and International Relations	Social media use in the political sphere in New Zealand

The expert interviews verified the initial mechanisms for positive public value creation. They pointed out an essential part of the process that was missing in both literature and citizens’ opinions about the role of mainstream media in raising some of the discussions on social media to become trending and thus promoting interactions between government and citizens on social media.

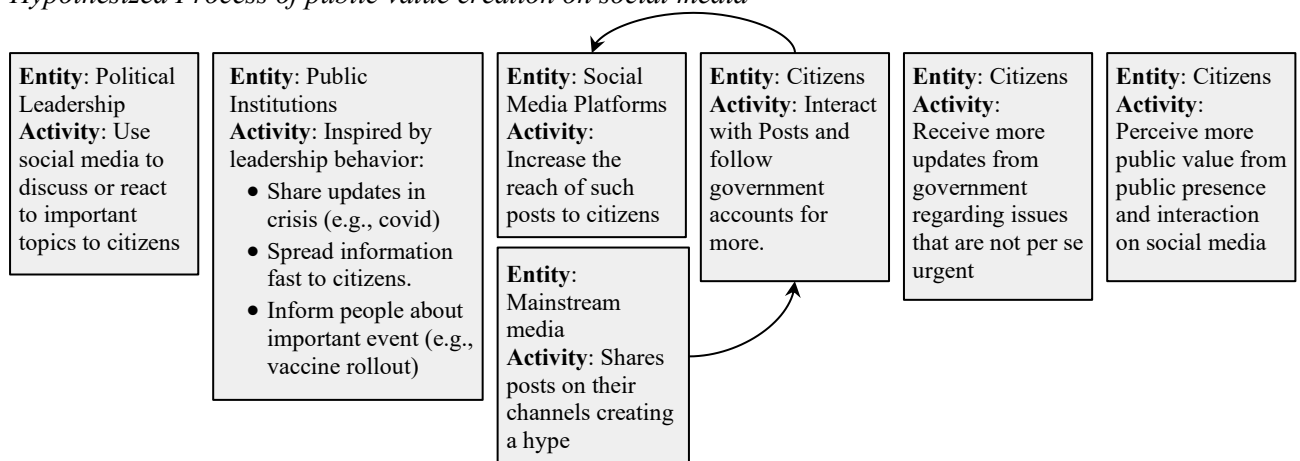
Figure 4.16 shows the mechanistic model for public value creation derived from the surveys and expert interviews. It starts with the mechanistic part that triggers the whole process, in which political leadership uses social media to discuss or interact with citizens on essential topics. Such use of social media triggers public institutions to act in the same way and start interacting with citizens with three main objectives:

inform citizens about crises, spread information that is time-sensitive, or inform people about important events, such as the vaccination rollout. Once the government starts interacting with citizens this way, two other entities help magnify the message. One is social media platforms through their algorithms that give importance to urgent and relevant topics to citizens, and mainstream media, which reshare posts and tweets by public institutions when they are urgent and important. Once this magnification occurs, citizens interact more with the government posts on social media and potentially follow their pages and accounts. When that happens, citizens will eventually receive more updates from the government, and all of that will lead, in the end, to a high perception of public value among citizens.

In chapters seven and eight, following the survey analysis, the presented mechanism will be investigated and modified in light of the collected qualitative data and empirical evidence.

Figure 4.16

Hypothesized Process of public value creation on social media



On the other hand, the initial mechanism for the erosion of public value through social media was deduced from the literature review about privacy and freedom of expression on social media (Bradshaw & Howard, 2017; King et al., 2017; Myers, 2018; Van Dijck et al., 2018) and how governments and social media are allowed to control and limit people’s expression of opinion on such platforms. The mechanism was validated mostly from survey responses to the open-ended questions and in expert interviews as well.

Figure 4.17 shows the mechanisms where the triggering point is initiated by opposition groups who use the platforms for mobilization and advocacy, for example, hunting groups against the ban of hunting in New Zealand during COVID-19 or the anti-vax groups who oppose government mandates for vaccinations.

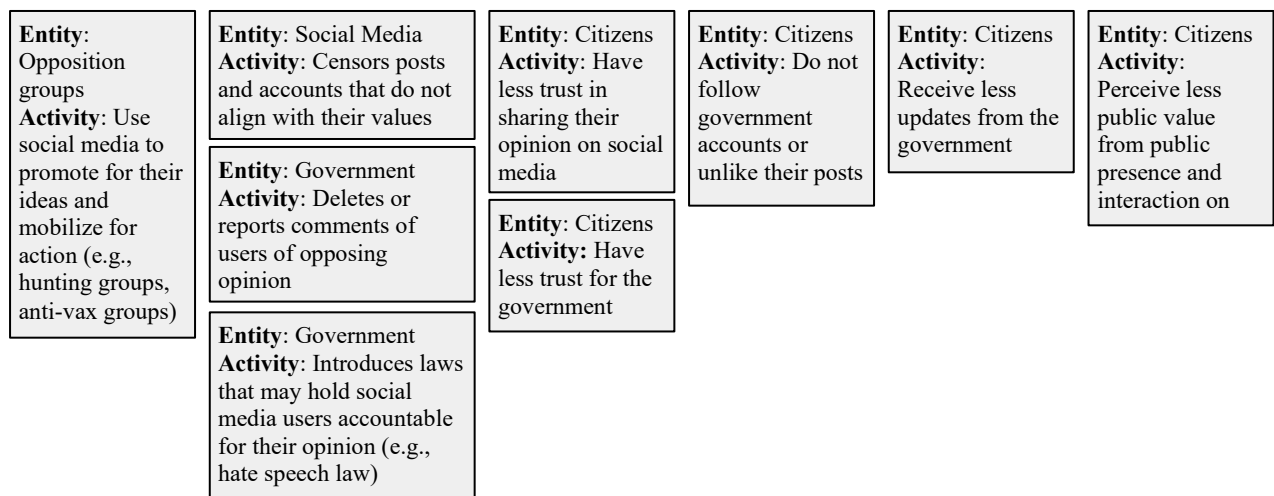
Such groups' activities on social media are primarily censored as part of the moderation efforts exercised by both the government and social media platforms. Governments and platforms may delete their posts and comments or block their accounts from using the platform or interacting with the government pages.

Another mechanism that also played a role and was highlighted by a few citizens in the survey is law processes that can hold citizens accountable for their speech on social media, such as the hate speech law proposed in New Zealand after the Christchurch attacks. Censorship activities can induce less trust in

government and social media as platforms. They might lead some citizens to stop following government accounts, un-liking their posts, or hiding page updates from their timelines. Cutting ties with the government on social media may block the process of public value creation when citizens receive fewer government updates and cannot participate in any dialogue on the platform. Finally, the overall perception of public value from social media use by the government is reduced.

In chapters seven and eight, following the survey analysis, the hypothesized mechanism will be investigated further in light of the fingerprints and empirical evidence collected.

Figure 4.17
Hypothesized Process of public value erosion on social media



In process tracing, each part of the causal mechanisms will be investigated through mechanistic evidence that leaves fingerprints pointing to the existence of the part and its role in the process.

The study will focus on the four organizational government accounts highlighted by users in the two surveys, namely the Ministry of Health and united against covid accounts, the police, the national emergency management agency (NEMA), and the traffic authority of New Zealand (NZTA). The techniques for evidence collection involve gathering social media posts from a sample of public institutions and the accompanying reach and interaction metrics using Crowdtangle and direct inquiries to New Zealand public institutions. The evidence will also include citizen interviews that will involve prepared experiments to understand how the causal mechanisms contribute to public value creation or erosion and how the parts of the process work together to alter perceptions of public value. Each planned piece of evidence will contribute to the understanding and validation of each part of the processes and their relationship to one another. Additionally, interviews with civil servants will be conducted to understand many of the mechanistic parts related to government.

The full fingerprints and empirical evidence collection plan for both mechanisms are represented in the tables below:

Table 4.10

Planned Empirical Fingerprints for the mechanisms of public value creation.

Cause: New Zealand Government Utilizing Social Media							
Part	Entity	Action	Fingerprints	Empirical Evidence	Alternative explanations	Source criticism	Uniqueness
Part 1	Leadership in Government	Use social media to discuss or react to important topics for citizens	Prime Minister updates and live videos Parliament Members' Posts	Check for posts that talk about urgent matters to citizens promptly (corona, vaccine rollout)	-	-	High
Transition			Government organizational posts about covid, vaccine rollout, and other emergencies	Mentions of previous posts by leadership, Shares of political leadership original posts	They mention Leadership because they want to get more followers, not because they inspired them. Alternatively, they do not mention them not to politicize their posts.		Low
			Interviews with government officials working in public institutions, asking them about their inspiration sources for sharing leaders' posts or imitating their behavior	Mentions of names of specific political leadership figures in social media posts	They mention the names of the leaders because they are still in power, and they want to make their image friendly (this can be avoided by also asking civil servants from other political parties than the labor)	The civil servants may be from the labor party and might be biased in their answers.	Medium
Part 2	Public Institutions	(a) Inspired by leadership: Share updates on crises (e.g., covid)	Organizational posts on crises (e.g., corona)	The number of posts shared on such topics compared to other posts. Number of created events,			High

		(b) Inspired by leadership: Inform people about important events (e.g., vaccine rollout) through regular dissemination or advertising		if any			High
		(c) Inspired by leadership: Spread information fast and frequently to citizens (warning or alerting them)		Times of sharing the posts	Compare the times of sharing the posts to when the event occurred.		Medium
Part 3 (a)	Social Media Platforms	Increase the reach of such posts to citizens	Citizens' Interviews	Mentioning some of the posts gathered earlier about urgent and important topics.	They might have seen it by chance when they were on Facebook or Twitter	Citizens might not recall such information or think they saw those posts but did not (one way to overcome this is to check the username in the comments or reactions on the post)	Low
			Social Media posts	Check if users have interacted with the post in any way.			High

			Social Media Insights (requires access to data from public institutions)	Look at the overall interactions and engagement with shared posts that are deemed concerning updates and important events to citizens compared with other regular posts.	They may have high numbers because they have made advertisements on the post (this can be verified from the statistics by looking at organic reach instead of overall reach)	-	High
Part 3 (b)	Mainstream Media	Shares posts on their channels, creating a hype	Media articles mentioning specific posts of public institutions	The number of articles that are issued, maybe the views on the articles are available on the website	-	-	Medium
Part 4	Citizens	Interact with the posts and follow government accounts on Facebook	Social Media Insights	Check the source of following the page, if it is from the post itself	They may be joining because of something else, maybe because of advertisements to make them like the page (that can also be checked via the insights)	-	Low
			Interviews with citizens who trust the government and platform, asking them about their reason for following government pages	Found that one of those posts was the reason	The interviewed people might not be representative of the population. This data must be mixed with aggregate data.	People might have memory issues recalling certain events	Medium
			Experiments in Citizen interviews	Citizens are presented with samples of the posts that are urgent, fast, and important, and they are asked what their first impressions would be and		-	High

how they would engage with these posts.

Transition	Documents about Facebook's reach algorithm (Facebook blog) and interviews with people working with Facebook	Finding that when people interact with posts and follow pages, they get more of that content on their feed	It might not represent the reality as social media algorithms are proprietary.	Social media algorithms are proprietary, and even people there do not know how they function.	Medium
	Citizen profile page	Check if the citizen unsubscribed from any of the pages	They might not have been using social media at that time		
	Social Media Insights	Unfollow does not increase after an increase in reach and is not done from the news feed of the user (indicating that they did not see something they did not like afterward and unfollowed)	Users who interacted were not very active on the platform and did not see more posts in the future.		Medium

Part 5	Citizens	Receive more updates from the government regarding issues that are not per se urgent.	Interview citizens asking about their opinion on specific posts that they saw after liking a page.	Interviewees expressing their interest in non-urgent posts		High
			Citizen profile page	The number of interactions, shares, and comments on posts on the government pages. Also, if the comments were positive	They might have been more active during that period, requiring confirmation during the interview.	Medium
			Social Media Insights	Reach and engagement for posts that followed a crisis, event, or urgent matters were not of the same urgency where the ratio between both posts is still comparable.	Advertisements were involved (this can be excluded in social media insights)	Medium

Outcome: Citizens perceive high public value from social media utilization by the government

Table 4.11*Planned Empirical Fingerprints for the Mechanisms of public value erosion.*

Cause New Zealand Government Utilizing Social Media						
Part	Entity	Action	Fingerprints	Empirical Evidence	Source criticism	Uniqueness
Part 1	Opposition Groups	Use social media to promote their ideas and mobilize for action (e.g., hunting groups, anti-vax groups)	Social media evidence suggests using the platforms to promote and mobilize opposition ideas.	Events, hashtags, posts, and interaction with those posts.	Some of the posts that exist on social media might have already been deleted by the platform or removed by the government if they were on government accounts.	Medium
Part 2 (a)	Social Media Platforms	Censor posts and accounts that do not align with their values	Citizen interviews with people from opposition groups	Asking about incidents when their posts were deleted and why, maybe sharing screenshots of the message that came from the platform.	People may not recall events exactly or may have a different alternate scenario in their mind for the way their posts were written	Medium
Part 2 (b)	Government	Deletes or reports comments of users of opposing opinion	Collecting data about blocked accounts or deleted posts by following hashtags on censorship	Asking about fears of posting and legal consequences. Checking the content of the deleted posts/blocked accounts		
Part 2 (c)	Government	Introduces laws that may hold social media users accountable for their opinions (e.g., hate speech law)				
Part 3 (a)	Citizens	Have less trust in sharing their opinion on social media	Citizen interviews with people from opposition groups (anti-vax or those who have responded to the survey that they had incidents)	Asking about their attitudes in sharing their genuine opinion and barriers to sharing their thoughts	People may not recall events exactly or may have a different alternate scenario in their mind for the way their posts were written	Medium
Part 3 (b)	Citizens	Have less trust in the government				

Part 4	Citizens	Do not follow government accounts or unlike their posts	Survey correlation between trust in government and following government accounts (collected) Citizen interviews	Asking people about the relationship between their trust in the government and their willingness to follow them. Asking citizens to react to a post when they do not trust the government		High
Part 5	Citizens	Receive fewer updates from the government	Check citizen's news feed	Check and see if they see more updates from the government during the interview in correspondence to those who follow government pages, asking them to pinpoint all the posts they could find during the interview on their feed coming from the government.	There might not be posts because no posts are issued at that particular time.	Medium

Outcome Citizens perceive less public value from social media utilization by the government.

4.4.2. Evidence for Process Tracing

In this section, the study describes in detail the methods used for obtaining the fingerprints and empirical data specified in the table above and their associated issues and limitations.

4.4.2.1. Open data requests

Evidence concerning the costs of social media use and the resources drawn into related practices were acquired through an official information request that was submitted to the Department of the prime minister and Cabinet in New Zealand on the 15th of August 2022 through their website <https://dpmc.govt.nz/contact-us/how-make-official-information-act-request>. The request was filed under the number OIA-2022/23-0031 and transferred to the respective governmental departments that hold the data, and a transfer letter was received on August 19th, 2022. The inquiry lasted for 20 days, and the information retrieved was used to analyze the costs of social media adoption versus other traditional media alternatives such as TV, radio, and other offline sources of information dissemination.

4.4.2.3. Public Servant interviews

Semi-structured interviews with the four selected public institutions were carried out to collect evidence about the internal view of the government on public value creation. The interviews were requested by contacting the institutions on their official website and social media channels. Only three out of the four institutions were interested in offering time slots for interviews with civil servants. Those institutions are the Ministry of Health (2 interviewees), the NZTA (2 interviewees), and the national emergency management institute (2 interviewees). The interview lasted for around one hour, and the questions were designed to tackle parts of the mechanisms that are not covered by the citizens' perceptions, such as the motives for adopting social media, the role of social media in achieving the department's mission, and the resource allocation and use of authority. The interview guide is compiled and attached in Annex II. Other evidence was requested directly by submitting formal information inquiries to the public institutions interviewed during the evidence-collection process. One of the requested data was the number of cases (comments and inbox messages) received by public institutions over time. This data was requested to get a general overview of the personal communication between citizens and the respective institutions as a metric that is not available to the public, unlike the number of posts or the interactions with those posts.

Table 4.12*Summary of civil servants' interviews conducted for process tracing.*

Respondent	Institution	Position
R1	NEMA	Communications Advisor
R2	NEMA	Team Leader Public Education and Digital Communication
R3	NZTA	Senior Advisor, Social Media
R4	NZTA	Senior Manager Channels and Standards
R5	Ministry of Health	Team Lead, Social Media
R6	Ministry of Health	Social Media Specialist at the Unite Against Covid Initiative

4.4.2.4. Data scraping

Social media posts were collected from Facebook and Twitter for the four studied public institutions from 15 to 22 March 2019, 28 February 2020 to 31 March 2020, and 01 December 2021 to 31 March 2022. The selected periods were chosen as they represent significant events in New Zealand that inspired public debate and where the government used social media to communicate and engage with the public to deliver their services, clarify misinformation, or disseminate alerts. The period in 2019 corresponds to the Christchurch attacks that changed the course of history for social media regulation in NZ. The attacks were a turning point since they were shot live on Facebook and incited a controversial discussion on social media and its role in spreading hate speech. The period in 2020 corresponds to the period around the break of Covid 19 in New Zealand and the introduction of the lockdown measures. The period from 1 December 2021 until 21 March 2022 corresponds to the period of launching the survey, getting the responses within which significant events happened that correspond to the formulation of negative public value perceptions on social media, such as the mobilization of the anti-vax protesters in New Zealand occupying the area around the parliament and the clashes between police and protesters.

4.4.2.5. Twitter data collection

In order to collect posts on Twitter for research, I signed up for the Twitter developer platform as an academic researcher and collected data using Twitter API v2, which is available for researchers at the following link: <https://api.twitter.com/2/tweets/search/all>

The accounts covered by the data collection on Twitter were:

- Ministry of Health: minhealthnz
- Covid 19 United Page: Covid19nz
- Civil Defense: Nzcivildefence and CivildefenceWKT and NZCDEM

- New Zealand Transport Agency: WakaKotahiAkNth and WakaKotahiWgtn and WakaKotahiWaiBP and WakaKotahiCWC and WakaKotahiOS and WakaKotahiTotS and WakaKotahiCNI and NZTA
- Police forces: nzpolice NZPoliceMedia

The search parameters used for retrieving the tweets were as follows:

Table 4.13

Search parameters used for scraping organizational tweets.

Parameter	Value
query	(from:minhealthnz OR from:covid19nz OR from:nzcivildefence OR from:CivildefenceWKT OR from:NZCDEM OR from:WakaKotahiAkNth OR from:WakaKotahiWgtn OR from:WakaKotahiWaiBP OR from:WakaKotahiCWC OR from:WakaKotahiOS OR from:WakaKotahiTotS OR from:WakaKotahiCNI OR from:THEM0NZTA OR from:NZTA)
start_time	2020-02-28T00:00:00.000Z
end_time	2020-03-31T23:59:59.000Z
media.fields	type, url, public_metrics
tweet.fields	attachments, author_id, context_annotations, conversation_id, created_at, entities, geo, id, in_reply_to_user_id, public_metrics, possibly_sensitive, referenced_tweets, reply_settings, source, text, withheld
max_results	100
user.fields	created_at, description, entities, id, location, name, pinned_tweet_id, profile_image_url, protected, public_metrics, url, username, verified, withheld

The link used for the data collection on Twitter, including all the above parameters, was:

[https://api.twitter.com/2/tweets/search/all?query=\(from:minhealthnz OR from:covid19nz OR from:nzcivildefence OR from:CivildefenceWKT OR from:NZCDEM OR from:WakaKotahiAkNth OR from:WakaKotahiWgtn OR from:WakaKotahiWaiBP OR from:WakaKotahiCWC OR from:WakaKotahiOS OR from:WakaKotahiTotS OR from:WakaKotahiCNI OR from:THEM0NZTA OR from:NZTA\)&start_time=2020-02-28T00:00:00.000Z&end_time=2020-02-28T00:52:42.000Z&media.fields=type,url,public_metrics&tweet.fields=attachments,author_id,context_annotations,conversation_id,created_at,entities,geo,id,in_reply_to_user_id,public_metrics,possibly_sensitive,referenced_tweets,reply_settings,source,text,withheld&max_results=100&user.fields=created_at,description,entities,id,location,name,pinned_tweet_id,profile_image_url,protected,public_metrics,url,username,verified,withheld](https://api.twitter.com/2/tweets/search/all?query=(from:minhealthnz OR from:covid19nz OR from:nzcivildefence OR from:CivildefenceWKT OR from:NZCDEM OR from:WakaKotahiAkNth OR from:WakaKotahiWgtn OR from:WakaKotahiWaiBP OR from:WakaKotahiCWC OR from:WakaKotahiOS OR from:WakaKotahiTotS OR from:WakaKotahiCNI OR from:THEM0NZTA OR from:NZTA)&start_time=2020-02-28T00:00:00.000Z&end_time=2020-02-28T00:52:42.000Z&media.fields=type,url,public_metrics&tweet.fields=attachments,author_id,context_annotations,conversation_id,created_at,entities,geo,id,in_reply_to_user_id,public_metrics,possibly_sensitive,referenced_tweets,reply_settings,source,text,withheld&max_results=100&user.fields=created_at,description,entities,id,location,name,pinned_tweet_id,profile_image_url,protected,public_metrics,url,username,verified,withheld)

4.4.2.6. Facebook data scraping

The posts on Facebook were retrieved using a tool called “Crowdtangle,” for which the university provided a subscription. Crowdtangle is a tool Meta provides to view, analyze, and report data on Facebook. They provide researchers access to download data from Facebook that is publicly available without the need to scrape it through more complicated software and programs. A list was created on Crowdtangle with the public institutions’ official Facebook pages. Then, the Crowdtangle filter was used to select the posts from those institutions that were published on the dates and times that were of interest to the research. The data was then exported in a CSV format for further analysis.

4.4.2.7. Citizen interviews

Evidence about citizens' behavior on social media and their interaction with the government was collected through interviews. Semi-Structured interviews were conducted with 20 survey respondents who indicated their willingness to be contacted for interviews. The evidence collected through the interviews is used to validate the initial mechanisms and theorize about other alternative explanations for public value creation and erosion on social media.

The interviews were divided into two main parts. In the first half, the subjects were exposed to a set of 8 different social media posts selected from the four public institutions’ accounts on Facebook and Twitter and were asked about their preferred ways of interacting with those posts, what they would have improved to deliver more value and what they think about this post in general. The eight posts were selected from the dataset scraped from Facebook and Twitter using Crowdtangle and Twitter's research API, respectively. They were divided into two main groups. The first group represents the posts with the most interaction in the dataset. Interaction is measured by the number of likes, shares, and comments in the case of Facebook and by retweets, favorites, and quotes in the case of Twitter. The second group consists of the posts with the least interaction.

In the second half of the interview, subjects were asked about their opinion about created or eroded public values due to the government's presence and interaction with citizens on social media. They were asked specific questions that tackled the different parts of the mechanisms under study to understand and validate the presence of those parts as causal elements in the process. Other generic questions were also asked about public value and social media use by the government to open up the space for alternative explanations to the theorized parts of the mechanisms.

Table 4.14
Respondents in citizens' interviews.

Respondent	Platform	Gender	Age group
R1	Facebook	Male	18
R2	Facebook	Male	25-34
R3	Twitter	Male	>50
R4	Facebook	Male	25-34
R5	Twitter	Female	>50
R6	Facebook	Male	35-44
R7	Facebook	Female	>45
R8	Twitter	Female	35-49
R9	Facebook	Male	35-44
R10	Twitter	Male	25-34
R11	Twitter	Male	18-24
R12	Facebook	Female	25-34
R13	Facebook	Male	>45
R14	Facebook	Male	25-34
R15	Facebook	Female	>45
R16	Twitter	Male	35-49
R17	Facebook	Male	35-44
R18	Facebook	Female	18-24

The interview guide containing the questions and posts is compiled and attached to Annex III.

4.5. Ethical Considerations for fingerprints Collection

Several ethical considerations were tackled in this research regarding the data collected by the Facebook and Twitter surveys and during the fingerprint collection for the causal process tracing mechanisms.

Survey data were collected in an anonymous form. No names or contact information were collected. Only emails were collected and used to contact respondents for the raffle prize or in case they indicated an interest in a follow-up interview. The contact data were saved separately from the survey data on the survey creation platform (Unipark: an EU-GDPR compliant platform widely used by the Hertie School faculty and researchers in general). The data was deleted once the interviews were finalized in January 2023. Respondents to the survey had to fill out a consent form for sharing their data, and only if agreed can they proceed to fill out the survey. The survey questions included specific demographic/course location questions and some opinion questions, which are processed as sensitive data. However, the data sets generated are fully anonymized and rendered untraceable.

Calls were held through Zoom or Microsoft Teams applications for the interviews with civil servants and citizens. All participants had to sign the consent form before their interview, indicating they had also read the project information sheet. The conversation was recorded in audio format, and transcripts were made and stored on my local machine (on an encrypted disk). Audio files were deleted once the research was published. The text transcripts are anonymized by coding them based on the numbers in the tables in the

evidence collection section above, and any personally identifiable information linking the transcripts to the respondent was removed (i.e., the speaker's name in the transcript).

For fingerprint collection via social media, only the text of posts was saved, and all personal information regarding users interacting with those posts or authors was dropped (unless the author is a public institution or figure). In some cases, references to some tweets or Facebook posts were made in the findings in the form of a screenshot. However, for these cases, the names, profile pictures, and all personally related information for individuals were masked in black. Screenshot images taken were edited, and the original version was deleted.

Additionally, the following measures were taken for data security and storage:

1. **Data storage:** All original anonymous data were stored in a password-encrypted laptop. Other than researchers, nobody will have access to data.
2. **Data security and access:** Only Social Media and Public Value in New Zealand research team members can access the password-protected data via VPN. There is no third-party access to the data.
3. **Destruction:** Anonymized data will be kept for at least three years for further publishing of research results.

Ethical approval was made through the Hertie School Ethics Committee, and the ethics statement, consent forms, and project information were sent to all interview participants. For more details about the ethics approval, see Annex IV.

Chapter 5 : Social Media in New Zealand.

In chapters five and six, the first two questions of the study are approached. This chapter discusses the context of social media institutionalization in New Zealand. The discussion aims to frame the analysis conducted in chapter six on the Facebook and Twitter surveys. In this chapter, several questions are answered, such as what role social media plays for the New Zealand government and the country's citizens. What are the frameworks, regulations, and guidelines that govern social media and its utilization in government in New Zealand?

5.1. Introduction

New Zealand is one of the prominent cases of the government's utilization of social media for several reasons. First is the nature of New Zealand as a country prone to earthquakes, floods, and other natural disasters, which fosters the adoption of real-time communication tools for citizens and government. Thus, New Zealand has high social media penetration rates among citizens and a growing use of social media for government-to-citizen communication.

Second, the country has witnessed several important events throughout its history that shaped the use of social media in the country and globally. For example, the gun attack aired live on Facebook in Christchurch in 2019 has shaped how platforms such as Facebook are governed globally. It also inspired several legal changes around hate speech online.

Third, the use of social media by the political leadership in New Zealand has gained global visibility and has been the subject of research. For example, Prime Minister Jacinda Ardern has been singled out as a pioneer for raising awareness of social media misuse (especially concerning hate speech) and its risks. She has also utilized the platforms to reach out to citizens, especially during the COVID-19 pandemic, and her speeches were heard globally (Kapitan 2020). Another example is John Edwards, New Zealand's former privacy commissioner, who has been announced as the preferred choice for the position of UK information commissioner, given his positive management and fortitude in standing up to large companies such as Facebook while in office in New Zealand (Bateman 2021). Many more examples of political leaders and public institutions in New Zealand, such as Chris Bishop, the Ministry of Health, and the traffic authority in New Zealand, have utilized social media to reach out to citizens.

In the following sections, the context of social media use by the government and its role in New Zealand will be elaborated on in-depth, providing a deeper understanding of how social networks have been used in the country.

5.2. Social media penetration and use

Social media plays a fundamental role in communication for the population of New Zealand, where more than 82% of its inhabitants have at least one social media account (Kepios 2021). On average, each internet user in the country has 7.6 social media profiles (ibid.). New Zealanders are active on these platforms, with an average online time of around two hours per day, and 86 percent of them claim to be actively engaged in or contributing to these networks, according to the annual digital report (Kepios 2021). The most popular social media platforms in New Zealand are YouTube, Facebook, Facebook Messenger, Instagram, and WhatsApp (Kepios 2021), as shown in the table below.

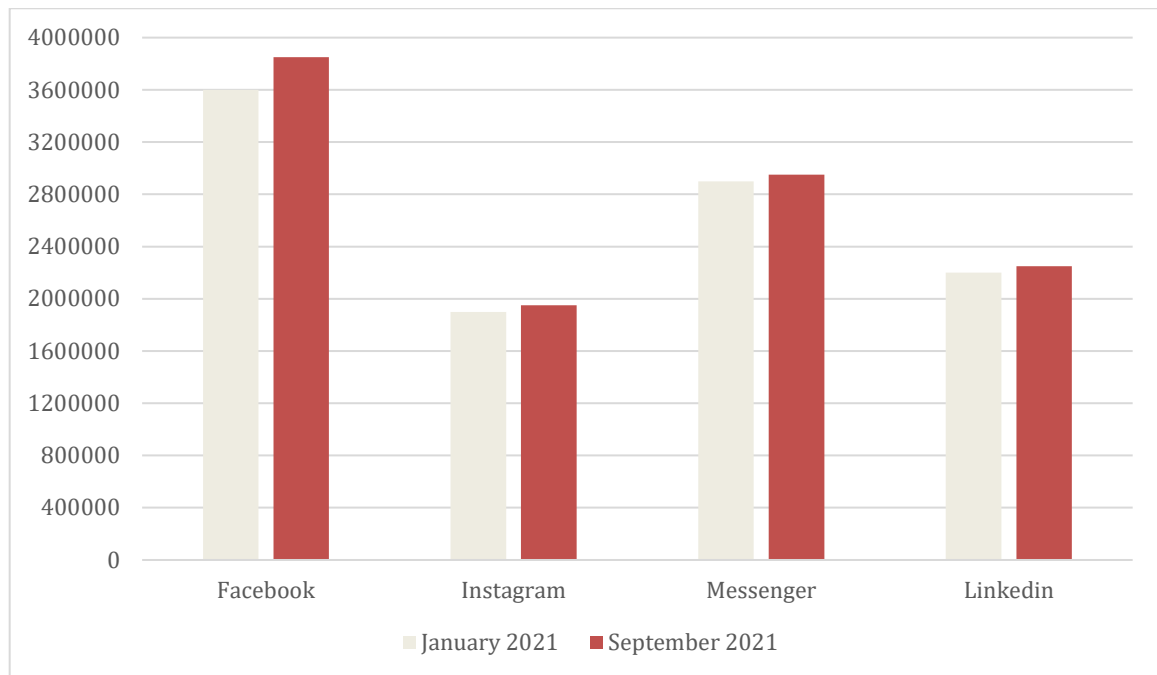
Table 5.1
Percentage of users aged 16 to 64 using the platforms per month (Kepios, 2021)

Rank	Social media	Penetration	Rank	Social media	Penetration
1	YouTube	86.7%	9	Twitter	27.6%
2	Facebook	83.5%	10	TikTok	26%
3	Messenger	74.8%	11	Skype	20.3%
4	Instagram	57%	12	Reddit	20.2%
5	WhatsApp	40%	13	Neighbourly	18.4%
6	Snapchat	32.8%	14	Twitch	12.7%
7	LinkedIn	30.7%	15	Viber	12.1%
8	Pinterest	30%	16	WeChat	10.9%

The penetration rates are in continuous growth monthly. The study observed that between January and September 2021, Facebook base users grew by about 9%, followed by LinkedIn, with a growth rate of around 4% during the same period. Figure one illustrates such growth in the number of Facebook, Instagram, Messenger, and LinkedIn users.

Figure 5.1

Social Media users in New Zealand between January 2021 and September 2021. Own elaboration based on (NapoleonCat 2021c, 2021b)



5.3. The aftermath of the Christchurch attack

In March 2019, a tragic event occurred in Christchurch, New Zealand. The event changed to an extent the way many global leaders would view social media (Bateman 2021), recognizing an imminent challenge and inciting a debate on how to respond quickly and deal with such content and how to identify those responsible for disseminating it without infringing freedom of expression in this process.

In this tragedy, known as the Christchurch terror attack, a shooter not only murdered fifty-one people in two different mosques but also streamed the event live on Facebook, a video that lasted 17 minutes (Guest Post-2019). The event was broadcast and shared over two social media networks, Twitter and Facebook. Representatives of Facebook noted that a user's first report of the violent livestream was made 29 minutes after the broadcast, i.e., some 12 minutes after it had ended (Pham 2019). For this reason, the video was viewed almost two hundred times live and about 4000 times before it was taken down. People continued uploading the video in the next 24 hours despite Facebook's attempts to delete it. This scandal put the platform under the spotlight for being accountable for spreading such violent and hatred-incited content (Guest Post 2019; Pham 2019).

This event prompted the prime minister of New Zealand to conduct a campaign against hate-driven and violent content on social media platforms called Christchurch Call (Guest Post 2019, para. 6). This motivation lay not only in the attack itself nor its transmission but also in the fact that before the attack, the killer had published a 74-page anti-immigration manifesto on social media, exposing the vulnerability of such networks for content that promotes hate speech (Guest Post 2019). This raised questions about the degree of responsibility of the platforms for problems such as online hate crimes, in this case, of religious origin. In this regard, the prime minister of New Zealand, Ardern, stated, "They are the publishers. Not just the postman." (Pham 2019, para. 11).

In the same context, New Zealand Privacy Commissioner John Edwards also claimed: "...it was irresponsible for the social network to offer live streaming if it could not detect and prevent abuse of the feature promptly" (Radio New Zealand 2019, para. 12). Edwards, currently one of the UK government's favorites as the next head of the Information Commissioner's Office (ICO), has been very outspoken on Facebook in the aftermath of these events. He has even deleted his account on the social network, stating that it is a platform that does not respect privacy laws in New Zealand (Bateman 2021; Nimmo and Gadher 2021).

However, more than two years after the Christchurch Mosque attack, the New Zealand government continues, led by the prime minister, to use social media platforms for communicating with citizens while at the same time battling against hate, extremist violence, and algorithm mismanagement on the same platforms.

5.4. Government Use of Social Media

According to de Araujo e Silva (2021), there is little research analyzing the government of New Zealand's use of social media to promote participation and engagement. However, some previous studies investigated the use of social media in New Zealand in political campaigns (see Ross, Fountaine, and Comrie 2014) or to manage disasters and crises (see de Araujo e Silva 2021; Bruns, 2012; Flew et al. 2014; Tagliacozzo 2018). Recent studies have explored the communication strategies carried out by government officials during the COVID-19 pandemic, especially those of Prime Minister Jacinda Ardern (see McGuire et al. 2020).

Regarding social media and its use for political campaigns, one of the most relevant findings is that of the study of Ross et al. (2014), which investigated the campaigns of MPs in New Zealand using Facebook. The study concluded a lack of interaction with citizens in the case analyzed, using the pages as informative

spaces instead of participatory or co-creation spaces. Likewise, it is emphasized that the mere presence of candidates in the social network does not guarantee a real connection with citizens, given the low engagement that usually occurs in them (de Araujo e Silva 2021). Although Ross et al. (2014) study is relatively old, especially with the fast-evolving features and affordances of social media, it paves the way to a minimum understanding of the New Zealander context and users' mindset when it comes to the use of a social media platform such as Facebook for political campaigning.

Moreover, two studies have been found to focus on using social media in disaster and crisis management in New Zealand. The first analyzes the use of Twitter after the Canterbury Earthquake in 2010, highlighting this type of social network as a channel to disseminate accurate information that users can easily replicate (de Araujo e Silva 2021; Flew et al. 2014). The second research studies the use of social media in Canterbury earthquake recovery in 2010 and 2011, where, in addition to finding similar uses to the platforms as in the previous case, i.e., as a means of information and dissemination, it is considered a good tool for citizen interaction. However, the study found that public servants did not see social media as the best means of communication for post-disaster recovery. One of the reasons highlighted in the study is that the administrators of the accounts, Canterbury public agencies, did not have the necessary resources (time, personnel, budget) to manage social media (de Araujo e Silva 2021; Tagliacozzo 2018).

Another recent study by de Araujo e Silva (2021) analyzed the content of all social media accounts held by various local government entities in New Zealand during April 2020, capturing the core of the pandemic crisis and how local governments dealt with the situation on their social media accounts. One of the relevant findings of the research was that the government still uses social media platforms that are not, per se, the most popular among citizens, such as Twitter. Twitter is often mentioned on government websites as one of the channels on which the government can be reached. The study (de Araujo e Silva 2021) found that alongside the active accounts on Twitter, there have been several accounts with no activity for a long time (15% of the accounts were outdated). In general, the accounts had a low number of followers and level of engagement, which, according to Silva, indicates a lack of content strategy. Another finding was about the preferred formats of social media posts among citizens. It was found that the posts that created the most reach on social media platforms were live videos or live tweets, which were the least used by local government entities. In terms of content, the study's outcomes conformed with the body of literature on the same topic; that is, government organizations use social media to disseminate information rather than interact with citizens.

Another recently published study analyzed how prime minister Jacinda Ardern used social media, particularly Facebook, to communicate with citizens during the ongoing COVID-19 pandemic (McGuire et al., 2020; Kapitan, 2020). The study points out that framing different messages on Facebook has evolved as the crisis developed, with a different emphasis on roles or situations, for example, promoting empathy and a focus on civic responsibility. The study also found that how the prime minister communicates with citizens through informality and closeness has contributed to a better pandemic experience for New Zealanders (McGuire et al., 2020; Kapitan, 2020). The prime minister has gained wide popularity on social media, with over two million followers on Facebook (more than half the New Zealanders on the same platform). In his study, Kapitan (2020) named her "the first Facebook prime minister" (para. 25) as a reference to her extensive use of the platform.

Another report by Stuff (Flahive 2019) showed that government spending on social media and online advertising had been exacerbated in the last several years. The report was based on information from fifteen government departments responding to an official request. It shows that hundreds of millions of dollars have been spent on online advertising by the government agencies that responded since 2014. According to the departments that provided figures, online advertising expenditures have increased by two-thirds between 2014 and 2018. In 2014, online advertising accounted for 62 percent of the total advertising expenditures of the statistical departments. By 2018, the share of online advertising had jumped to 72 percent. From 2014 to 2018, spending on Facebook platforms by the same departments increased by 2747 percent. In 2014, there were no social media influencers, but four years later, over \$120,000 was spent on advertising with people with a strong online following. Outside of Facebook and Facebook-owned properties, there was a 176 percent increase in spending on social media advertising between 2014 and 2018. Advertising on other online platforms, such as job and real estate websites, increased by over half during the same period. The report shows that despite the fears and challenges in using these platforms, the trend indicates that their use is increasing among government institutions in New Zealand, which poses several questions related to public value.

5.6. Frameworks and regulations about the use of social media in New Zealand

Given the social media governance challenges discussed before and New Zealand's history of using social media for crisis management, the country introduced several legislative developments that have shaped how the government and citizens use social media in New Zealand.

5.6.1. Content

In June 2021, the New Zealand government announced a review of the current regulation of media content called the Content Regulatory System Review. The Department of Internal Affairs carried out the review with the support of the Ministry for Culture and Heritage. The process was envisioned to be participatory and to run a two-stage consultation, giving all stakeholders, including citizens, the opportunity to contribute to the drafted law (Department of Internal Affairs 2021):

“The review aims to create a new modern, flexible, and coherent regulatory framework to mitigate the harmful impacts of content, regardless of how it is delivered. The framework will still need to protect and enhance important democratic freedoms, including freedom of expression and the press.” (para. 2)

The same authority indicates that protecting citizens from harmful content is necessary, a risk that is constantly growing along with digital evolution, and that New Zealand experienced first-hand in 2019 with the live streaming of the terrorist attack in Christchurch. At the same time, the new law aimed to level the playing field between media agencies, considering social media as one of them, since the current regulatory framework affects only traditional media agencies. The new regulation will replace the current regulatory framework that consists of the Films, Videos, and Publications Classification Act 1993 (administered by the Department of Internal Affairs), the Broadcasting Act 1989 (administered by the Ministry for Culture and Heritage), and voluntary self-regulation, including the New Zealand Media Council and Advertising Standards Authority (Department of Internal Affairs 2021).

5.6.2. Data Privacy

New Zealand stands out as the first country in the world to have a privacy law, known as New Zealand's Privacy Act, which dates back to 1993. This regulation was not amended until December 2020, when New Zealand's Privacy Act 2020 replaced it. This updated version aims at a stricter data privacy regime, with higher fines for non-compliance (up to \$10,000), more robust cross-border data protection, and new data breach requirements (Consumer NZ 2021; Cookiebot 2021).

This new regulation is based on 13 Privacy Principles. They include the obligation to inform users about the collection, use, and sharing of their personal information, the right to access and correct their data, and to be notified in the event of any breach of their data. The Privacy Commissioner is responsible for compliance. The scope of the law applies to all websites, companies, or organizations that handle personal information about people in New Zealand, regardless of where the operations are based. This includes government bodies, local councils, businesses, and individuals, with some exceptions (e.g., the media). In addition to all personal information, not only customers' but also employees' information (Cookiebot 2021). The act indicates that organizations require a privacy officer to deal with privacy issues (Consumer NZ 2021). Social media companies outside of New Zealand are also subject to the act. They must report data breaches if they affect New Zealanders' information and account for the information they collect from them (Consumer NZ 2021).

5.7. Guidelines for Social Media in the Government

Social media use in New Zealand's public sector is regulated by two guidelines issued by the agency Te Kawa Mataaho or the Public Service Commission. The first is the *Guidance for the State services' official use of social media*, and the second is the *Guidance for State servants' personal use of social media* (Public Service Commission 2020c)

The *Guidance for the State Services' official use of social media* is divided into two parts. The first indicates that each government institution must have a Social Media Policy that conforms to the Standards of Integrity and the Conduct and Political Neutrality Guidance guidelines. At the same, the institutions' social media policy must promote respect for the privacy of citizens participating in the platforms, as established by the Privacy Act 1993. Likewise, each entity must have a social media transparency statement, which allows it to inform citizens, for example, the purpose of the page or when a comment could be deleted. Both the social media policy and the social media transparency statement should be reviewed periodically. The next part of the guide refers to how institutions should post or share content on social media, what they should do to follow or interact with other social media accounts, and how to respond, moderate, or delete user comments (Public Service Commission 2020b). It also emphasizes separating the role of a public servant and personal life on the platforms (Public Service Commission 2020a).

Chapter 6 : Discussion of public value and social media in New Zealand

Given the context of social media use in New Zealand explored in the previous chapter, this chapter highlights the findings from the two major surveys conducted on Facebook and Twitter. The chapter attempts to answer the research questions about the perception of public values from social media utilization in New Zealand and the factors that define groups of citizens who perceive either low or high public value from social media utilization by the government of New Zealand.

The analysis in this chapter aims to achieve six main goals:

- a) to understand the general perception of public value from government use of social media in New Zealand,
- b) to find out and profile the type of users who would be susceptible to perceiving high public value from the government's use of social media, which can enable an in-depth understanding of the mechanisms through which public value is created for them, and last but not least
- c) to find out the profile of citizens who perceive less or no public value from social media use by the government,
- d) to test the hypothesis that citizen-related enablers of public value creation (citizen trust for the government and technology as highlighted in the literature review chapter) have a positive effect on the perception of public value,
- e) to shed light on the type of social media pages and accounts of government that citizens follow, which helps in selecting cases for study in the next chapter and in narrowing down the evidence collection for the public value process tracing in the next chapter, and finally
- f) to analyze the opinion of citizens on how public value is created or eroded on social media so that two initial mechanistic models for public value creation and erosion can be constructed.

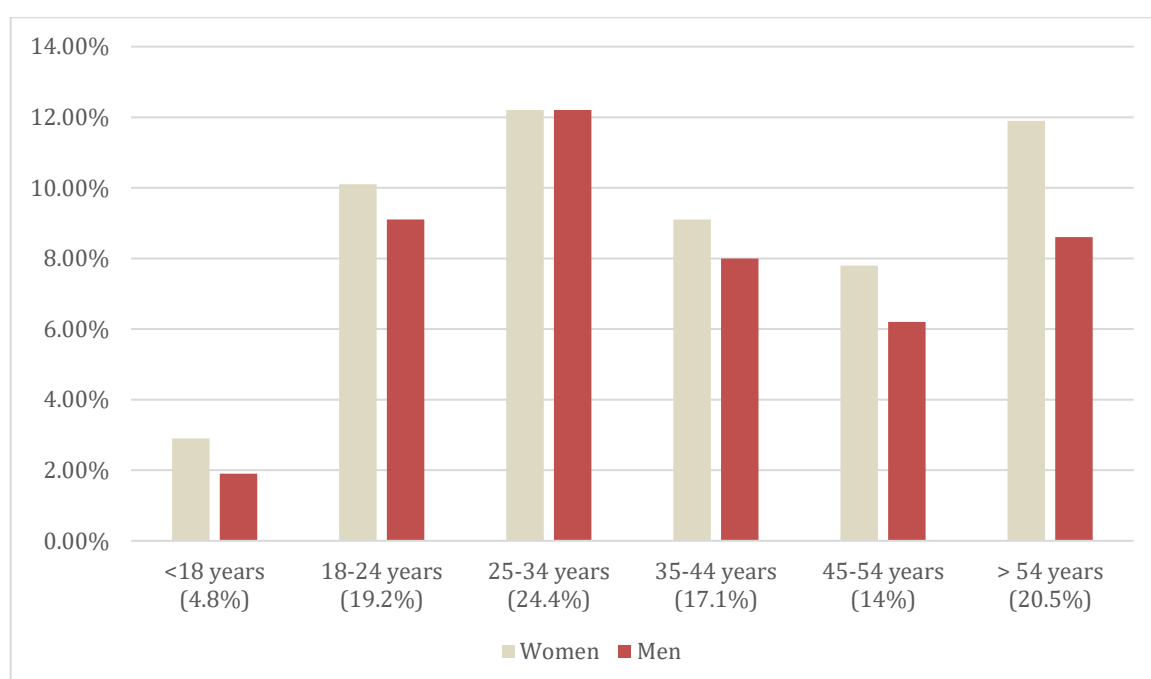
6.1. General Perceptions of public value creation on Facebook and Twitter

6.1.1. The survey sample.

As illustrated earlier, Facebook is one of the largest social media networks in the world and New Zealand (Digital Report, 2021). The platform has a penetration rate of around 82.8% of the New Zealander population, placing it among the country's most popular social media networks after YouTube and before Instagram (Ibid.). The demographics of Facebook users in New Zealand are dominated by younger to middle-aged users from 18-34 years, with the largest group being 25-34. For gender, the distribution is more or less balanced among users in New Zealand, with slightly more female users on Facebook than males, with a difference of around 10%.

Figure 6.1

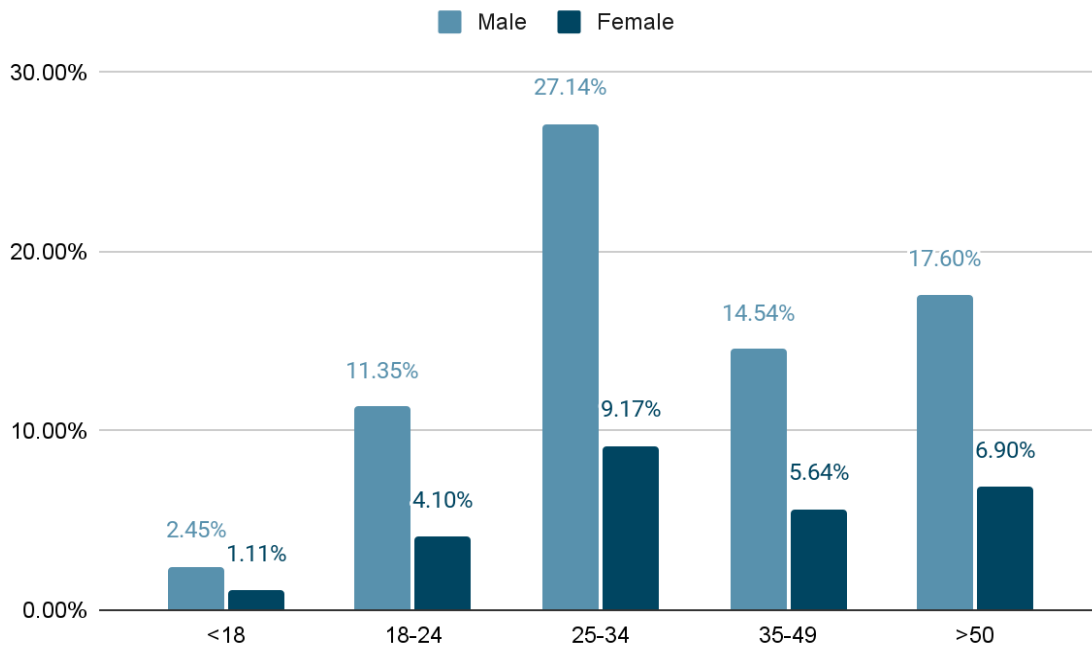
Percentage of Facebook users in New Zealand by gender (NapoleonCat 2021a)



On the other hand, Twitter is the 14th largest social media platform worldwide regarding active users (Kepios 2022) and the ninth largest social media platform in New Zealand (Kepios 2021). The platform's users are primarily male users, comprising around 73 percent of the Twitter population in New Zealand. For age, most Twitter users are middle-aged in the range of 25 to 34 years, and this category represents 35 percent of the Twitter population in the country.

Figure 6.2

Twitter users in New Zealand by age and gender (Twitter, 2021)



The sample of respondents to both surveys conducted on Facebook and Twitter was somewhat skewed from the distribution of gender and age on both platforms, where more females than males participated in the Twitter survey, and older respondents answered both surveys. This distortion in the sample was corrected using post-stratification weighting to avoid biases in interpretation. Additionally, records with missing data were removed from the Facebook survey after verifying that they did not constitute a particular group with different means from the rest of the sample by conducting a t-test. The details of the post-stratification technique used and the data cleanup were explained in detail in Chapter Four.

After correcting the sample and removing missing data records, other demographic variables, such as educational levels, showed a normal distribution curve. In contrast, other variables, such as occupation, showed a predicted distribution with most respondents either employed or retired, which is expected since around 80% of the Facebook and Twitter users' population are above 25 years old. Regarding users' behavior and history of using the platform, the majority of respondents (60%) were users who had been on both platforms for over six years. At the same time, the statistics about the frequency of the platform's use among respondents also matched that reported in the digital report (2021), where the average time spent on social media networks per day was indicated to be between 1 and 2 hours with slightly less time on Twitter than on Facebook in average.

Below are the sample distribution charts after the data clean-up and post-stratification weighting:

Figure 6.3
Percentage of respondents by educational degree (Author)

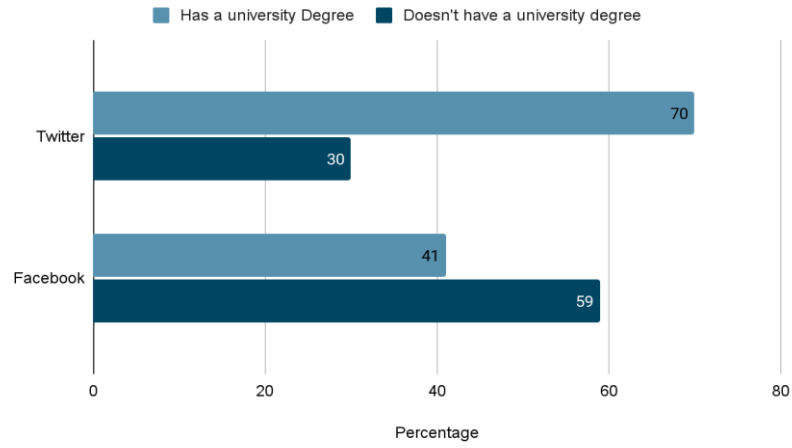


Figure 6.4
Percentage of respondents by employment (Author)

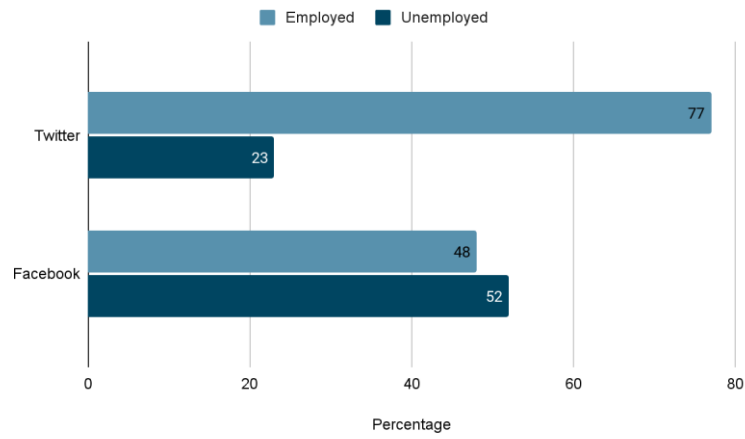


Figure 6.5
Percentage of respondents by year using Facebook/Twitter

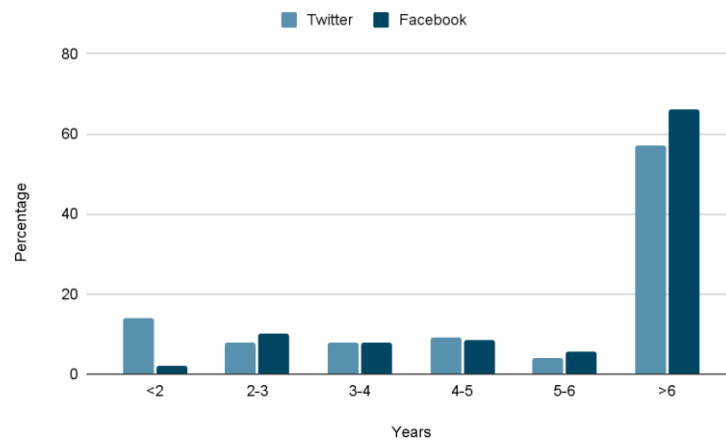
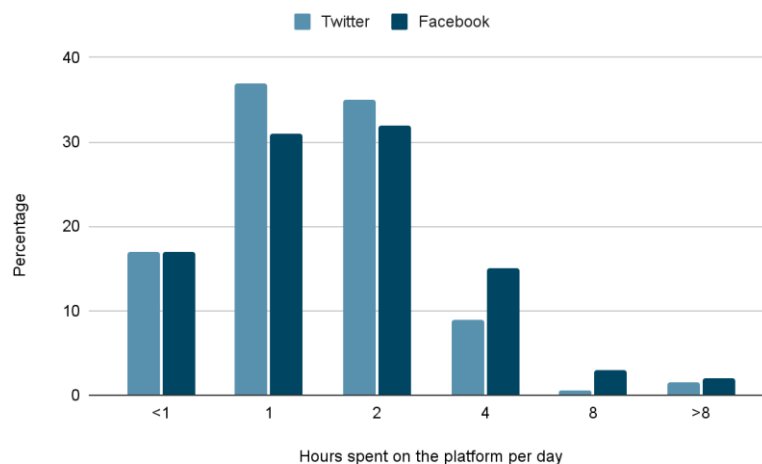


Figure 6.6

Percentage of respondents by the number of hours spent on the platform per day.



6.1.2. Public value variables

In both surveys, eleven questions were used to capture the public values highlighted in chapters 3 and 4.

The questions were grouped under two main categories: questions related to values promoted by government presence on social media and questions related to values promoted by the interaction with the government. The following table summarizes the questions and the public values that correspond to them:

Table 6.1

Survey questions and public values that relate to them.

Category	Question	Public Value
The government's presence on social media	My government's presence on Facebook/Twitter makes government agencies and officials more accessible.	Accessibility
	My government's presence on Facebook/Twitter helps people be more informed about what the government is doing.	Transparency
	My government's presence on Facebook/Twitter would increase its transparency.	Transparency
	My government's presence on Facebook/Twitter would help them reach better decisions.	Better decision-making
	My government's presence on Facebook/Twitter does not threaten citizens' privacy and freedom of speech online.	Privacy and freedom of expression
	My government's presence on Facebook would help them achieve their mission.	Mission achievement
	Overall, I am satisfied with my government's presence on Facebook	Citizen satisfaction
The government's interaction with citizens on social media	I believe that interacting with my government's posts on Facebook would be beneficial to me.	Direct benefit to individual and community
	If I interact with a government post on Facebook, I will feel that I am doing something valuable for the community.	Direct benefit to individual and community
	I believe interacting with my government posts on Facebook is a good idea.	Citizen satisfaction
	For me, the advantage of interacting with my government on Facebook outweighs the disadvantages.	Citizen satisfaction

An index was created for the overall perception of public value, as explained in Chapter 4, from the average of all public value-related variables in the survey, alongside two sub-indices for the public value questions related to the two categories: the presence of government on social media and their interaction with citizens in order to spot any differences in the means of public value perceptions related to both categories.

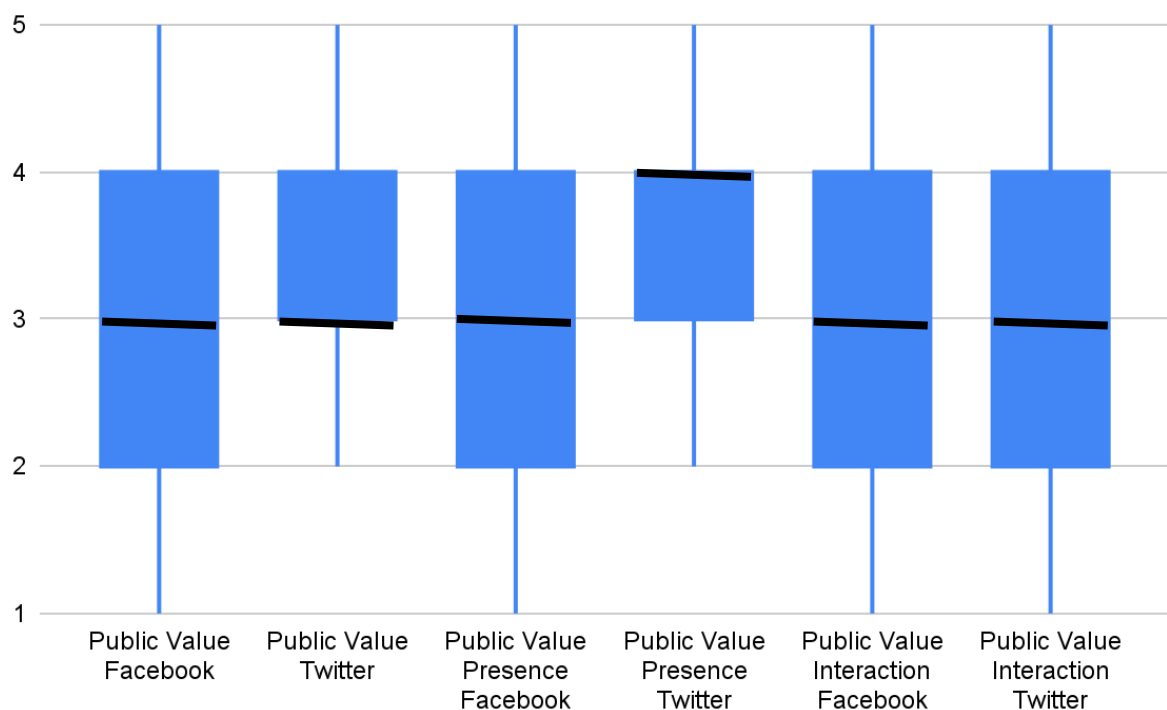
The survey on Facebook showed that a more significant portion of the sample follows or subscribes to one or more pages affiliated with a government agency or figure. However, the perception of public value creation on Facebook followed a normal distribution across the whole sample with the means close to the center. The same was also observed for the sub-indices of public values related to the government's presence on Facebook or the interaction of the government with citizens.

Regarding Twitter, the public value perceptions were observed to be higher than those of Facebook, especially those related to the presence of the government on Twitter. The observation can be explained by the fact that 80% of the respondents on Twitter follow one or more official government Twitter accounts, which is around 15-20% more than that on Facebook. As highlighted earlier in the theoretical framework, following government accounts on social media increases trust in the government and is directly linked to public value creation.

The distribution of public value perceptions across the sample is illustrated in the figure below:

Figure 6.7

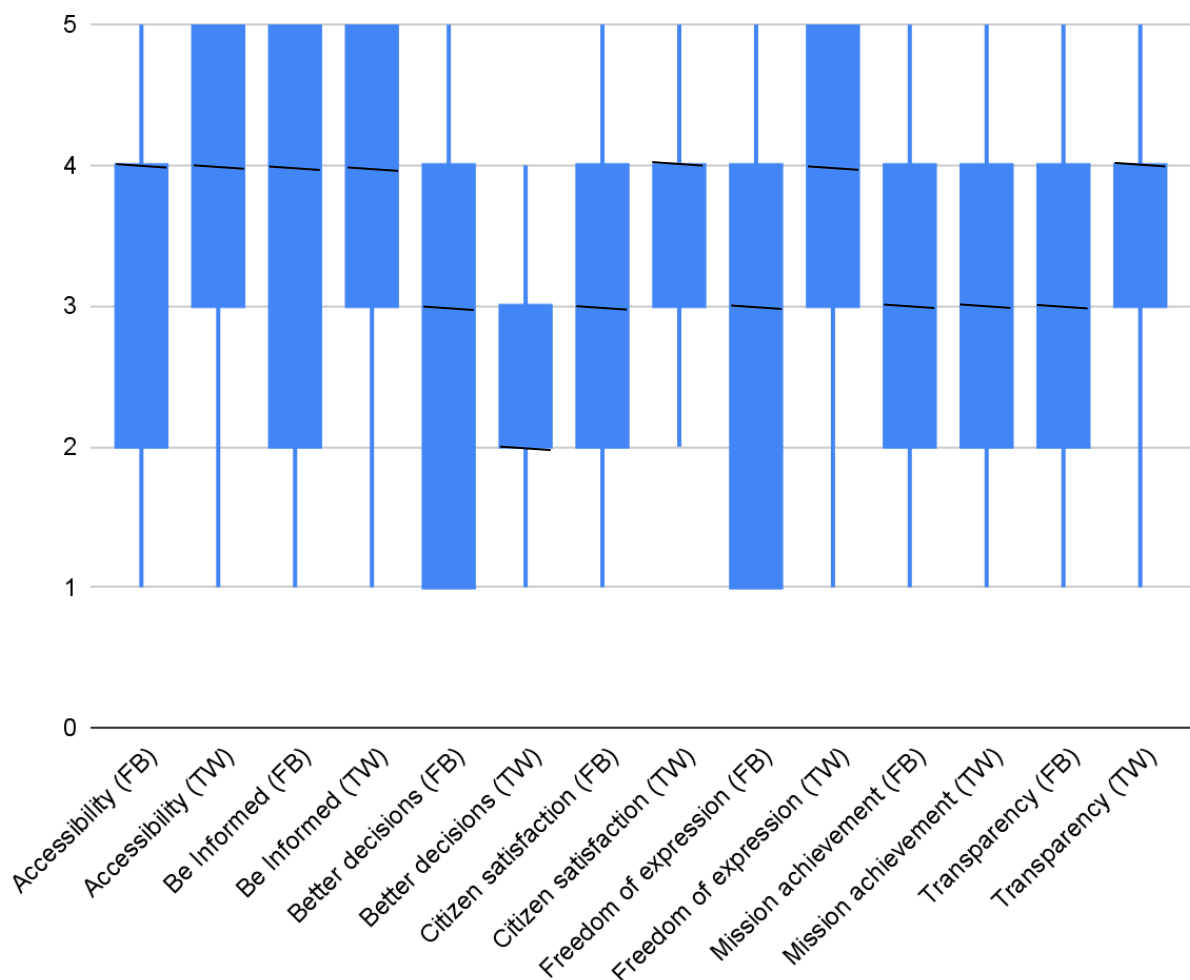
Box plot for means and medians of public value perceptions on Facebook and Twitter



Taking a closer look at the public values that were surveyed for users of Facebook and Twitter, it can be observed that for the presence of the government on Facebook and Twitter, accessibility of agencies and public officials, along with being informed about what the government is doing were among the most prominent public values perceived by citizens across both platforms with medians of 4. For those two values, Twitter was observed to receive higher means than Facebook. The government's presence and interaction with citizens on Twitter recorded a better perception of citizen satisfaction, privacy, and freedom of expression. This was somehow expected due to the different ways platforms operate. Twitter, for instance, does not allow government pages or accounts to delete comments or replies to their posts, which, from a user perspective, may protect their freedom of speech on the platform. The figure below shows the distribution of public values related to the presence of public institutions on Facebook and Twitter.

Figure 6.8

Box plot for means and medians of public value perceptions from the presence of government on Facebook and Twitter



As for the interaction of the government with citizens, all answers followed a normal distribution across both samples from Facebook and Twitter.

6.2. High public value perceptions from social media use in New Zealand

As illustrated in Chapter 4, the public value-related variables were encoded into two categories with separate variables, high and low public value, to capture variations in the perceptions of public value among the sample. Multiple multivariate regressions were carried out for the variables indicating a high perception of public values (as dependent variables) and demographic and behavioral variables (as independent variables). The regression analysis aims to understand the profile of those who perceive high public value from social media use by the government in New Zealand. The analysis will contribute to understanding the sociodemographic factors correlated to public value perception on social media and their relation to the platforms. It will also assist in locating and evaluating the evidence needed for the public value creation process-tracing mechanistic models developed in the following chapters.

6.2.1. General public value perceptions

Regarding general public value perceptions, it was found that age and years of using the platforms were correlated to high public value perceptions across the sample, especially on Facebook. The older and the more years users have been on the platform, the less likely they would perceive public value from using the platform by the government.

The results confirm the recent findings of the study conducted by (Todisco et al. 2021), where they studied the perception of public value from Italian public servants' perspective, where younger employees perceived more value in using social media to communicate with citizens than their older peers. It also confirms the findings of the study of Jordanian citizens' perception of public value (Alarabiat, Soares, and Estevez 2021), which highlights the same difference in perceptions among different age groups.

Another behavioral factor that correlates to public value perceptions is following government accounts. The more citizens follow government accounts, the more likely they would perceive public value from their presence and interaction with citizens. The results were consistent through both models for Facebook and Twitter. This high public value perception correlated to following government accounts can indicate that the content viewed by citizens when following the government account contributes to their positive perception of public value. An alternative explanation is that this group of citizens trusts the government, so their public value perception would be high. Such a relationship between following a government account and perceiving high public value from social media utilization will be discovered qualitatively in the following chapters through process tracing.

Table 6.2

Logistic regression for computed public value indices (high perception) against demographic and behavioral covariates.

Dependent Variable	Covariates	Models	Estimate (B)	Std. Error	Sig. (p)	
Overall Public Value	Age	M2	-0.338	0.107	0.002**	
		M1	0.074	0.147	0.613	
	Following government accounts	M2	0.628	0.271	0.021*	
		M1	1.019	0.408	0.013*	
	Has a university degree	M2	-0.285	0.255	0.263	
		M1	-0.453	0.342	0.185	
	Hours using the platform per day	M2	0.222	0.119	0.061	
		M1	0.173	0.158	0.276	
	Is respondent male	M2	-0.246	0.243	0.310	
		M1	-0.289	0.329	0.379	
	Lives in a city	M2	-0.053	0.247	0.829	
		M1	0.572	0.392	0.144	
	Trust in government	M2	0.922	0.141	0.000***	
		M1	0.779	0.129	0.000***	
	Trust in the platform	M1	0.735	0.162	0.000***	
	Years using the platform	M2	-0.271	0.086	0.002**	
		M1	0.121	0.083	0.148	
	Presence Public Value	Age	M2	-0.406	0.107	0.000***
			M1	-0.017	0.155	0.913
		Following government accounts	M2	0.939	0.270	0.000***
M1			0.810	0.393	0.039*	
Has a university degree		M2	-0.210	0.249	0.398	
		M1	-0.345	0.352	0.327	
Hours using the platform per day		M2	0.232	0.116	0.046*	
		M1	0.007	0.166	0.964	
Is respondent male		M2	-0.314	0.239	0.189	
		M1	-1.216	0.368	0.001**	
Lives in a city		M2	-0.089	0.244	0.715	
		M1	0.615	0.423	0.146	
Trust in government		M1	1.219	0.156	0.000***	
Trust in the platform		M2	0.647	0.123	0.000***	
		M1	0.590	0.164	0.000***	
Years using the platform		M2	-0.186	0.086	0.032*	
		M1	0.059	0.088	0.504	
Interaction Public Value		Age	M2	-0.083	0.102	0.415
			M1	0.657	0.140	0.000***
		Following government accounts	M2	0.836	0.264	0.002**
	M1		0.572	0.352	0.104	
	Has a university degree	M2	-0.423	0.244	0.083	
		M1	-0.129	0.300	0.667	

Hours using the platform per day	M2	0.151	0.112	0.177
	M1	0.149	0.140	0.289
Is respondent male	M2	0.286	0.234	0.221
	M1	0.579	0.307	0.059
Lives in a city	M2	-0.046	0.236	0.844
	M1	-0.847	0.363	0.020*
Trust in government	M1	0.452	0.109	0.000***
Trust in the platform	M2	0.596	0.118	0.000***
	M1	0.464	0.139	0.001**
Years using the platform	M2	-0.273	0.082	0.001**
	M1	0.059	0.088	0.504

M1: Twitter regression model, M2: Facebook regression model

Significance: * $p < .05$; ** $p < .01$; *** $p < .001$

6.2.2. Perceptions of the Government's Presence and Interaction on social media

Following the sociodemographic factors related to the overall public value perception, this section discusses the correlation between those factors and the perception of specific public values, such as mission achievement, decision-making, transparency, or freedom of expression.

The analysis indicates a similarity between the factors correlating to the overall perception of public values and the factors contributing to the perceptions of each specific public value in the survey. Age and following government accounts on Facebook and Twitter played a role in influencing the majority of the dependent variables. However, other sociodemographic factors correlate distinctly to specific public value perceptions, such as educational degree, location (urban vs. rural), and years using the platform (for the Facebook model).

For interaction between the government and citizens on social media, a correlation can be observed between the educational degree (above university) and the perception of the benefit to citizens from the interaction or whether it is a good idea for the government to interact. This conclusion is held only for Facebook. The observed correlation could be attributed to various factors, including the platform's history of scandals over the past decade, such as the Cambridge Analytica incident and other breaches or misuse. Additionally, the platform's reputation may play a role, particularly among the educated population, who might question its efficacy as a means of government-citizen communication, thus diminishing their belief in its potential benefits. However, such an explanation will be explored further in the following chapters when conducting the interviews and looking in-depth into the mechanisms.

The last observation is related to Twitter as a platform, where a correlation is found between living in urban areas and the perception of benefits from the interaction with the government for the individual and the community. The results show that people in urban areas are less likely to perceive such benefits than those in rural areas. A plausible explanation is that Twitter is extensively used in New Zealand for emergency management and that most of those regularly occur in less populated areas where citizens are more engaged on those platforms for reporting their status or following the updates closely from the

government. The use of Twitter in rural areas represents an interesting finding to be unpacked in the causal mechanisms later in the following chapters.

Table 6.3

Logistic regression for specific public value variables related to the presence of government on social media (high perception) against demographic and behavioral covariates.

Dependent Variable	Covariates	Models	Estimate (B)	Std. Error	Sig. (p)
Accessibility	Age	M1	-0.421	0.139	0.002**
		M2	-0.534	0.101	0.000***
	Following government accounts	M1	0.426	0.338	0.207
		M2	0.756	0.244	0.002**
	Has a university degree	M1	0.054	0.309	0.860
		M2	0.222	0.238	0.350
	Hours using the platform per day	M1	-0.177	0.149	0.234
		M2	-0.117	0.107	0.274
	Is respondent male	M1	-0.770	0.323	0.017
		M2	0.004	0.225	0.988
	Lives in a city	M1	0.693	0.376	0.065
		M2	-0.017	0.228	0.939
	Trust in the platform	M1	0.332	0.142	0.019*
		M2	0.535	0.110	0.000***
	Trust in government	M2	0.632	0.109	0.000***
	Years using the platform	M1	0.174	0.078	0.027*
		M2	0.048	0.084	0.563
	Informing	Age	M1	0.188	0.140
M2			-0.492	0.106	0.000***
Following government accounts		M1	0.365	0.338	0.280
		M2	1.131	0.254	0.000***
Has a university degree		M1	-0.146	0.313	0.641
		M2	0.340	0.250	0.174
Hours using the platform per day		M1	0.200	0.149	0.181
		M2	0.135	0.112	0.231
Is respondent male		M1	-0.816	0.333	0.014*
		M2	-0.491	0.233	0.035*
Lives in a city		M1	-0.015	0.368	0.967
		M2	0.028	0.236	0.904
Trust in government		M2	0.756	0.112	0.000***
Trust in the platform		M1	0.407	0.143	0.004**
		M2	0.600	0.114	0.000***
Years using the platform		M1	0.101	0.079	0.203
		M2	-0.168	0.088	0.056
Transparency		Age	M1	-0.119	0.139

		M2	-0.439	0.101	0.000***	
	Following government accounts	M1	0.238	0.347	0.494	
		M2	0.704	0.257	0.006**	
	Has a university degree	M1	-0.096	0.317	0.761	
		M2	-0.063	0.241	0.795	
	Hours using the platform per day	M1	0.029	0.150	0.844	
		M2	0.138	0.109	0.206	
	Is respondent male	M1	-0.669	0.323	0.038*	
		M2	0.012	0.229	0.959	
	Lives in a city	M1	0.298	0.373	0.423	
		M2	-0.117	0.233	0.616	
	Trust in government	M2	0.889	0.121	0.000***	
	Trust in the platform	M1	0.362	0.145	0.012*	
		M2	0.356	0.110	0.001**	
	Years using the platform	M1	0.117	0.080	0.140	
		M2	-0.269	0.083	0.001**	
Decision Making	Age	M1	-0.221	0.155	0.154	
		M2	-0.105	0.109	0.337	
	Following government accounts	M1	-1.097	0.390	0.005**	
		M2	0.755	0.290	0.009**	
	Has a university degree	M1	0.200	0.369	0.589	
		M2	-0.238	0.267	0.373	
	Hours using the platform per day	M1	-0.051	0.167	0.758	
		M2	0.198	0.120	0.101	
	Is respondent male	M1	-1.069	0.323	0.001**	
		M2	-0.222	0.251	0.377	
	Lives in a city	M1	-1.387	0.512	0.007**	
		M2	-0.034	0.253	0.892	
	Trust in government	M2	0.666	0.148	0.000***	
		Trust in the platform	M1	0.573	0.174	0.001**
			M2	0.553	0.130	0.000***
	Years using the platform	M1	0.091	0.088	0.300	
		M2	-0.436	0.086	0.000***	
	Privacy and Freedom of Expression	Age	M1	0.374	0.134	0.005**
M2			-0.056	0.095	0.559	
Following government accounts		M1	0.297	0.322	0.357	
		M2	0.376	0.242	0.121	
Has a university degree		M1	-0.363	0.296	0.220	
		M2	-0.171	0.229	0.454	
Hours using the platform per day		M1	0.047	0.139	0.735	
		M2	-0.205	0.105	0.050*	

	Is respondent male	M1	0.283	0.290 0.329
		M2	-0.042	0.219 0.850
	Lives in a city	M1	-0.110	0.347 0.752
		M2	0.833	0.228 0.000***
	Trust in government	M2	0.513	0.102 0.000***
	Trust in the platform	M1	0.101	0.133 0.446
		M2	0.178	0.104 0.087
	Years using the platform	M1	0.007	0.075 0.922
		M2	0.052	0.079 0.513
Mission Achievement	Age	M1	0.020	0.129 0.879
		M2	-0.477	0.098 0.000***
	Following government accounts	M1	-0.174	0.341 0.609
		M2	0.280	0.241 0.245
	Has a university degree	M1	-0.294	0.301 0.328
		M2	-0.245	0.231 0.290
	Hours using the platform per day	M1	-0.175	0.141 0.216
		M2	0.280	0.106 0.008**
	Is respondent male	M1	-0.426	0.287 0.138
		M2	-0.027	0.220 0.904
	Lives in a city	M1	-0.142	0.341 0.678
		M2	-0.276	0.224 0.218
	Trust in government	M2	0.464	0.109 0.000***
	Trust in the platform	M1	0.532	0.140 0.000***
		M2	0.253	0.103 0.014**
	Years using the platform	M1	0.123	0.075 0.101
		M2	-0.219	0.082 0.007**
	Citizen Satisfaction	Age	M1	-0.432
M2			-0.285	0.101 0.005**
Following government accounts		M1	1.773	0.419 0.000***
		M2	0.889	0.256 0.001**
Has a university degree		M1	-0.049	0.350 0.889
		M2	-0.507	0.236 0.032*
Hours using the platform per day		M1	0.199	0.161 0.216
		M2	0.016	0.110 0.882
Is respondent male		M1	-0.289	0.325 0.374
		M2	-0.005	0.230 0.982
Lives in a city		M1	0.882	0.409 0.031*
		M2	-0.333	0.234 0.155
Trust in government		M2	1.167	0.151 0.000***
Trust in the platform		M1	0.445	0.158 0.005**
		M2	0.564	0.115 0.000***

Years using the platform	M1	-0.279	0.096	0.004**
	M2	-0.074	0.083	0.373

M1: Twitter regression model, M2: Facebook regression model
Significance: * p<.05; ** p<.01; *** p<.001

Table 6.4

Logistic regression for specific public value variables related to the interaction of government with citizens on social media (high perception) against demographic and behavioral covariates.

Dependent Variable	Covariates	Models	Estimate (B)	Std. Error	Sig. (p)
Benefit to Citizen	Age	M1	0.566	0.145	0.000***
		M2	-0.309	0.106	0.004**
	Following government accounts	M1	0.785	0.403	0.050*
		M2	0.959	0.279	0.001**
	Has a university degree	M1	0.100	0.331	0.762
		M2	-0.597	0.252	0.018*
	Hours using the platform per day	M1	-0.034	0.149	0.819
		M2	0.159	0.117	0.173
	Is respondent male	M1	0.052	0.309	0.866
		M2	0.168	0.243	0.491
	Lives in a city	M1	-1.172	0.390	0.003**
		M2	-0.035	0.248	0.889
	Trust in government	M2	0.443	0.117	0.000***
		M1	0.607	0.152	0.000***
	Trust in the platform	M2	0.593	0.124	0.000***
		M1	0.171	0.081	0.035*
Years using the platform	M1	0.171	0.081	0.035*	
	M2	-0.281	0.086	0.001**	
Interaction good idea	Age	M1	0.430	0.127	0.001**
		M2	-0.042	0.100	0.674
	Following government accounts	M1	0.753	0.334	0.024
		M2	0.388	0.251	0.122
	Has a university degree	M1	0.481	0.293	0.101
		M2	-0.553	0.239	0.021*
	Hours using the platform per day	M1	0.037	0.134	0.780
		M2	0.331	0.110	0.003**
	Is respondent male	M1	0.186	0.278	0.504
		M2	0.118	0.227	0.603
	Lives in a city	M1	-0.427	0.332	0.198
		M2	-0.124	0.229	0.587
	Trust in government	M2	0.302	0.099	0.002**
		M1	0.225	0.127	0.077
	Trust in the platform	M2	0.461	0.111	0.000***
		M1	0.064	0.072	0.372

		M2	-0.344	0.082	0.000***	
Benefit to community	Age	M1	0.406	0.138	0.003**	
		M2	-0.167	0.101	0.097	
	Following government accounts	M1	-0.269	0.344	0.434	
		M2	0.334	0.252	0.185	
	Has a university degree	M1	0.413	0.312	0.185	
		M2	-0.206	0.240	0.389	
	Hours using the platform per day	M1	-0.080	0.146	0.585	
		M2	0.463	0.110	0.000***	
	Is respondent male	M1	0.032	0.300	0.915	
		M2	0.080	0.226	0.723	
	Lives in a city	M1	-0.821	0.383	0.032*	
		M2	0.086	0.231	0.711	
	Trust in government	M2	0.378	0.111	0.001**	
		Trust in the platform	M1	0.453	0.144	0.002**
	Years using the platform		M2	0.281	0.109	0.010**
			M1	-0.057	0.076	0.458
			M2	-0.185	0.080	0.021*
		Interaction advantages outweigh the disadvantages	Age	M1	0.094	0.123
	M2			-0.016	0.102	0.875
	Following government accounts		M1	0.176	0.317	0.580
M2			0.742	0.261	0.004**	
Has a university degree	M1		-0.266	0.290	0.359	
	M2		-0.449	0.243	0.064	
Hours using the platform per day	M1		0.104	0.133	0.435	
	M2		0.069	0.111	0.533	
Is respondent male	M1		0.624	0.276	0.024*	
	M2		0.177	0.232	0.445	
Lives in a city	M1		0.780	0.336	0.020*	
	M2		0.220	0.236	0.352	
Trust in government	M2		0.395	0.100	0.000***	
	Trust in the platform		M1	0.126	0.126	0.316
Years using the platform			M2	0.667	0.120	0.000***
			M1	0.149	0.071	0.035*
			M2	-0.227	0.081	0.005**

M1: Twitter regression model, M2: Facebook regression model

Significance: * p<.05; ** p<.01; *** p<.001

6.3. Low public value perceptions from social media use in New Zealand

This section analyzes low perceptions of public value against the demographic and behavioral covariates in the sample. Multivariate logistic regressions were also used to construct the profile of those who perceive low or no public value from social media use in New Zealand. The analysis aims to understand that group

further and prepare for the qualitative analysis in the following chapters on the causal mechanisms that lead to such perceptions.

6.3.1. General public value perceptions

Similar to the high perceptions of public value, covariates such as age, years of using the platform, and following government accounts still have a similar effect, especially for Facebook.

The gender variable was found to be correlated to low public value perceptions. Female users are more likely than male users to perceive low public value from government presence or interaction on Twitter.

Table 6.5

Logistic regression for computed public value indices (low perception) against demographic and behavioral covariates.

Dependent Variable	Covariates	Models	Estimate (B)	Std. Error	Sig. (p)	
Overall Public Value	Age	M1	-0.169	0.197	0.390	
		M2	0.367	0.107	0.001**	
	Following government accounts	M1	-0.769	0.453	0.090	
		M2	-1.107	0.257	0.000***	
	Has a university degree	M1	0.367	0.411	0.372	
		M2	0.399	0.254	0.116	
	Hours using the platform per day	M1	0.108	0.192	0.573	
		M2	0.039	0.114	0.732	
	Is respondent male	M1	-0.934	0.428	0.029*	
		M2	0.360	0.240	0.133	
	Lives in a city	M1	0.152	0.509	0.765	
		M2	-0.254	0.242	0.294	
	Trust in the platform	M2	-0.531	0.196	0.007**	
		M1	-0.531	0.113	0.000***	
	Trust in government	M2	-1.097	0.166	0.000***	
		M1	0.157	0.121	0.196	
	Years using the platform	M1	0.157	0.121	0.196	
		M2	0.310	0.098	0.001**	
	Presence Public Value	Age	M1	-0.601	0.244	0.014*
			M2	0.545	0.114	0.000***
Following government accounts		M1	-1.501	0.531	0.005**	
		M2	-0.816	0.262	0.002**	
Has a university degree		M1	-0.138	0.480	0.774	
		M2	0.686	0.266	0.010*	
Hours using the platform per day		M1	0.083	0.215	0.698	
		M2	0.066	0.118	0.575	
Is respondent male		M1	-1.101	0.505	0.029*	
		M2	0.608	0.250	0.015*	
Lives in a city		M1	0.810	0.590	0.170	

		M2	-0.007	0.251	0.979
	Trust in government	M2	-1.783	0.244	0.000***
	Trust in the platform	M1	-0.648	0.232	0.005**
		M2	-0.618	0.118	0.000***
	Years using the platform	M1	0.330	0.146	0.023*
		M2	0.199	0.100	0.046*
Interaction Public Value	Age	M1	-0.503	0.148	0.001**
		M2	-0.003	0.100	0.978
	Following government accounts	M1	-1.220	0.332	0.000***
		M2	-0.749	0.246	0.002**
	Has a university degree	M1	0.186	0.322	0.564
		M2	0.661	0.241	0.006**
	Hours using the platform per day	M1	-0.069	0.147	0.640
		M2	-0.071	0.110	0.516
	Is respondent male	M1	-0.851	0.305	0.005**
		M2	0.131	0.228	0.565
	Lives in a city	M1	-0.156	0.395	0.693
		M2	-0.041	0.233	0.860
	Trust in government	M2	-0.404	0.109	0.000***
	Trust in the platform	M1	-0.312	0.141	0.027*
		M2	-0.530	0.108	0.000***
	Years using the platform	M1	0.085	0.083	0.307
		M2	0.373	0.093	0.000***

M1: Twitter regression model, M2: Facebook regression model

Significance: * p<.05; ** p<.01; *** p<.0011

6.3.2. Perceptions of the Government's Presence and Interaction on social media

For the presence or interaction of the government with citizens on Facebook and Twitter, no significant correlations were observed between the low perception variables for public values and demographic or behavioral variables. Correlations follow a reverse pattern to the ones highlighted for high public value perceptions.

Please refer to tables 6.9 and 6.10 in the annex for further details.

6.4. Role of citizen-related enablers of public value in shaping perceptions

As discussed in the literature review chapter, some enablers of public value influence perceptions and are related to external factors such as citizens' trust in the government and the platforms. The two enablers were represented in the survey by four questions, one about whether the users follow government accounts and the second about their overall trust in the government. The third and fourth questions were about the respondents' trust in the platform as safe, comfortable, robust, and reliable.

For Facebook, the regression analysis showed that the perceived public values from the presence and the interaction of the government with citizens on Facebook are correlated with users' view of Facebook as a robust, reliable, and safe environment. The results were also consistent for Twitter.

Users who have been on the platform for more years perceive less public value from the presence of the government on Facebook, especially when it comes to public values such as transparency, decision-making, and mission achievement. The same applies to public values stemming from government interaction with citizens, especially regarding the benefit of individuals and the community.

On the other hand, users who trust Twitter as a platform see more social media influence on information sharing, transparency, decision-making, and mission achievement and see fewer threats to privacy and freedom of expression. They also see more value in the interaction between citizens and government on all levels. Unlike Facebook, the time and frequency of using the platform have not had any observable correlation with perceptions of public value.

Moreover, Users who use Facebook more often per day perceive higher public value from the presence of the government on the platform, especially regarding mission achievement. They also perceive high public value from the interaction with citizens, especially concerning the benefit of the community.

Furthermore, users who follow Facebook pages have been found to perceive more public value from the presence and interaction of the government on Facebook compared to those who do not follow those pages. Same as for Twitter.

However, users who do not follow the government's Facebook or Twitter accounts see more negative perceptions of the public value of using the platforms by the government as a threat to privacy and freedom of expression. They also perceive less public value from using the platforms in terms of transparency and sharing information by the government.

The results confirm the theories pertaining to citizens' trust in technology and government as an enabler for public value creation. The results show that the same applies to social media, similar to digital government initiatives.

Table 6.6

Logistic regression for specific public value variables related to the interaction of government with citizens on social media (high perception) against demographic and behavioral covariates.

Dependent Variable	Covariates	Models	Estimate (B)	Std. Error	Sig. (p)
Overall Public Value	Trust in government	M2	0.922	0.141	0.000***
		M1	0.779	0.129	0.000***
Presence Public Value	Trust in the platform	M1	0.735	0.162	0.000***
		M2	0.647	0.123	0.000***
	Trust in government	M1	1.219	0.156	0.000***
		M1	0.590	0.164	0.000***

Interaction Public Value	Trust in government	M1	0.452	0.109	0.000***
	Trust in the platform	M2	0.596	0.118	0.000***
Accessibility	Trust in the platform	M1	0.464	0.139	0.001**
		M2	0.332	0.142	0.019*
Informing	Trust in government	M2	0.632	0.110	0.000***
	Trust in the platform	M1	0.756	0.112	0.000***
Transparency	Trust in government	M2	0.407	0.143	0.004**
		M2	0.600	0.114	0.000***
Decision Making	Trust in government	M2	0.889	0.121	0.000***
	Trust in the platform	M1	0.362	0.145	0.012*
Privacy and Freedom of Expression	Trust in government	M2	0.356	0.110	0.001**
		M2	0.666	0.148	0.000***
Mission Achievement	Trust in the platform	M1	0.573	0.174	0.001**
	Trust in government	M2	0.553	0.130	0.000***
Citizen Satisfaction	Trust in government	M2	0.513	0.102	0.000***
	Trust in the platform	M1	0.101	0.133	0.446
Benefit to Citizen	Trust in government	M2	0.178	0.104	0.087
		M2	0.464	0.109	0.000***
Interaction good idea	Trust in the platform	M1	0.532	0.140	0.000***
	Trust in government	M2	0.253	0.103	0.014**
Benefit to community	Trust in government	M2	1.167	0.151	0.000***
	Trust in the platform	M1	0.445	0.158	0.005**
Interaction advantages outweigh the disadvantages	Trust in government	M2	0.564	0.115	0.000***
		M2	0.593	0.124	0.000***
Interaction advantages outweigh the disadvantages	Trust in the platform	M2	0.302	0.099	0.002**
	Trust in the platform	M1	0.225	0.127	0.077
Interaction advantages outweigh the disadvantages	Trust in the platform	M2	0.461	0.111	0.000***
		M2	0.378	0.111	0.001**
Interaction advantages outweigh the disadvantages	Trust in government	M1	0.453	0.144	0.002**
	Trust in the platform	M2	0.281	0.109	0.010**
Interaction advantages outweigh the disadvantages	Trust in government	M2	0.395	0.100	0.000***
	Trust in the platform	M1	0.126	0.126	0.316
		M2	0.667	0.120	0.000***

M1: Twitter regression model, M2: Facebook regression model

Significance: * p<.05; ** p<.01; *** p<.001

6.5. Tracing public value on social media

After verifying the presence of positive and negative public value perceptions that are correlated to various demographic and behavioral factors, this section explores the quantitative questions of the survey. This analysis in this section aims to a) identify cases through which the process tracing analysis can be qualitatively conducted and b) to develop initial mechanisms for public value creation and erosion from citizens' perspectives.

The survey included two main open-ended questions, which will be analyzed in this section. One is about the accounts and pages that respondents follow. The second concerns respondents' opinions on how public value can be created or eroded on social media. The answers to the latter question and expert interviews are used to develop the initial mechanistic models for public value creation and erosion.

6.5.1. What pages do people follow?

Respondents of the Facebook survey subscribe to a range of pages on Facebook for governmental organizations, initiatives, and politicians. Around 60% of the sample follow governmental-related pages, among which 279 respondents indicated what types of government-related pages or accounts they follow. The chart below shows the breakdown of those pages by type and sector.

Figure 6.9

Number of respondents following government pages by sector

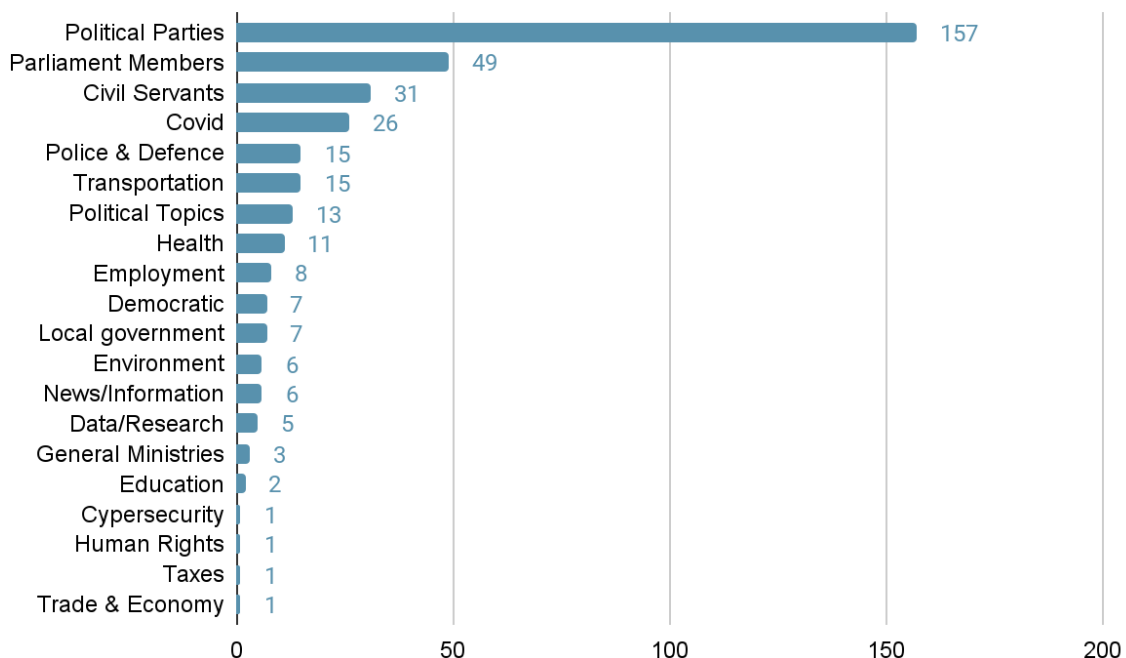
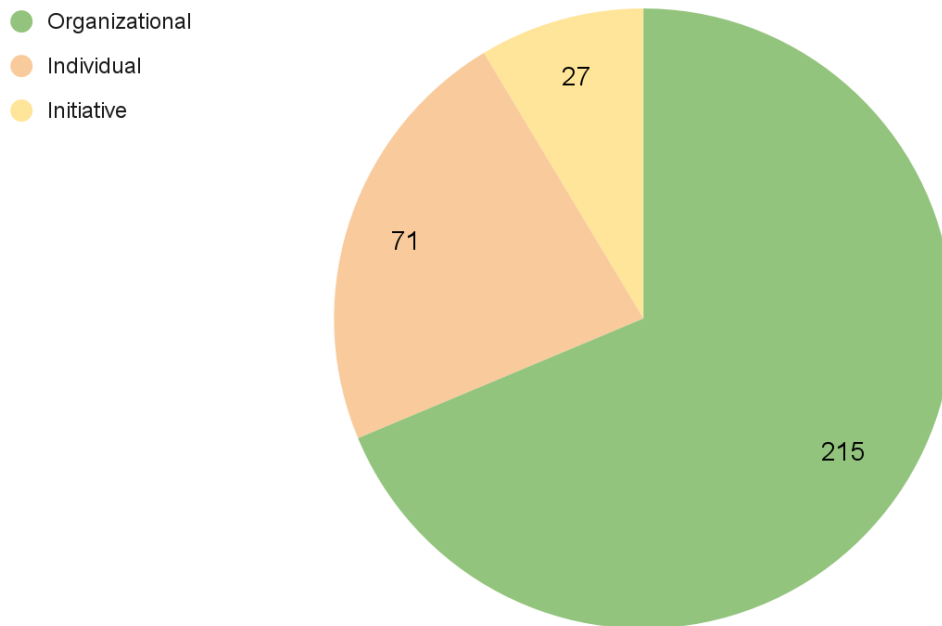


Figure 6.10

Number of respondents following government pages by type



The results show that most of the pages followed by users belong to organizations such as political parties, police and defense departments, transportation authorities, and health-related institutions. The New Zealand Transport Agency (NZTA) was among the top-mentioned organizations after pages that represented political parties and before pages that represented the National Police, Ministry of Health, or the parliament. For individual accounts, the top-mentioned page was that of prime minister Jacinda Arden, followed by parliament members such as David Seymour and Judith Collins. Some respondents mentioned individual governor or ex-governor accounts and organizational accounts that belong to the local government. However, those mentions did not represent a large portion of the responses. Moreover, when it comes to government initiatives, the top-mentioned pages were those related to the Covid pandemic, such as Unite Against Covid, on which the government shares information about Covid alert levels, vaccine rollout, and various information about work and travel restrictions at different times during the pandemic.

On the other hand, Twitter users in New Zealand subscribe to a range of accounts on the platform affiliated with governmental organizations, initiatives, and politicians. Around 80% of the sample follow the government, among which 220 respondents indicated what types of government-related pages or accounts they follow. The chart below shows the breakdown of those accounts in terms of type and sector.

Figure 6.11
Percentage of respondents following a Twitter Account by Sector.

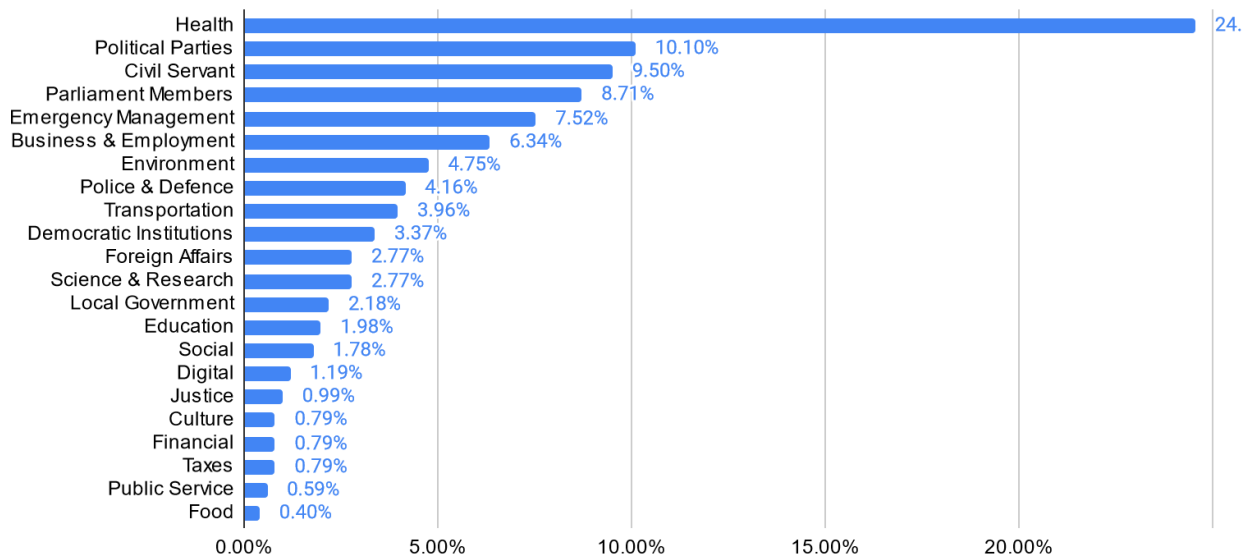
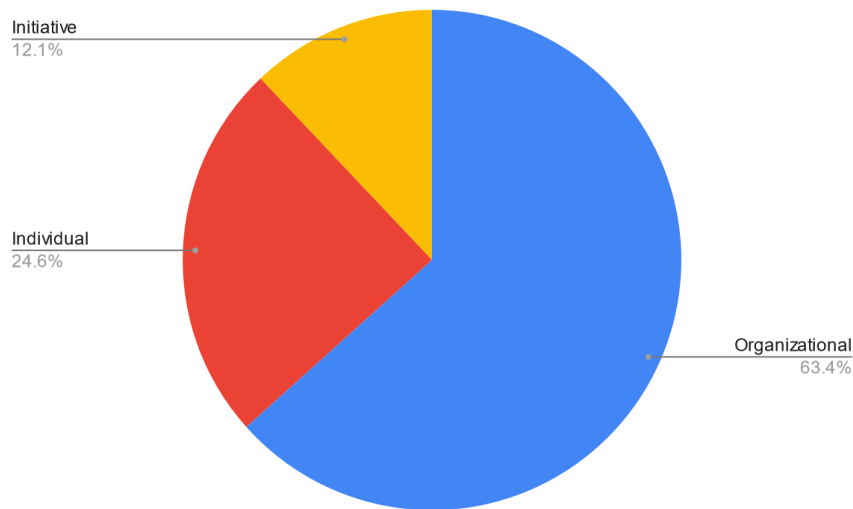


Figure 6.12
Number of users following government accounts on Twitter by type.



The results show that most of the pages followed by users belong to organizations such as health, emergency management, business and employment, police and defense, and transportation. The Ministry of Health was among the top-mentioned organizational accounts before pages that represented the national emergency management civil defense authority, then Business and Employment, police, and Transportation. For individual accounts, the top-mentioned page was that of prime minister Jacinda Arden, followed by parliament members such as David Seymour and Judith Collins.

The findings coincide with Facebook's, where most followed accounts were those of government organizations rather than individuals. The health sector maintained the top sector that people interact with and follow.

6.5.2. Citizens' general opinion on using social media by the government.

The opinion of citizens was additionally captured through an open-ended question in both Twitter and Facebook surveys.

The answers are analyzed quantitatively and qualitatively to highlight different aspects that may contribute to public value perceptions among respondents. Expert interviews were conducted, as highlighted in Chapter 4, with seven professors and experts on social media in New Zealand to refine and contextualize citizens' coded opinions and formulate them properly into causal mechanisms that can be used as initial models for the quantitative study.

The opinions were coded into three sections: neutral, positive, and negative. The result was 247 negative opinions (161 for Facebook and 86 for Twitter), 234 positive opinions (92 for Facebook and 142 for Twitter), and, finally, 104 neutral opinions (31 for Facebook and 83 for Twitter). The analysis of data for each category of coded responses indicated certain words and phrases that are most repeated among respondents and are captured in the tables below:

Table 6.7
Frequency of words in different tagged citizen opinion statements on Facebook

Negative		Positive		Neutral	
Word	Frequency	Word	Frequency	Word	Frequency
propaganda	54	good	37	inform	10
inform	27	inform	26	can	9
citizen	18	think	20	public	7
opinion	17	media	18	current	7
communic	17	communic	16	issue	7
think	17	like	13	like	7
lie	16	reach	12	good	6
media	14	social	11	communication	6
control	14	platform	10	media	6
narrat	14	citizen	10	way	6
just	14	covid	9	propaganda	5
get	13	idea	9	parti	5
govern	13	fine	8	polit	5
truth	13	make	8	social	5
can	12	news	8	policy	4
will	12	see	8	audience	4
platform	12	way	8	however	4
manipul	11	form	7	new	4
social	11	help	7	bad	3
like	11	interact	7	purpose	3
tool	11	general	7	spread	3
public	10	govern	7	certain	3
thing	10	especi	6	post	3

spin	10	posit	6	problem	3
agenda	9	just	6	access	3
anything	9	open	6	one	3
nz	9	ok	6	fact	3

Table 6.8
Frequency of words in different tagged citizen opinion statements on Twitter

Negative		Positive		Neutral	
Word	Frequency	Word	Frequency	Word	Frequency
inform	17	inform	44	communic	18
communic	16	good	41	inform	15
propaganda	11	communic	29	way	11
like	10	media	20	another	9
polit	9	way	19	good	8
platform	9	get	18	fine	8
opinion	9	think	18	think	7
seem	8	make	17	tweet	7
good	8	time	15	general	7
one	8	use	15	like	6
feel	8	info	13	ok	6
enough	7	engage	13	opinion	6
often	7	general	13	better	5
account	7	channel	13	line	5
media	7	covid	13	citizen	5
social	7	import	12	channel	5
block	6	like	11	effect	4
message	6	agency	10	feed	4
person	6	reach	10	see	4
official	6	help	10	one	4
poor	6	great	10	differ	4
even	6	news	10	aiway	4
promote	5	social	9	media	4
citizen	5	account	9	message	4
way	5	update	8	manipulation	4
ministry	5	excel	8	seem	3
agency	5	access	8	opposite	3

6.5.2.1. Neutral opinions

Figure 6.13

Neutral opinion of Facebook and Twitter use



Among all respondents, 40 presented a neutral opinion about the government's use of Facebook. Most of the answers did not present a clear stance about the use of Facebook by the government but conditioned public value creation to the use in topics such as COVID-19. Few respondents shared a concern that the government might be presenting itself as a single source of truth. Others discussed both the advantages and disadvantages of using social media, such as broad informational coverage, especially during the pandemic, but were concerned that the government might have been spreading misinformation or not fact-checked materials. According to some opinions, open access to information and the possibility to interact with the government is perceived as a positive value. However, the concern about deleting comments or censoring discussions might decrease their trust in the government. Additionally, several respondents noticed that the government has not been using social media often in the past and that various Facebook accounts have been active mainly during the COVID-19 pandemic, thus making it hard to properly assess the impact of the governance presence in social media for its citizens beyond the crisis.

On Twitter, 83 respondents presented a neutral opinion about the government's use of Twitter. Most of the answers did not present a clear stance about the government's use of Twitter but conditioned public value creation. Some respondents mentioned that Twitter should not be used to target everyone but only specific target groups who are present on the platform. They also recommended that Twitter should only be used as a complementary method to other tools of communication. Some respondents highlighted the role of media in resharing information on Twitter, and in that case, Twitter may become even more effective. *“Twitter is not widely used, but reporters often pick up tweets and spread the content more widely.”* (Respondent 82),

which comes in line with the opinion obtained from expert interviews about the role of media as a medium that boosts the reach of posts shared originally on social media.

Some respondents mentioned that Twitter is supposed to be used more than now, and the opposition is doing a better job of using it to communicate with people. Many respondents confirmed that Twitter helps share updates about critical and health-related matters and needs to be used cautiously to share information, not to collect information about citizens. *“Good if it is used to push information. Bad when it is used to collect information”* (Respondent 354).

6.5.2.2. Causal mechanisms for diminishing public value.

The majority of negative opinions about the New Zealand government's use of Facebook used words such as propaganda and manipulation, which were repeated more than 60 times throughout negative responses. In that context, respondents shared their understanding of the goal of using Facebook in government as a tool to manipulate citizens, spread propaganda, tell lies, or hide the truth from citizens. Respondents used words such as "spin" with "facts" and "lie" with "truth" to share their negative perceptions and sentiments. Few respondents shared their fear of the invasion of their privacy by the government, making Facebook an unsafe space for their interactions with friends and family. They shared their concerns about freedom of speech and that Facebook allows government organizations to delete users' comments and block them when they disagree with the government's opinion, thus keeping their official pages filtered from negative comments and showing only comments that align with their thoughts and beliefs. In the same context, some respondents pointed out that they fear a greater curb on freedom of speech after introducing the new hate speech law, which the government currently proposes. The proposals for a new law against hate speech were developed following the mosque attacks filmed on Facebook Live, which criminalizes hate speech or incitement of hate and violence on Social Media platforms, including Facebook (New Zealand Ministry of Justice 2021; Reuters 2021a). As discussed earlier, the law intensifies the punishment for such crimes, increasing fears among some respondents that it might be misused to punish opposition views. Many of those who feared the impact of the government's use of Facebook on freedom of speech online suggested that the government should stay entirely out of Facebook. Moreover, some respondents shared their perception of Facebook's use in government as a tool for advertising and spreading information to manipulate the masses.

On Twitter, most negative opinions used words such as propaganda and manipulation, which were repeated 11 times throughout negative responses. In that context, respondents shared their understanding of the goal of using Twitter in government as a tool to manipulate citizens, spread propaganda, tell lies, or hide the truth from citizens, which all align with what has been said in the Facebook survey. Responses about the government deleting posts and the platform and government working together to “filter” the internet were spotted.

On Twitter, government accounts (that seem like fronts or echo chambers for the government) attack people who object to mandatory vaccination. The PM wants the internet to be “filtered” - and believes that the government should decide what is true or false, right or wrong, good or bad. The law was put on hold, but I suspect arrangements have been made with internet platforms for censorship to occur anyway. (Respondent 85)

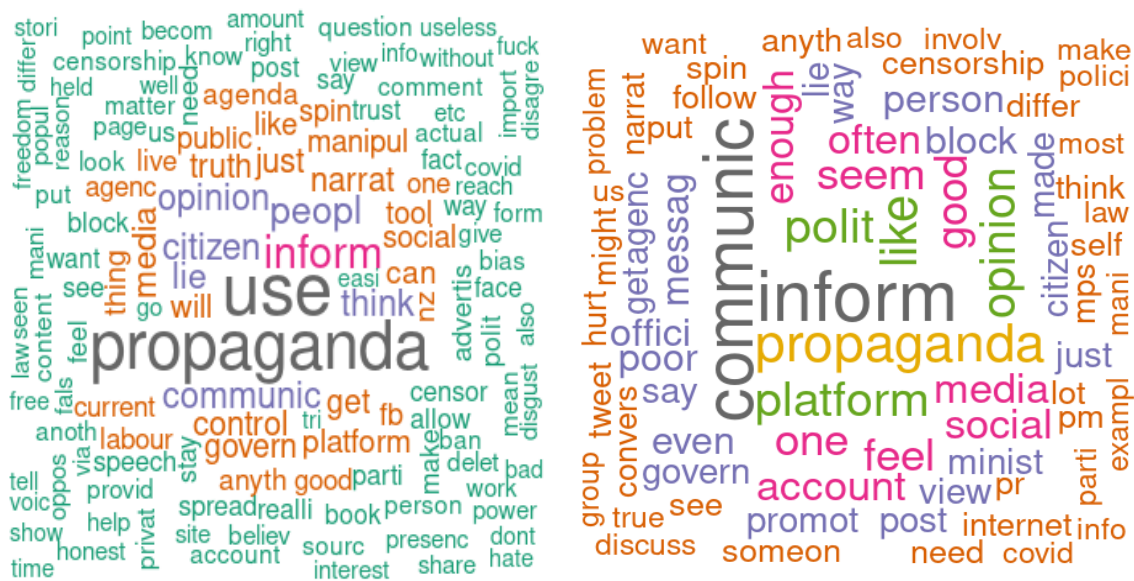
The censorship of social media has reached ludicrous levels. Governments that rely heavily on social media as a communication mechanism to their local constituencies seem like political theater to me. (Respondent 375)

Some other respondents focused on the language used by the government for communication on social media, which was referred to by some as inappropriate and manipulative.

Several respondents also indicated that Twitter is not used enough or as it should be, describing the government as “lazy” or highlighting the lack of information about the abandonment of accounts, such as in the case of the (Managed isolation and quarantine) MIQ. Moreover, similar to the findings from Facebook, some respondents shared their perception of Facebook utilization in government as a tool for advertising and spreading information to manipulate the masses.

Figure 6.14

Negative opinions of Facebook and Twitter use



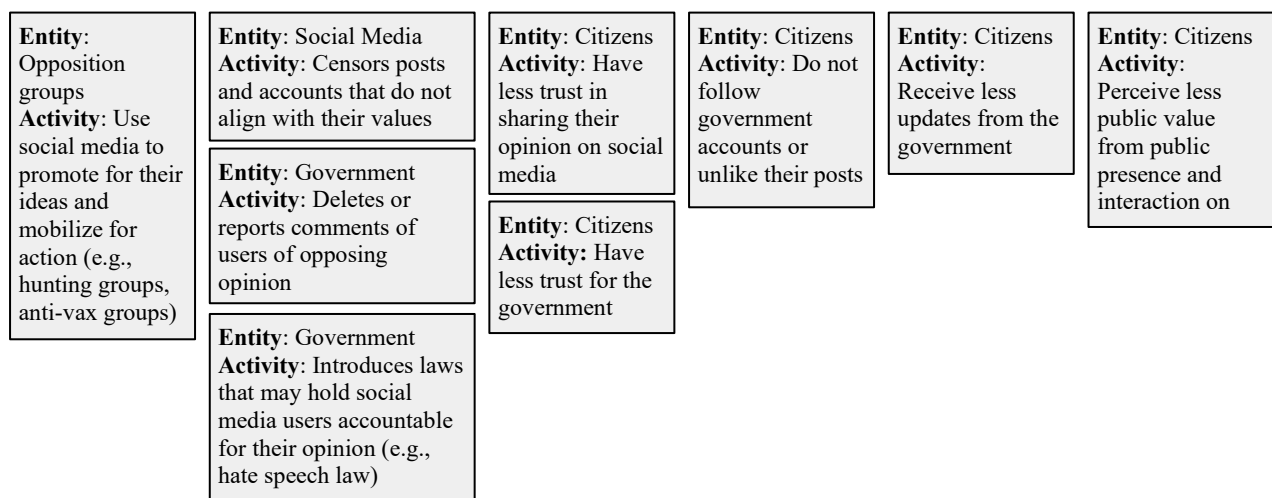
Facebook

Twitter

Some causal mechanisms that diminish public value perceptions can be observed by analyzing the negative opinions and expert interviews. The process begins with citizens, especially those defined in the survey analysis, who do not trust the government or the platform and may not follow government social media accounts, even though they are using the platform to connect with other networks. When this group starts promoting ideas that oppose the government’s opinion, they initiate three different processes. One is that social media, under pressure from governments or on their own, starts censoring posts and accounts, sharing opinions not aligned with Facebook community guidelines. The second is that the government

might also be deleting or reporting their comments. The third is that the government issues or suggests legislation that could enable them to crack down on those radical opinions, such as the devised hate speech law after the Christchurch incident, elaborated in Chapter 5. The three processes described above might lead to the alienation of citizens, fostering less trust in their government and leading them to believe that the government is suppressing their opinions and freedom of expression. They also might develop self-censorship and start to share less of their opinion on the platform or move to other social media platforms like Telegram, where they could communicate together in a filtered bubble without government interference (such as in the case of the anti-vaccination protests in New Zealand that occupied the parliament in February-March 2022 (Corlett, 2022)). When citizens' trust becomes low in government entities, they stop following them on social media and stop receiving updates from them, whether organically or virally, through their network (because of the algorithmic governance of social media platforms and filtering according to affinity scores, as illustrated in the theoretical framework chapter). The result would be that this group of citizens would see no public value in the government's presence or interaction and describe it as manipulative, propaganda, or useless, an opinion that several respondents shared in the survey.

Figure 4.17
Hypothesized Process of public value erosion on social media

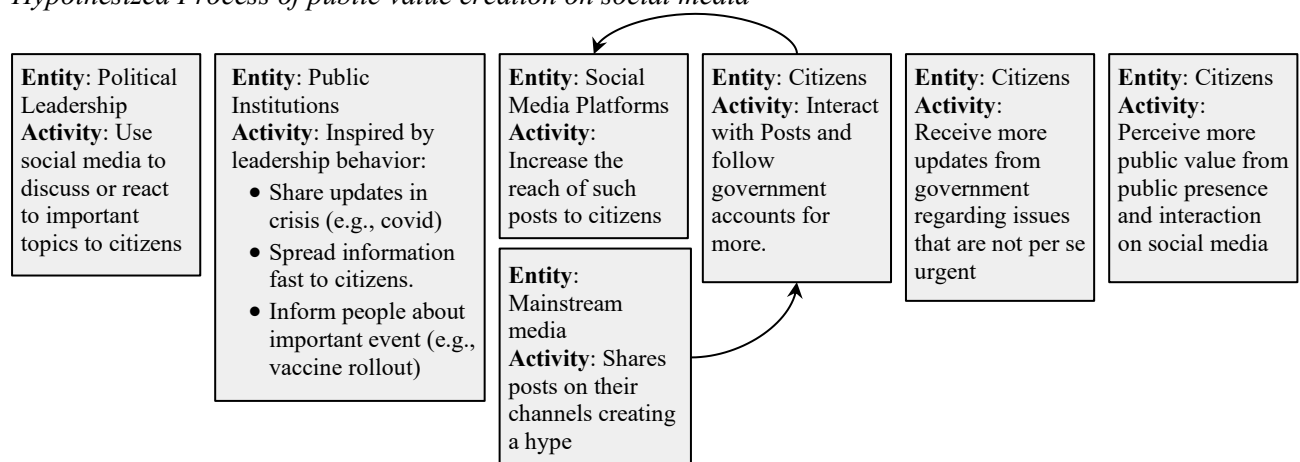


6.5.2.3. Causal Mechanisms for creating public value.

On the contrary, positive opinions focused on the use of Facebook as a tool for spreading information about policies and governments' actions, with several examples highlighting how governments used Facebook during the covid pandemic to share updates on the situation in the country, as well as to inform people about vaccine rollouts. Some respondents pointed out that social media helps reach out to younger generations. This claim aligns with the findings about the correlation between age and positive public value perceptions from government presence on Facebook and their interaction with citizens. Respondents viewed Facebook as a tool of communication that helps reach out to a broader public, keeping them on an equal level of involvement with the government. Respondents also indicated positive implications of Facebook use by the government, such as high levels of policy awareness among citizens, involvement of

Few mechanisms for public value creation from the process of government social media use can be deduced from the positive responses and expert interviews. The deduced process starts with mimetic forces resulting from the adoption of social media by political leadership, which are popular and known for using social media to engage with citizens such as Chris Bishop or Jacinda Adern. Such forces may drive public institutions to adopt similar practices for posting on social media. On the other hand, public institutions start sharing updates that seem relevant to their mission and would attract citizens to their pages. In doing so, they focus on three main areas: relevant and important updates, rapid alerts to citizens with a sense of urgency, and general information about events and activities the government is organizing. Sharing such information might increase the public institution's social media reach to citizens living in proximity and who might be affected by such updates (relevancy), as explained in the theoretical framework chapter. Another factor that plays a catalytic role in promoting the reach of organizations is mainstream media. As highlighted by several experts during the interviews and a few survey respondents, mainstream media often share such posts outside social media platforms (e.g., Stuff. NZ or Harrolds) referencing the original social media posts, which drives citizens to interact with the posts and potentially follow government accounts. When citizens follow government accounts, they will start perceiving more public value from the government's presence on social media (this was verified in the analysis of sociodemographic factors and their correlation to citizens' positive public value perceptions).

Figure 4.16
Hypothesized Process of public value creation on social media



6.6. Conclusion

In this chapter, both the Twitter and Facebook surveys are analyzed. The analysis attempted to answer the first research question about whether a public value is created or eroded by the government's utilization of social media in New Zealand. The analysis of the surveys showed more potential for public value creation on Twitter compared to Facebook. However, generally, public value perceptions were evenly distributed among the population sample. It also confirmed that enablers of public value creation play a vital role in shaping citizens' perceptions of public value, confirming the validity of theories discussed in the literature review.

Moreover, the research question related to the sociodemographic factors that define groups of citizens with low and high public value perceptions in New Zealand was explored. By conducting further analysis of the data, the study was able to identify two profiles of citizens using social media platforms: one that perceives public value from the presence and interaction with the government on social media, and they are characterized by being younger, recent adopters of social media platforms, and followers of government accounts and profiles on social media. The second profile is for citizens who do not perceive public value from government use of social media and are characterized by being older, early adopters of social media, and non-followers of government accounts. The profiling of the two groups can help further search for evidence in process tracing and evaluate the probative value of mechanistic evidence. On a policy level, it also helps devise social media policies that can target both groups and burst filter bubbles, creating equal public value for both.

The analysis raised several other questions that need to be considered in the qualitative analysis later in the following chapters: Why do younger citizens in New Zealand perceive more public value from interaction with the government? What creates such value? Moreover, what, on the contrary, erodes such values for older citizens? What do active and newly joined social media users believe can contribute to public value creation? Furthermore, what do users who are not as active on the platform but have been there longer believe can erode public value? What do the top government pages mentioned by respondents offer to maximize public value for their followers, and what are they doing to erode it? How can issues such as the new hate speech law and the government's ability to delete users' comments erode public value for users? Moreover, how can opportunities, such as real-time information dissemination and the possibility of creating open and transparent information-sharing channels on social media platforms, contribute to creating public value?

In the second half of this chapter, the study looked at the open-ended questions in the survey and other data retrieved from expert interviews. By analyzing the data, the study developed two mechanistic processes: one for public value creation for the first group of citizens who perceive high public value from social media utilization and another for public value erosion for the second group of citizens who perceive no public value from social media use. The mechanisms also included several areas where the deductive reasoning of process tracing might be helpful to uncover or verify.

The discussion in the following chapters will focus on the case studies highlighted by survey respondents. It will develop and elaborate more on public value creation and erosion mechanisms in light of the collected empirical evidence and fingerprints.

Chapter 7 : Cases of Social Media Adoption in the New Zealand Government

As discussed earlier, the survey results show that participants, on average, follow four key public institutions on social media. The institutions are the Ministry of Health, the United Against Covid Initiative, the New Zealand transport authority (NZTA), the Police, and the National Emergency Management Agency (NEMA or, as named on social media, the civil defense). These institutions have a significant presence on social media. They are not only present on Facebook and Twitter but also on other new platforms such as TikTok and Instagram. For this research, I selected those institutions as prominent and diverse cases for investigating the mechanisms of public value creation and erosion. The cases cover a variety of sectors in New Zealand's government; they all offer their services to the public and communicate with them frequently on social media.

In this chapter, I explore the social media channels of the institutions mentioned above. The adoption and utilization of social media in those institutions will be analyzed to shed light on the following areas:

- a) the context in which the institutions operate and the services they offer citizens online and through social media.
- b) existing enablers of public value creation, highlighting the possibility of public value creation on social media in those institutions
- c) the current state of social media utilization in the institution
- d) the social media strategies that the institutions follow in light of the theories of social media adoption discussed in Chapter 4
- e) the managerial Public Values the institutions promote through social media practices.

The data collected throughout the study through interviews with public servants, data scrapping, and official open data access inquiries are used in this chapter to explore the context of social media utilization. The interviews helped explore the practices and workings of social media adoption, the enablers, and the challenges to public value creation in those institutions. Additionally, the data available on the institutions' websites and social media accounts and the data retrieved from the official open information requests submitted to the institutions help understand their social media strategies and the objectives of social media use.

7.1. General overview of the cases

All the departments under study have their social media teams responsible for developing and implementing their social media strategies, creating informational campaigns, and reporting to the public institution about the results of their work with citizens on the respective platforms. The social media teams are often relatively small in size, and they carry out a set of standard daily practices ranging from creative writing to social media strategy planning to moderation of comments and inbox messages, graphic designing, video shooting, or reporting to leadership on social media progress. In addition, some of them were assigned complex automation tasks like Sparkol or Hootsuite. Such automation tasks include configuring tools like Sparkol, setting the application rules for spotting critical comments or inbox messages on social media accounts, and filtering out those less important. For some departments, such tasks are essential to reduce the effort needed to reply and interact with the citizens, given the limited capacities of social media teams.

Most social media departments in the New Zealand government operate under the coordinated incident management system CIMS (NEMA, 2020). CIMS is a framework drafted by the national emergency management agency (one of the agencies under study) to establish effective coordinated incident management across public agencies according to the "National Civil Defense Emergency Management Plan Order," which was developed in 2015 and mandated to all public agencies in New Zealand. The CIMS applies to various incidents covering various government sectors, including environment, food, transportation, business, crime, policing, pandemics, and disease prevention. CIMS mandates that government response should satisfy three crucial principles: the first is to be responsive to the community needs, the second is to be flexible and scalable depending on the situation and context of incidents, and the third is to have unity of effort and to coordinate response across government entities. The general objectives addressed in the CIMS for each government response cover a wide variety of the positive consequences and impacts envisioned from all responses, many of which apply to the government's use of social media, such as identifying and attending to community needs, providing notifications and public messaging, preventing the escalation of the incident or emergency, and developing situational awareness.

One of the core functions of CIMS is called Public Information Management (PIM); under this function, most social media teams operate in various ministries and agencies. PIM defines several sub-functions for teams working on PIM in public agencies, which are media liaison, online media management, community engagement, stakeholder and partner management, information, warning, and finally, internal communication. All the PIM sub-functions are carried out closely with NMEA's strategic communication personnel to ensure consistency and good governance.

All social media specialists interviewed are part of a practitioner network that enables them to connect rapidly and informally with one another across government departments, seeking advice and sharing best practices. For example, as soon as I started the interviews with the Ministry of Health, other social media

civil servants were directly aware of my research and what I was doing through such networks. The network has a Facebook group for its members. Their members use other social media channels as well to communicate on their own quickly and effectively. Most of the civil servants on this network were part of the emergency management network built originally for fast response in case of earthquakes, floods, and other natural disasters.

To sum up, social media adoption in New Zealand is past the diffusion phase, as discussed in the theoretical framework chapter, where guidelines and best practices are not only institutionalized in the respective departments but also where best practices are shared constantly across government agencies, which makes it easier to spot similar mechanisms for public value creation and erosion across multiple organizations since in the diffusion phase most organizations would be more or less on the same level. The table below represents a summary of the findings from all institutions:

Table 7.1
Summary of social media data about the case studies

	Ministry of Health	National Emergency Management Agency (NEMA)	Police	Transport Agency (NZTA)
Stage of social media adoption	Data-centric phase	Data-centric phase	Unknown	Full integration
Team size	Core team 3, admins 12-20	Core team 4, admins 34	Admins 5-17	Core team 7, admins 20-25
Strategies used	Push, pull, and slight collaboration	Push, pull, collaboration	Push and slightly pull	Push, pull, collaboration, and service delivery
Platforms used	Facebook, Twitter, Instagram, YouTube, TikTok, LinkedIn	Facebook, Twitter, LinkedIn, and Instagram	Facebook, Twitter, Instagram, LinkedIn, and Youtube	Facebook, Twitter, Instagram, LinkedIn, and Youtube
Number of Followers	More than 600k	~ 260k	~ 500k	More than 600k
Central vs. Decentralized pages	Central	Centralized Twitter Decentralized Facebook	Central Twitter Decentralized Facebook	Decentralized

7.2. Organizational enablers of public value creation on social media

7.2.1. Organizational capabilities

Overall, the four studied cases for social media adoption shared standard organization capabilities that let them overcome many of the common barriers to social media adoption and facilitate the creation of public value. Most organizations, except for NEMA, had enough resources to work with social media and

implement various communication and engagement strategies. NZTA took it a step further to integrate social media work into the day-to-day practices of service workers who deal with citizens through the helplines. It also used other resources throughout the Agency to organize social media work. For public engagement and co-production, most of the organizations, except the police department (unable to verify), were promoting public consultations even through their websites, and they work closely with citizens and collaborate on service delivery, which enables them to deliver public value when using social media for similar purposes. Resource acquisition was not also an issue for the organizations. They could pull as many resources as needed to run new initiatives and expand their work.

An example of this is Unite Against COVID-19, where the Ministry of Health, with the help of the coordinated incident management system, could pull resources from across the government to work on social media pages and accounts. All interviewed institutions viewed social media as a much cheaper option than traditional media and indicated that finding resources for utilizing it was never an issue. Human Resources was sometimes an issue, but financial resources were allocated and used as needed. Most organizations use advanced technological tools, such as Sparkol or Hootsuite, to manage their social media platforms, indicating they have sufficient technical knowledge and tools to implement various social media strategies. However, this is not a barrier to implementing new or innovative practices.

Public sector innovation was also not absent. There was evidence of some institutions using out-of-the-box tools or techniques to attract citizens to their social media pages. The Police, for example, rely on their police dogs to fish for likes and comments on social media. NZTA, as well as the Police, relied on humor to support public education. An example is the Charly campaign run by the NZTA featuring a test dummy that was brought to life and went through daily life situations in which the organization tried to illustrate necessary measures for safety and security for drivers in New Zealand. Other organizations used experimental platforms like TikTok for the Ministry of Health while relying on humor to spread critical messages related to covid and health.

7.2.2. Citizen-centric service design

Regarding technology design, governments have little to do with the affordances and features developed by the social media platform to improve citizens' experience. There are exceptions to this, as in the case of data privacy and moderation, where governments push changes to the platforms' features and affordances through legislation. However, I observed multiple citizen-centric service design possibilities while interviewing civil servants in the three institutions. In the Ministry of Health, it was clear that they were utilizing resources to help answer citizens fast and with much less dependency on automated replies and responses. They wanted to make it fast, personal, and responsive so that citizens would feel more connected to them. Even when conducting this research, I contacted the Ministry via email and social media. They responded to social media requests in a few hours, whereas it took much more to reach the responsible person by email. The case is not the same in all studied institutions, where, for instance, the Police distance themselves from people on social media more than any other institution.

All interviewed institutions understood that social media is not the only place they should be and can only be used as a complementary mechanism to reach people quickly and cheaply. However, they still capitalize on other touchpoints for communicating and connecting with citizens to be more inclusive.

In the following sections, I will highlight the most critical findings from the interviews with civil servants in the four key institutions selected for the study. The findings will cover the context needed for constructing and framing the causal mechanisms discussed in chapter eight and highlight the enablers and drivers of change on social media related to each organization.

7.3. Ministry of Health

7.3.1. About the Ministry

The Ministry of Health (Manatu Hauora) is New Zealand's public institution that plans and oversees the execution of government health strategies. The Ministry sets the strategy for delivering health services in New Zealand and issues a set of decrees and legislations that regulate the health sector in the country. Their mission, as stated in their website and organizational strategy, is to improve the health and well-being of New Zealanders by focusing on child well-being, mental well-being, prevention of health-related issues, creating a robust and equitable public health and disability system, and providing primary health care.

During the study period, Minister Andrew Little, a Labor MP, was the organization's head. Meanwhile, Sir Ashley Bloomfield led the administrative functions and served as the chief executive and the director general of the Ministry of Health since 2018, and this has not changed since the appointment of Minister Little. Bloomfield has gained popularity on social media and in New Zealand for his work with the Ministry of Disease Prevention during coronavirus times. He is considered one of the public figures for his work on non-communicable disease prevention even before corona and joining the Ministry while he was at the World Health Organization or the Hutt Valley District Health Board.

The Ministry offers online services, including hotlines (National Telehealth Service), that connect citizens with specialists in special health-related issues such as alcohol and drugs, maternal health, disability, or post-earthquake support. It also provides health-related information for the public, including statistics and publications on its website. Since 2020, the Ministry has integrated several covid services into their work, from informing to support to managing vaccinations and tests nationwide. This integration expanded the range of services the Ministry provides to the public and has manifested in a large project called United against COVID-19, which was and still is managed and financed by the Ministry of Health. The Ministry also offers online consultations to citizens through surveys on various topics that it plans to include in its future strategies.

7.3.2. The current state of social media adoption

The Ministry of Health in New Zealand established social media accounts on Facebook and Twitter to provide the public with accurate and up-to-date information about public health initiatives and services. According to the interviewed public servants, two main characteristics of social media have inspired them to use it for communicating with citizens: being cheap and rapid in reaching citizens. The decision came from the national emergency management agency, which had a team in New Zealand's beehive (the NZ parliament's executive wing) that initially managed the social media presence. The Ministry then utilizes it as a platform to engage with the public, enabling them to answer questions, provide advice, and respond to inquiries. The accounts also provide a space to share information about health events, campaigns, and initiatives and a platform to encourage discussion and feedback from the public. Overall, the Ministry of Health aims to use social media to promote health and well-being and to reduce health inequalities in New Zealand.

Social media adoption at the Ministry of Health is in the data-centric maturity phase, where the government is communicating openly with the public on social media and spreading information on their platforms. There is evidence of collaboration and citizen-centric decision-making but no evidence of full integration into their services and operations. However, social media practices are institutionalized; guidelines exist for social media, and internal processes and strategies are similar to other institutions studied in the New Zealand public sector.

7.3.2.1. Facebook

The official Ministry's page on Facebook was launched right before the covid outbreak on February 5, 2020, and they post, on average, seven posts per month. Since then, the Ministry has built an audience of over 170 thousand followers on its Facebook platform. The total number of posts up to date on the Facebook page is around 853 posts in total. The page covers several important topics for citizens' health advice offered by the Ministry of Health for citizens and essential and urgent information regarding health services and facilities.

The official Facebook page receives less than average interaction of around 0.49% on the posts published for the last six months. The team size managing the Ministry's Facebook page is 25. Most of them work part-time or take on some responsibilities on social media in addition to their primary job. Soon after they launched the Facebook page, the covid 19 outbreak occurred, and New Zealand went into lockdown.

According to the response policy framework in New Zealand, and because of the nature of the pandemic, the work required cooperation among several ministries in the government. Therefore, the Ministry of Health initiated another related page on Facebook called United Against Covid 19. The Ministry of Health manages the page. Its purpose was to deliver services related to the pandemic, communicate updates to New Zealanders, and offer help and support to the broader public regarding the fast changes in the covid situation and the evolving government regulations. They partnered with a firm called Clemenger that worked on branding for the initiative and the design of several videos and social media posts for the

campaign (<https://www.clemengerbbdo.co.nz/the-work/unite-against-covid-19>). They created a brand intended to show unity among various government departments.

As soon as the Ministry launched the United Against COVID-19 page, it gained popularity and received around 315 thousand followers. They post regular and published statistics about the pandemic multiple times a day. Since their initiation, they ran four advertising campaigns in 2021 around scanning and reporting covid incidents and redirecting users to the website.

7.3.2.2. Twitter

On the other hand, the Ministry's Twitter account was created in June 2009, long before they created their Facebook account. The same team manages the Twitter account and has around 50 thousand followers. Since its establishment, the team has published around 3 thousand tweets covering various topics, such as the omicron covid variant, the pandemic updates, and the health updates, advice, and status related to the Christchurch attacks in 2019. Unlike on Facebook, most tweets on Twitter are composed of text only. The tweets are primarily replies to conversations on Twitter (83% from the scraped data), answering questions, or getting involved in conversations about topics relevant to the Ministry's work.

7.3.3. Social media strategy

The Ministry utilizes a mixture of "push" and "pull" strategies with a slight focus on networking and collaboration. However, they do not use any strategies for service delivery on social media, where they often refer users to the official service touchpoints for more help and support.

The Ministry works with a social media strategy that is not publicly available, and I was not able to have access to it. However, they have a set of community guidelines through which they explain their content moderation. The guidelines are available on their website and referenced on all social media accounts. The Ministry reserves the right to delete posts and ban users based on what they think might not be appropriate to share on their social media platforms. The deletion mainly applies to Facebook and Instagram, whereas Twitter does not currently support that feature.

Other than posting and moderating comments, the Ministry's social media team spent some of their time answering inquiries and messages directed to the inbox of the social media channels. According to the social media team, around 10% of their work volume is directed toward messages.

7.3.4. Social media team

The social media team at the Ministry consists of a team lead, who works with a part-time focus on social media, then a core team of 3 employees, a senior, advisor, and a coordinator working full time, then a roster of 12-20 people who are available on need basis. They could help with 1-2 hours of their work per

day. They also share resources with the Ministry when needed. According to interviewees, specialized resources such as video specialists, graphic designers, events management, and web teams are usually part of this roster. In addition, the team moderates the official accounts and social media pages and answers messages and inquiries directed to the Ministry via the social media accounts.

7.4. National Emergency Management Agency (NEMA)

7.4.1. About the Agency

The National Emergency Management Agency (NEMA) is an organization in New Zealand responsible for managing and responding to national disasters and emergencies. The government established the Agency in 2016 after the earthquake and tsunami and the 2017 Port Hills fire. After the disasters, the government conducted a ministerial review that produced the recommendation to establish the Agency to increase the preparedness and response in crises and disasters in New Zealand, and the Agency has remained since then as an autonomous departmental agency hosted by the department of prime minister and cabinet. The Agency focuses on four primary areas of operation: disaster planning and preparedness, response, recovery, and mitigation. In addition, NEMA is responsible for leading the national civil defense emergency management system, which includes training and educating the public, developing and maintaining effective emergency plans and procedures, and providing support to local authorities and emergency services. NEMA also works with other government agencies, non-government organizations, and private entities to ensure the best possible outcomes for any emergency. In addition, NEMA actively encourages the public to be prepared for disasters by having an emergency plan and kit. Ultimately, NEMA aims to reduce the risks associated with natural disasters and emergencies and protect New Zealanders' lives and property. The Agency also actively coordinates responses to incidents across government departments according to the CIMS (Coordinated incident management system) framework. Chief executive David Gawn has led the Agency since September 2021.

NEMA in New Zealand offers a wide range of online services designed to help protect the public from disasters and other emergencies. The NEMA website features information about natural disasters, such as floods, earthquakes, and cyclones, as well as other emergencies, such as terrorist attacks, pandemics, and civil unrest. It also provides information about the risk of disasters in New Zealand and how to prepare for them. The website also provides information about how to respond to an emergency, including how to stay safe, what to do if you are affected, and how to access emergency services. NEMA also offers online information about the National Public Education Program, designed to help people better prepare for disasters, with courses covering emergency evacuation, first aid, and emergency preparedness. Finally, the NEMA website also provides various online tools and resources, such as emergency checklists, risk assessments, and emergency plans, to help people better manage emergencies. They also allow citizens to get involved by volunteering and joining neighborhood support groups. According to Agency officials,

such online services help protect the public from disasters and other emergencies and prepare them for emergencies.

7.4.2. The current state of social media adoption

The Agency owns around seven main social media channels, two for Twitter and one each on Facebook, YouTube, LinkedIn, and Instagram. According to the interviewed public servants, social media was integrated into the work of the Agency since citizens are highly utilizing it, and it poses a way to reach them rapidly. In addition, along with the primary social media channels, sixteen other social media channels per district are out there for more relevant updates to particular areas of New Zealand. The Agency established the other channels around 2012, following the 2011 Christchurch earthquake in New Zealand.

As observed through the collected data, Social media adoption in the Agency is in the data-centric phase. There is a high degree of citizen-centric decision-making and consultations, especially for emergency management. However, unlike in the transport agency, there is little social media integration in the operations. Even though many people are working with social media in the Agency as part of their job, there is no full integration in the Agency's service delivery processes and service touchpoints.

7.4.2.1. Facebook

The Agency has around 150 thousand followers on its Facebook page. In the past, according to interviewees, the content was shared automatically, copy-pasting from the site and into social media channels, especially public education content. The Agency used to publish at least one post per working day. However, they changed this practice due to the need to create more engagement and reach more citizens, therefore reducing the frequency of their posts. In addition, they started to focus on quality, thus driving more engagement and interaction with citizens. They used various posts ranging from asking questions, conducting competitions on public knowledge on disaster management, and creating polls. For advertising, they outsource it to a dedicated agency. Other than that, they have not run any advertising campaigns up to date.

7.4.2.2. Twitter

On Twitter, the Agency has around 108 thousand followers on their emergency management channels used in a crisis, and they have published there since 2010 around 1700 tweets that primarily focus on engaging with citizens around crisis areas and communicating urgent and vital information in time. The other channel, designed for public education @NZGetReady, has only 13 thousand followers and has been published since its establishment in 2012 with around 3000 tweets. In addition, several other accounts are connected with different districts throughout the country and managed by local councils. However, they are all connected to the Agency and run more relevant regional updates.

7.4.3. Social media strategy

The Agency bases its social media strategy around the seven main channels, with more focus on Facebook and Twitter as a way of engaging the public with Emergency Management and warnings. They deploy various push strategies with public education, pull, and collaboration in emergencies and crises.

According to the interviewed social media specialists at NMEA, there are two main areas that they focus on with their strategy: first is during peacetime, in which they focus on public education and preparedness, getting people to think about how to prepare for emergencies and what the impacts are and as well as knowing the correct actions to take during an earthquake or tsunami. Second, when an emergency happens, they then use those channels to communicate the information that people need to know during the emergency so they are aware of what they need to do, where they can get help, and get to know what their needs are. There are two types of Twitter channels. One for warnings and critical emergency information. That is the NZ Civil Defense Twitter. The other is for public education. Facebook, on the other hand, is used a lot for both. In contrast, NEMA uses Instagram for public education, especially for citizens under 30 years old who, according to the Agency, are less prepared for disasters and are present on the platform. LinkedIn, on the other hand, was recently integrated to communicate with Emergency Management professionals and other people in the sector, getting them engaged and connected.

The Agency also has community guidelines publicly available to their followers on social media, explaining their moderation processes. The Agency's social media guidelines state that users must not post anything prejudicial, racist, inflammatory, offensive, or inappropriate. Swearing, personal attacks against other users, spam, and links to non-government or off-topic pages are also prohibited. Users must also not report offensive material to this page; complaints should be made directly to Facebook, and the Agency promises to ban users who repeatedly engage in these activities from the page. Additionally, they state that they would remove comments of users that are offensive, off-topic, or irrelevant to the discussion.

7.3.4. Social media team

Unlike the Ministry of Health, the Agency has no dedicated social media team. Instead, they divide the work among several persons who work on communication and strategy and do it part-time besides their primary duties. In addition, a designer dedicates part of their time to developing posts for social media channels. Thus, four core civil servants manage the day-to-day tasks on social media; the rest join the team on a need-basis, and those reach up to 34 individuals with admin access to the social media pages.

7.5. Police

7.5.1. About the Ministry

The New Zealand Police Department is the national law enforcement agency responsible for protecting and serving the people of New Zealand. The department operates nationally, with 12 police districts providing services nationwide. According to their website, New Zealand Police is committed to ensuring the safety and security of citizens, communities, and businesses. Through their vast network of over 13,000 staff, they provide policing services 24 hours a day, every day. Operate by land, sea, and air and manage over 860,000 emergency calls a year distributed in the 12 districts in which they operate. They also work towards specific goals and targets, collaborating with New Zealanders and communities, government sectors, and business partners to deliver their services and achieve long-term change. With a vision of making New Zealand the safest country, Police operate following their values, working in partnership with individuals, communities, businesses, and other public sector agencies to ensure everyone can be safe and feel safe. Their mission is to prevent crime and harm through exceptional policing.

The department commits to various aspects related to policing that represent public values often discussed in Moore's scorecard, such as fair treatment of citizens, hiring competent staff, providing services that meet citizens' expectations, taking individual circumstances into account, and finally, being cost-effective in dealing with taxpayers' money.

New Zealand Police offers a range of services online for citizens. Citizens can report non-emergency incidents on a dedicated platform "105.police.govt.nz". They can report a lost or found property and follow up on the status of their reports. There are checklists and kits for home/ personal safety and other mechanisms through which citizens can share their satisfaction or dissatisfaction with their services through online surveys.

They also have various sections for different types of crimes that may happen in the physical or virtual domains with information and online services related to them.

They also can apply online for access to information. However, they are one organization not inclined to provide information quickly. For the research, the organization has refused to participate in interviews and rejected official information act requests for social media budgets.

7.5.2. The current state of social media adoption

New Zealand police have five official social media channels and subchannels that cover different police districts. They created their social media pages in 2012, and they provide mainly informative content related to what the Police are doing and some educational videos and posts that are created and endorsed by the Police. They have made it clear through their website and official presence that they are not offering any of their services through social media, and thus, they locked the messaging features. However, they are still allowed to comment on posts and seek engagement from them. Interviews indicated they also attempt to build trust and legitimacy through social media presence.

Not much can be said about the workings of the Ministry when it comes to social media and how they organize the teams inside or the phase in which social media adoption could be since they blocked access to interviewing the civil servants and even sharing data via the open information request. However, from the observations on their social media platform, it can be inferred that social media integration in the Ministry is done with much caution, plausibly due to the sensitivity of their work from the Ministry's point of view. For example, they urge citizens clearly on their social media channels not to use it for reporting crimes and incidents, and they treat it as a medium for information dissemination and sometimes for sensing and collecting information about potential suspects in a few of the districts' Facebook accounts.

7.5.2.1. Facebook

On Facebook, NZ police have around 370 thousand followers on the central channel and varying numbers of followers on district channels based on the population of the district and the popularity of police departments in the respective district. Police social media channels have gained much popularity in New Zealand after the Christchurch attack in 2019, where the followers count witnessed a spike with citizens wanting to follow up on updates regarding the incident. The posts on district-related channels are somehow different from the central ones regarding content and engagement. However, overall, there is little observed engagement from the page with followers in all cases, and more of pushing information and pulling strategies in some cases where help from citizens is required, such as identifying a suspect or locating a missing person.

7.5.2.2. Twitter

For Twitter, the two channels owned by the Police are incredibly different in audience and number of followers. Around 5 thousand users follow the Media channel, which is mainly used for press releases and automated posting. A pinned post on top of the timeline indicates that the department does not monitor this account and advises citizens not to submit any reports to that channel. The other main channel has around 100 thousand followers, and there are several posts published by the Police, including several shared posts from other government accounts related to weather, COVID-19, and other important posts that the police department deems to be essential to share.

7.5.3. Social media strategy

Even though access to the social media team was not possible for this research, I deduced their social media strategy from observing their practices on social media. They use the centralized channel for branding content to gain trust and legitimacy in the services with a straightforward push strategy. The local channels are used more for pulling. One example is a video published by the Auckland City District police (<https://www.facebook.com/100064506198093/videos/840546302715043>) featuring a street fight and asking people if they can help identify them. Such posts, for instance, had more than one thousand comments, and some even shared possible locations and whereabouts of the suspects.

On the other hand, Twitter has two channels, one for media institutions and press releases and the other for retweeting content from other departments and sharing educational materials or alerts with citizens. In all their social media, the Police are innovative and follow a similar strategy to that of NZTA, including content that is of tone closer to the public and that attracts them to stay tuned on their page/account. One of the unique strategies the police use on all their social media to drive engagement is to use animal pictures (mainly dogs) to inspire engagement and to keep users receiving more content from the page. They initiated a long-living campaign with hashtags #fridayfloop and #policedog to post those pictures and videos, and they are among the posts that receive the highest degree of engagement.

There were no signs of intending to use the platforms for further collaboration with citizens of service delivery.

7.5.4. Social media team

The social media channels have around 5-17 admins varying from one page to the other. They have a dedicated team for creating professional videos and photos that they publish constantly, especially on their main channel. However, there was difficulty in accessing or speaking to anyone from the police department to understand how their team was structured or functioning.

7.6. New Zealand Transport Agency (NZTA)

7.6.1. About the Agency

The New Zealand Transport Agency (Waka Kotahi) was established in 2008 under the Land Transport Management Amendment Act and provides an integrated, safe, responsive, and sustainable land transport system. The Agency facilitates the movement of people and goods through roads, railways, waterways, and airports. The New Zealand Transport Agency also develops, maintains, and manages the national land transport network, including roads, bridges, and public transport services. It also promotes the development of transport-related infrastructure, provides funding for transport projects, and sets safety and operational standards. Additionally, the Agency is responsible for issuing driver licenses and vehicle registrations and administering the Land Transport Rule. Like NEMA, the Agency has a technical rather than a political scope.

Unlike others in New Zealand, the Agency has a wide range of citizen services online that they offer through their website. The services primarily relate to their function as an agency that manages roads, traffic, vehicles, and tolls and issues new executive legislations related to them. However, the Agency also offers interactive services besides paying tolls, renewing licenses, and paying tickets. For example, they offer a journey planner, where users of their platform can enter their trip details, and it would guide them through the best route that contains little reparations or to avoid road closures and congestion. They also offer a live traffic monitoring service on their website that shows congestion throughout the country for better journey planning.

The Agency has an open consultation policy for its planned projects and programs, and it seeks constant feedback from the public about them. However, unlike the Ministry of Health, their consultation is not conducted through an online survey but rather as a pdf that citizens have to download, fill out, and email to the Agency, adding more steps to the process and making it hard to participate. They also offer an open data portal that they created using ArcGIS Online tools, where data is searchable and analyzable using the portal tools for mapping and visualization.

7.6.2. The current state of social media adoption

Social media adoption in the Agency is relatively well-situated and mature. They are primarily in the full integration stage. Their social media pages were created in 2013 to deliver rapid and live updates to citizens about traffic and travel without spending much money, one of the core functions of the Agency (as explained by one of the interviewees). The Agency manages five main social media channels and relies mainly on Facebook and Twitter for their services. In addition, they have accounts on Instagram, LinkedIn, and Youtube, but they use them only for primary operations such as public education and general information about the Agency's programs. They also have multiple Facebook accounts offering regional updates for each district, including traffic and road updates.

The Agency is at the highest level of social media integration in its processes and work. They are at the fully digital phase of adoption, where they have integrated social media with their service touchpoints. Respondents to the service helplines, according to the interviewees from the Agency, work on social media, answering requests and responding to citizens. There are clear guidelines and social media strategies, and there is a degree of decentralization in their work, similar to the Police and the emergency management agency.

7.6.2.1. Facebook

The Facebook pages for the Agency attract more than 500 thousand New Zealanders in total, including the regional pages. The Agency posts quite frequently, especially regarding traffic and travel updates. They have published around one thousand posts since 2018. They manage engagement, comments, messages, and replies independently but outsource advertising to an external private firm similar to other institutions under study. However, they run some advertisements on their own via social media. They ran around 28 campaigns on Facebook and Instagram with an average budget of 500 NZ, achieving around 100 thousand views and impressions since their establishment. The Agency keeps some of its advertising details public for social media users.

7.6.2.2. Twitter

The Agency has around seven accounts on Twitter, each with around 2-20 thousand followers based on the district sizes. They mainly publish their media releases and automatic content. Therefore, the total engagement compared to Facebook is relatively low, given that Twitter is used to disseminate information for media purposes. Additionally, on Twitter, most posts are in text format and original tweets, with minimal replies to users, conversations, or even retweeting other user-relevant content.

7.6.3. Social Media Strategy

As described by the interviewees from the Agency, upon establishment, there was not much coordination in how people made posts. Some posts were contradictory, and there was no clear strategy for social media or timetable for posts. Over time, the Agency developed a social media strategy that defines teams, structure, practices, functions, and tools for coordinating work among social media personnel (sprinkler mainly), and the objectives of using each channel are clear. The social media strategy gets updated every couple of years. However, the current one specifies that Twitter is used mainly for media releases since the platform's users are mainly journalists and media professionals. Because of the user base of Twitter, the organization has not paid much attention to developing an interactive strategy there and connected their website to Twitter so that they can propagate media releases automatically once they are published. They also use Twitter to publish traffic and travel-related content.

On the other hand, they use Facebook for corporate-like content, a mixture of educational content like "the merge of the Month" videos, where they would teach people how to drive their cars and merge into other lanes properly. They also use the same channel for updates on big projects that the Agency is currently running. In summary, they use Facebook's primary channel for building trust, legitimacy, and reputation. The strategy focuses on alternative methods to grab the attention of citizens, especially for educational content, such as publishing humorous content to engage the public, as in the case of the Charly campaign discussed earlier in the chapter. They also use slang to encourage people to interact with them and reach out for inquiries, bringing them closer to citizens.

7.6.4. Social media team

Social media is managed in the Agency by two teams. One focuses on providing one of the Agency's primary services: traffic and journey updates on social media. Such updates include road closures and congestion on the major highways and roads across New Zealand. The other team manages any other content, ranging from information and updates on new programs and projects to educational content. Under the second team, dispersed admins cover several districts in New Zealand and focus on responding to citizen inquiries and messages. The size of the whole social media team is from 20 to 25, one of the largest compared to other agencies. The customer service team, which answers the calls for the helpline and responds to inquiries via emails, is trained to use social media to answer the users' comments and messages, unlike other agencies and ministries where the social media team takes care of that. They also have a designer and a video person who help draft their social media posts.

7.9. Conclusion

In this chapter, I explored the social media context of the four identified institutions, highlighting what they do, their state of social media adoption, the organizational enablers of public value creation that may exist, and how they organize their social media inside.

I found that most of the studied institutions in New Zealand have the organizational capabilities and citizen-centric service design that can potentially enable them to create public value through social media. The findings validate that the mechanisms might not have other external factors that influence the process of public value creation or erosion. It is about practices or public institutions and their strategies in conducting some of their day-to-day work through these platforms.

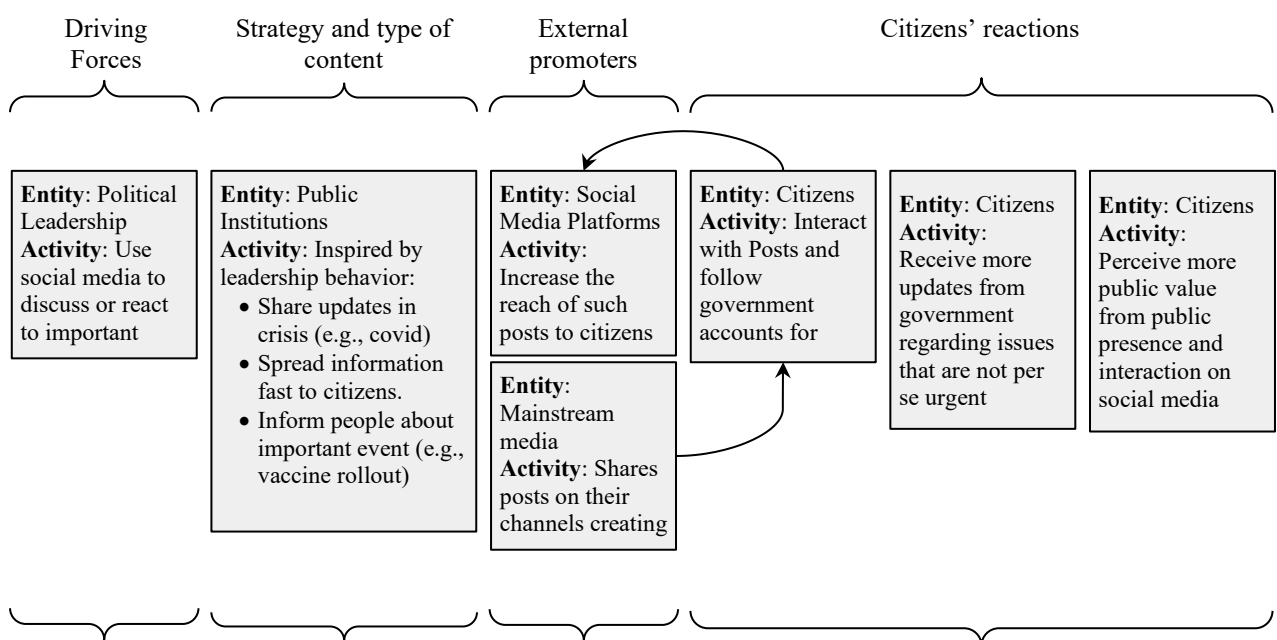
Now that the context is clear about the cases, in the following chapters, the next chapter dives deeper into the two hypothesized mechanisms, tries to unpack each part, and tests the validity of parts through the evidence collected from civil servants' interviews, citizens' interviews, the organizational social media pages, and other social media data.

Chapter 8 : Mechanisms of Public Value Creation on Social Media

This chapter utilizes process tracing to investigate the causal mechanisms that lead to public value creation and erosion in New Zealand. The analysis builds on the initial mechanistic models developed out of the surveys and expert interviews in previous chapters. The models are investigated using evidence and fingerprints collected from various sources. The aim is to develop a final set of models reflecting the actual process mechanisms that connect the causes with variations in perceptions of public value on social media, shaping the policy recommendations in the following chapter.

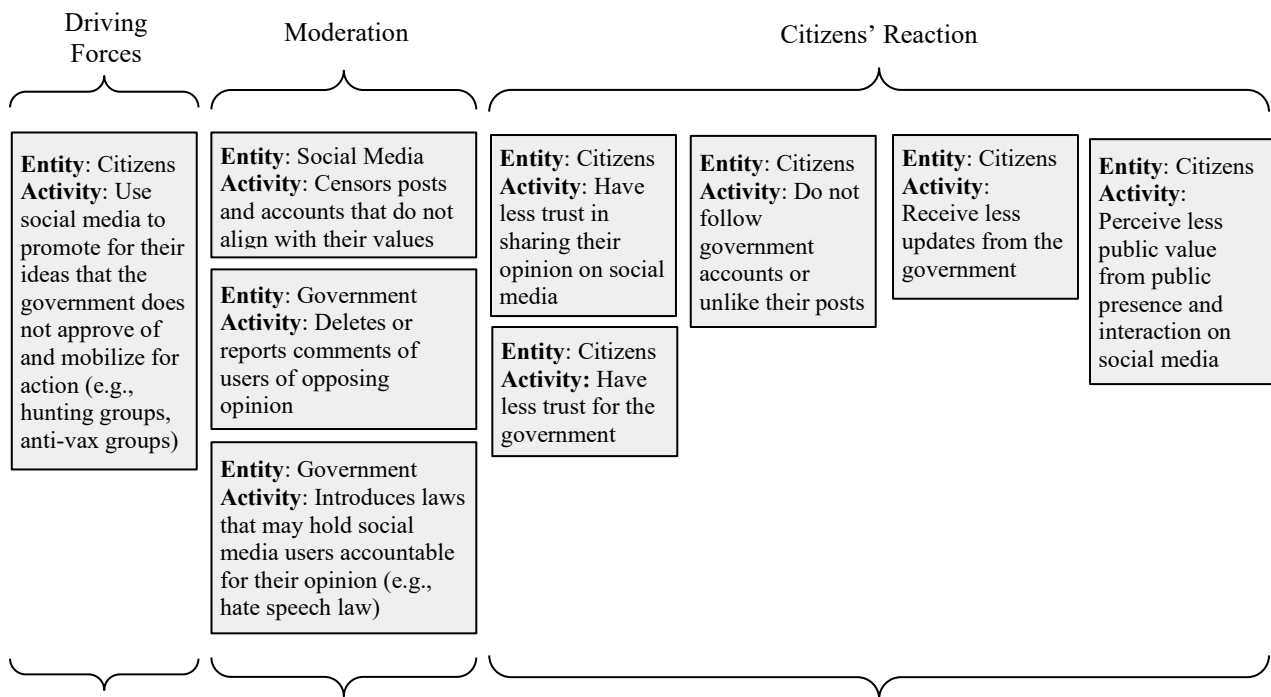
The first section of the chapter looks at each part of the initial model for public value creation separately using empirical evidence. The initial process tracing model is divided into four main stages based on the theoretical framework; the first stage is for driving forces for value-creating social media practices in selected cases. This stage comprises one part, which refers to how leaders in new Zealand use social media to connect with citizens in New Zealand. The second stage is composed of one part, which refers to public institutions getting inspired by political leaders and promptly sharing vital, relevant information. In this stage, the hypothesis that political leaders inspire the social media practices of public institutions will be tested. Also, the influence of such practices on the following mechanistic parts will be explored. The third stage refers to external promoters and catalysts for driving the social media reach of public institutions. The last stage refers to citizens' reactions and perceptions of public value on social media. This stage consists of three parts. The first is citizens interacting and following government accounts due to the posts being shared by public institutions. The second is that citizens start receiving more updates and eventually perceive public value from the whole process.

Figure 8.1
Breakdown of the hypothesized process model of public value creation



The second section of the chapter investigates the model for the erosion of public value by the government’s social media use against the collected evidence. The model is divided into three main stages based on the analysis of the survey and expert interviews. The first stage is the driving force of adopting particular social media practices. The first part refers to citizens who share ideas and opinions that the government does not approve of or do not go in line with the messages that the government is trying to spread on their social media platforms. The second stage refers to the moderation of opinions shared on the platform. Moderation is performed by both social media platforms and the government based on their community guidelines. Both entities limit comments on posts, delete particular comments, block certain users, or report them to the social media platform. The third and last stage refers to citizens’ reactions to moderation efforts on social media social media. It consists of five parts: citizens’ reduced trust in the platform and government, citizens unfollowing government pages or interacting negatively with social media posts, citizens receiving fewer updates from the government, and eventually, citizens perceiving less public value from the use of social media by the government.

Figure 8.2
Breakdown of the hypothesized process model for the erosion of public value on social media



8.1. A mechanistic process model for public value creation

The mechanistic public value creation model is first explored against the planned evidence and fingerprints designed in Chapter 4. In the following sections, I investigate each stage of the model separately and adapt its parts, entities, and activities accordingly.

8.1.1. Driving forces for value-creating social media practices

The first stage of the mechanistic model was derived mainly from the literature about the driving forces of public value creation on social media. As discussed in Chapter 3, there are two main driving forces for adopting social media in public institutions. First are the mimetic forces, in which leaders influence public institutions' practices. Second is the innovation that local public managers inspire, influencing civil servants' practices. Third is the development of social media platforms as a rapid way to reach citizens, especially in times of crisis.

8.1.1.1. Evidence

The following pieces of evidence were used to explain each part. First, a search was carried out for posts on both Facebook and Twitter that discuss important and urgent matters to citizens to identify whether political leadership follows such practices.

Then, two pieces of evidence were collected to test the influence of leadership practices on public institutions. One is searching for mentions, shares, or tags of leaders' popular messages on the organizational accounts, which may show the influence of the posts on the organizational practices. However, such evidence is not unique enough since civil servants may share the posts as relevant information to what they share and not because the leaders inspired them to change their practices or post on similar topics. The second complementary evidence was collected by interviewing civil servants and asking them about political figures who inspired their value-creating social media practices. Below are the details of the planned evidence and fingerprint collection.

Table 8.1

Evidence used for testing drivers of value-creating social media practices.

Part	Fingerprints	Empirical Evidence	Alternative explanations	Source criticism	Uniqueness
Leadership in Government using social media to discuss or react to important topics for citizens	Prime Minister updates and live videos Parliament Members' Posts	Check for posts that talk about urgent matters to citizens in a timely manner (e.g., corona, vaccine rollout)	-	-	High
Use of leadership for social media influencing public institutions	Government organizational posts about covid, vaccine rollout, and other emergency	Mentions of previous posts by leadership, Shares of political leadership original	They mention Leadership because they want to get more followers, not because they were		Low

situations	posts.	inspired by them. Or they do not mention them not to politicize their posts.		
Interviews with government officials working in public institutions, asking them about their inspiration sources for sharing leaders' posts or imitating their behavior	Mentions of names of specific political leadership figures in social media posts	They mention the names of the leaders because they are still in power, and they want to make their image nice (this can be avoided by also asking civil servants from other political parties than the labor)	The civil servants may be from the labor party and might be biased in their answers.	Medium

8.1.1.2. Findings

Even though there was plenty of evidence of political leaders such as Jacinda Adern, for example, announcing updates to citizens promptly as soon as they were published (e.g., the omicron government preparations and announcements only a few hours after the government officially announced them <https://www.facebook.com/jacindaadern/videos/1567061007010907>), there has been no evidence of government organizations mentioning their posts. Also, most of the leadership posts came after the official government response and not before, with few exceptions, such as the announcements after the Christchurch attacks, which the prime minister on social media mostly led. The second finding was that social media practices in the government date way back to the use of political leaders for social media today. Many of the posts for updates about crises or major issues were pushed by public institutions, e.g., NMEA, in 2011 after the Christchurch earthquake, when political leaders were not as active on social media as they are today.

Additionally, interviewing public officials at the three institutions, the Ministry of Health, NMEA, and NZTA, showed that political leaders were not the inspiration for such practices on social media, but on the contrary, it is the organization itself (NMEA), who took a leading role in inspiring other organizations for change.

The interviewed civil servants mentioned that in New Zealand, since the 1990s, there has been an established Coordinated Incident Response management system, a framework that manages the country's response to natural disasters and crises. This framework was mainly used as a tool to coordinate government response and to achieve better recovery. In the period from 2010 to 2012, the country faced several crisis incidents, leading to wide-scale departmental reviews such as the royal commission review on the Pike River Coal Mine Tragedy (Royal Commission, 2012), the Independent Review of the Civil

Defense Emergency Management Response to the 22 February 2011 Christchurch Earthquake (NEMA, 2011). The recommendations of the reviews inspired the NMEA leaders to convene at the beehive (the executive wing of the New Zealand parliament) in 2012 to develop a refined version of the CIMS. The new CIMS included a directive on public information management and stated that for incidents, social media platforms should be used to reach citizens faster in cases of incidents related to most of the government sectors, from agriculture to transport, health, and policing. The development of the CIMS in 2012 aligns with the findings in the previous chapter that all the institutions interviewed had a presence on social media from 2012 onwards. The CIMS, according to the director of social media at the Ministry of Health, specified generally how social media should be used and created a network for coordination across government where practices are shared among civil servants working on social media and emergency management.

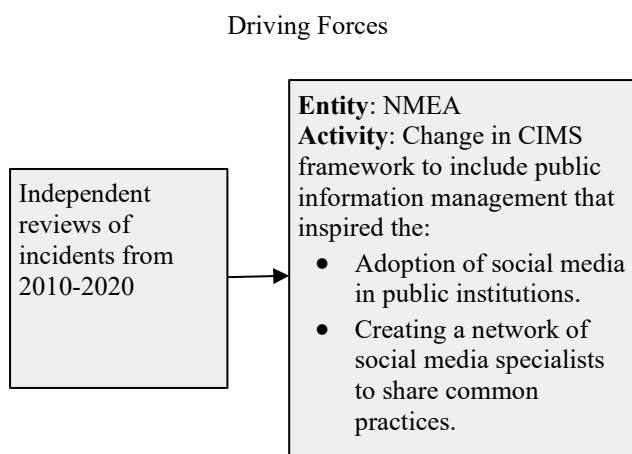
Therefore, the main driver of social media adoption and its use for sharing important and relevant updates with citizens was not inspired by political leadership. It was inspired mainly by the audits and reviews of crisis-related incidents, then by NMEA, who developed and oversaw the implementation of the CIMS framework in order to respond to incidents rapidly and effectively.

8.1.1.2. Revised mechanistic part.

The findings help to adjust the mechanistic parts and the trigger of the process of public value creation. The trigger of social media adoption was independent crisis reviews. At the same time, the first driving force for social media adoption was NMEA, which facilitated the adoption of social media in public institutions and created a coordination network among civil servants and social media specialists.

Figure 8.3

Revised mechanistic part for the driving forces of social media adoption.



8.1.2. Strategy and type of content

The second stage of the model refers to the strategy and type of content that the social media teams in different institutions are publishing. The first part of this stage was deduced from the survey responses,

especially from the group who perceived public value from social media utilization. The responses indicated three types of content are being shared and are relevant to citizens: one that concerns crises, the other that informs people of important events, and the last that communicates quickly to citizens about a relevant matter.

8.1.2.1. Evidence

Evidence was planned to be collected by scraping data posts from the four studied institutions and comparing the type of content they post to the preferred content indicated by respondents in the survey. After the posts were collected, coding was performed on the posts to detect the type of content being shared. The data retrieved from Facebook and Twitter for the four institutions comprised 8029 tweets and 1232 Facebook posts. For more details about the scrapping of the data and the selected period, see Chapter 4, section 4.4.2.

In light of the findings about the drivers of social media practices, the evidence collection plan was revised, giving more attention to data retrieved from the interviews with public servants to understand if the strategies public servants would mention would match the collected from the social media pages and thus increasing the reliability of the fingerprints.

The table below shows the revised evidence collection plan.

Table 8.2

Evidence used for testing strategy and type of content shared on social media.

Part	Fingerprints	Empirical evidence	Uniqueness
Public Institutions:	Organizational posts on crises (e.g., corona)	The number of posts shared on such topics compared to other posts.	High
(a) Share updates on crises (e.g., covid, earthquakes, floods)		Number of created events, if any	High
(b) Inform people about important events (e.g., vaccine rollout) through normal dissemination or advertising	Organizational strategies Public Servants interviews	CIMS framework directives Mentions of the type of content the public servants focus on	Low
(c) Spread information fast and frequently to citizens (warning or alerting them)	Times of sharing the posts	Compare the times of sharing the posts to when the event occurred.	High

8.1.2.2. Findings

Based on the interviews with public servants from three institutions, it was clear that the CIMS framework inspired most social media practices. Thus, there is a tendency to focus on crises, incidents, and urgent matters. All civil servants interviewed repeatedly mentioned that rapid reach was the main reason for

working with social media. This objective aligns with the study's hypothesis that institutions tend to share urgent and important topics with citizens. However, as part of the interview, another mechanism was revealed. Some civil servants mentioned a distinction in the social media strategy between what they call “Peacetime” and “Crisis time,” where the topics shared may differ. All of them mentioned that they have two main types of content: one is for public education, and the other is for informing, collaborating, and engaging with citizens.

Most of the institutions, in particular, the police, NZTA, and Ministry of Health, use innovative and trendy content to reach out to citizens and fish for engagement and likes, such as the famous #fridayfloop hashtag, where pictures of police dogs are being shared to get citizens’ attention on social media. The use of humor was another strategy and content that was commonly shared, especially by the police, the Ministry of Health, and NZTA. An example is the video shared on all social media accounts of the unite against covid for Dr. Ashley Bloomfield (the chief executive of the Ministry of Health and the country's Director-General of Health from 2018-2022), including famous sentences that he said in covid with funny animation fishing for users’ attention (<https://www.youtube.com/watch?v=uABhQGP3JRg>).

Figure 8.4
Social media videos utilize humor to attract the attention of citizens.



The evidence collected by scrapping posts from the social media accounts of the four institutions complemented the findings from the interviews and updated the confidence in it. In order to pick the most repeated themes on the organizational posts on Facebook and Twitter, I ran a word frequency count using RStudio to pick the words that are mostly/repeatedly used in posts and tweets. Then, the most repeated

words were analyzed in the context of their posts and tweets so that similar themes could be grouped.

Then, each post was coded with "1" if it belonged to a particular theme and "0" if it did not.

The themes that were picked up from the Facebook and Twitter posts are represented in the table below, alongside the most frequent keywords that were mentioned in each theme:

Table 8.3
Themes for posts and tweets of government institutions

Themes	Repeated words
Advice	Advice, General advice, Tips, Recommendations, Covid advice, Covid tips
Alert	Alert, Alert levels, Covid alert, Warning, National Alert, Warn, Weather alert, Weather warning, Wave warning
Announcements	Announcement, Prime Minister announcement, Covid Announcement
Arrests	Arrests, Warrant
Call for action	Call to action, imperative verbs.
Changes	Changed, altered
Christchurch attacks	Christchurch attack, terrorist attack
Contacts	Contact, Contacts, number, Healthline, hotline
Covid	Covid, Covid advice, Covid alert, Covid Announcement, Covid cases, Covid danger, Covid facts, Covid FAQ, Covid Information, Covid Response, Covid tips, Covid Update, Update Covid, Covid info, Flu tracking, Sel-isolation, Self-isolate, Self-isolation, Isolation, Booster, Covid cases, Covid information, Covid practices, Covid record, Covid Symptoms, Covid test, self-isolation, self-isolation, Test, Testing, Tests
Crashes	Crash, driving accident
Driving	Drive, Driver, Driving, Traffic, Seatbelt, Ride, Speed limit
Natural disaster	Earthquake, Flood, Flooding, Floods, Hazards, Volcano, Rain, Rainfall, Heavy rain, Severe Weather, Cyclone, Floods, Volcanoes, Rainfall, Cyclone, Earthquake, Evacuation, Fire, Flood, Flooding, Heavy Rain, Rain, Tsunami, Volcano, Wave warning
Emergency	Emergency, Emergency number
FAQ	FAQ, Covid FAQ
Health	Health, Healthline, Mental Health, any words in the covid theme
Holidays	Holidays, Holiday, St Patrick's Day, St Patrick's Day, Christmas, Christmas tree, Ramadan
Important	Important information, Important update, information Covid
Police dog	Police dog, fridayfloof
Prime minister	Prime Minister, Prime Minister announcement, Prime Minister response
Response	response, Prime Minister's response
Roads	Roads, Tunnel, Motorway, highway
Safety	Safety
Services	Service
Solidarity	Solidarity, Condolences
Support	Support, Assistance, Assisting, Help
Transportation	Transportation, Transport
Vaccination	Vaccine Pass, Vaccination, Vaccine, Vaccine Pass
Updates	Update, Update Covid, Weather Update
Omicron	Omicron, Omicron cases

Plan	Goal, Plan, Preparation, Project
Thanks	Thanks
Rules & Guidelines	Restrictions, Rules
Weather	Weather alert, Weather warning, Severe Weather, Weather Update, Weather Updates

The posting frequency was calculated by counting the posts grouped under each theme. After analyzing the post frequency per theme, it was observed that the most frequently shared posts were those discussing important or urgent topics, conforming with the findings from the interviews and the initial model. Additionally, health updates were consistently shared on all social media accounts across the government, responding to the incidents of COVID-19 in a coordinated and timely manner.

Figure 8.5

The percentage of posts from certain themes to the total number of posts for each of the observed case studies

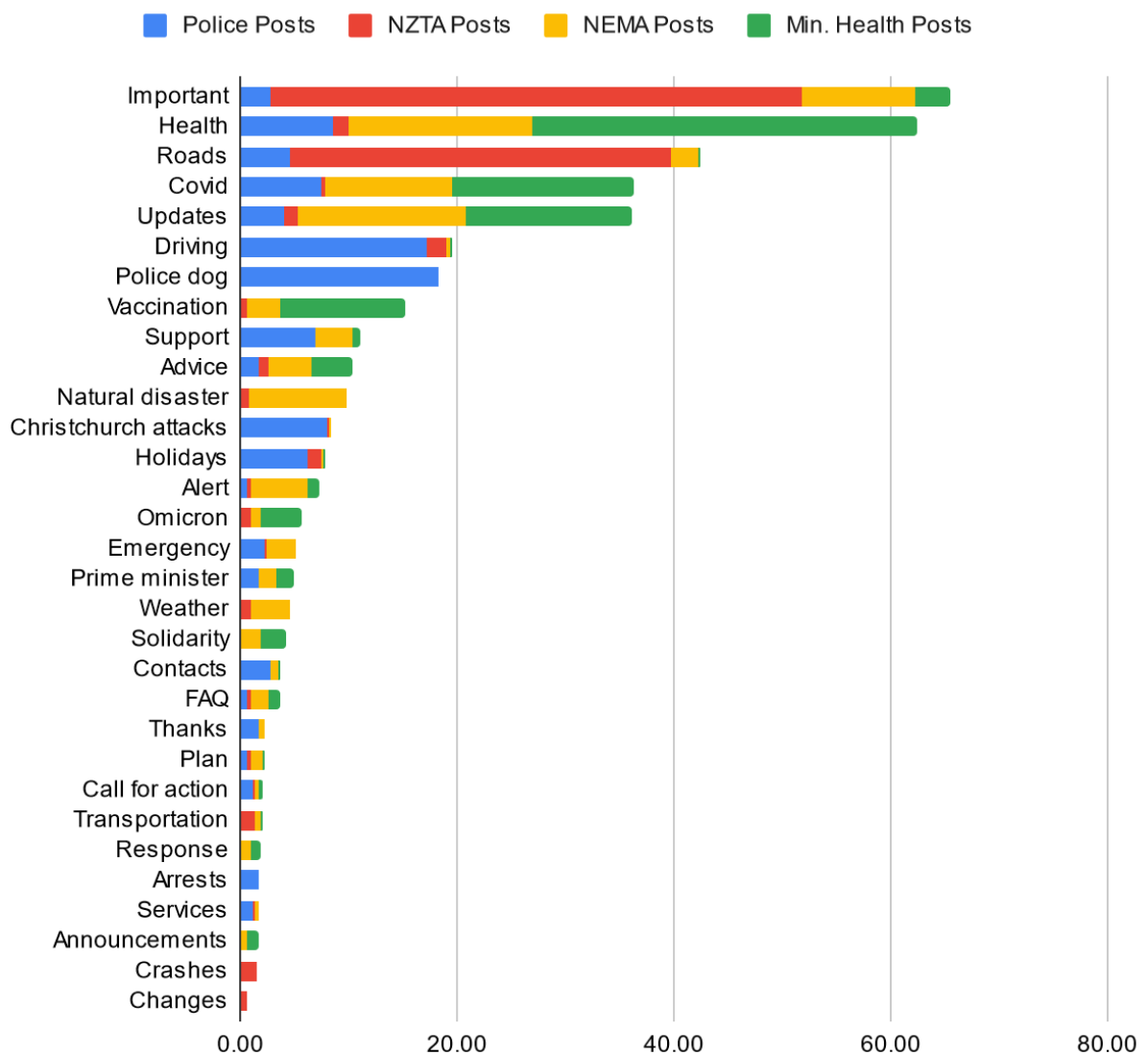
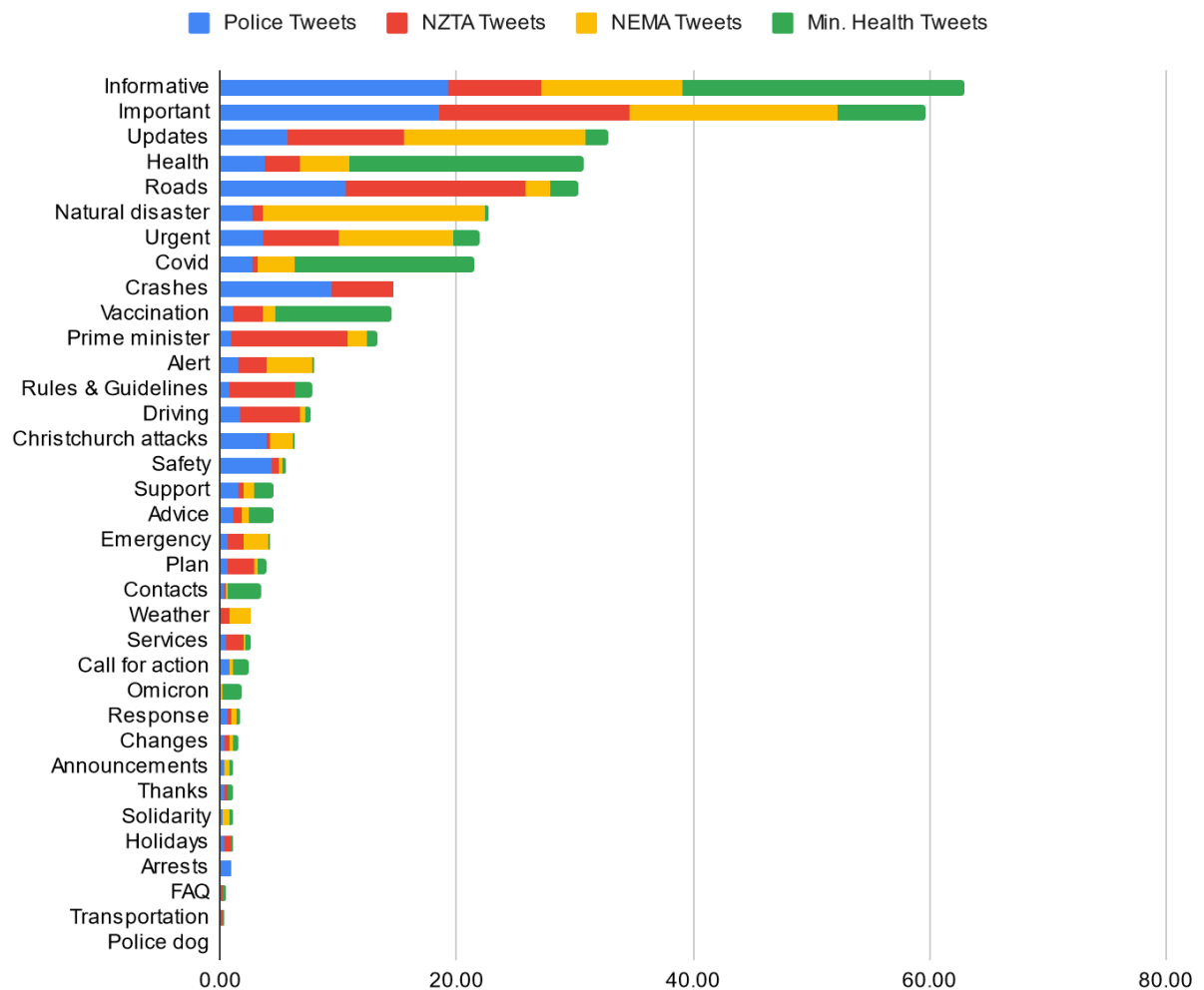


Figure 8.6

The percentage of tweets from certain themes to the total number of tweets for each of the observed case studies



It was also found that most important and urgent topics have timestamps very close to when the incident occurred, especially during the covid breakout and the Christchurch attacks. During the Christchurch incident, the police posted real-time updates about the situation and urged citizens not to share live video streams of the killing. Those updates and warnings were pushed within an hour following the incident. As for the covid breakout, the updates were pushed to the social media account quickly whenever there was a change in the situation. A Covid daily update was published on social media on the number of infections, deaths, and vaccinations provided at 1 pm. Such an update was referred to during the expert interviews and found in the sample of posts scrapped from the organizations' accounts. Such posts also received a lot of interactions from citizens, which updates the confidence in the evidence from research about the importance of the timing of sharing the post in increasing the reach and effectiveness of a post (Goncalves et al., 2015)

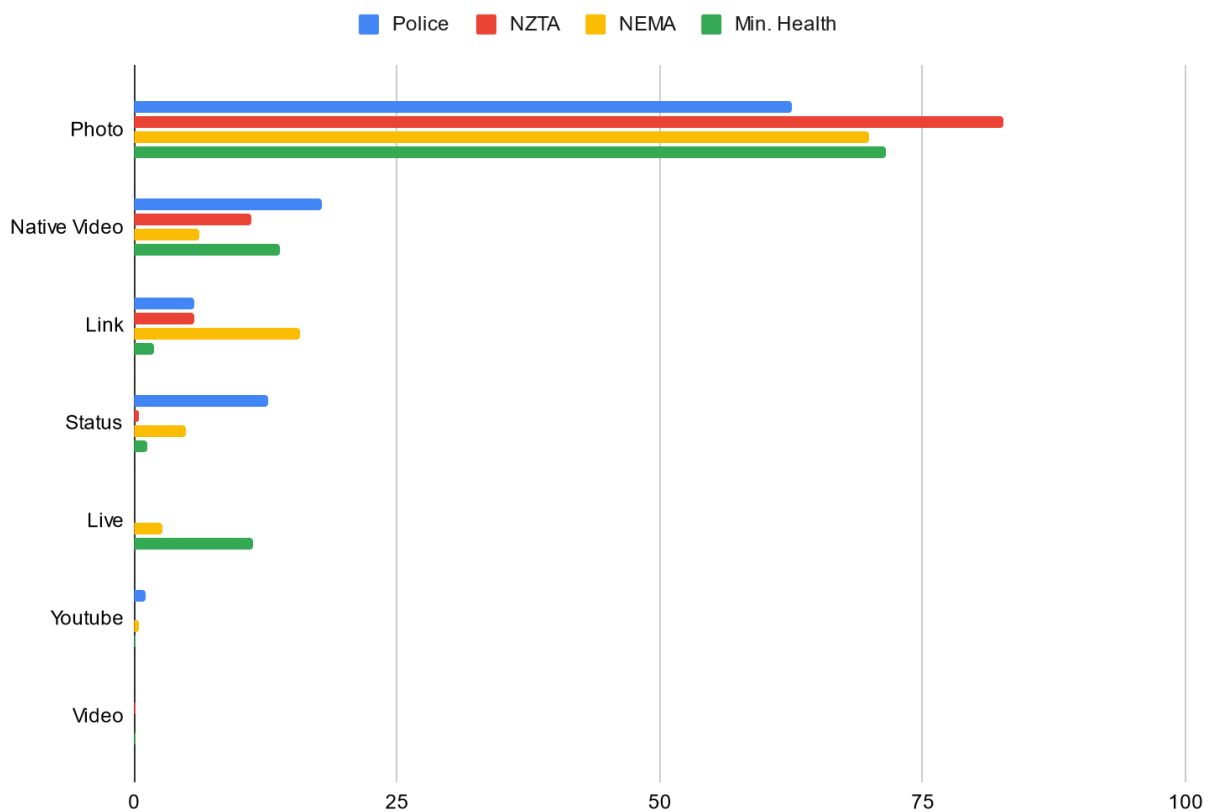
Traces were also found for other content shared on public institutions' social media accounts. Content that used humor, attraction to pets, and offering advice to users were found repeatedly among the sample.

Although such content did not comprise the majority of tweets and posts, topics such as the police dog or holidays were among the significant topics regarding user interactions shared on social media pages.

Regarding the media type, it was also observed that on Facebook, most posts tend to be attached to visual material to attract more users and grab their attention, thus influencing the following parts of the mechanism. Photos come in first place, while native videos that are created and disseminated by the same organization come in second place. Another piece of evidence that updates the confidence in this finding comes from literature, particularly the research of Goncalves (2015) conducted on public institutions' pages to measure the factors influencing popularity and engagement with posts. The research found that visual materials significantly affect post-reach and effectiveness.

Figure 8.7

The percentage of posts of certain media types compared to the total number of posts for each of the observed case studies.



To sum up, the part of the public value creation mechanism, which pertains to the tendency of public sector organizations to post content that classifies as information related to incidents or crises situations, or their tendency to share urgent information promptly, appears through the fingerprints to be valid in most cases. However, another mechanism was observed in parallel: fishing for likes and engagement from users, attracting them to the pages and motivating them to follow. This mechanism describes sharing visual

materials, primarily photos and videos, and focusing on content that includes humor and trendy social media types of posts, such as animals or pets, to attract more citizens to the page.

8.1.2.2. Revised mechanistic part.

The new revised mechanistic model for this stage is modified as follows:

Figure 8.8

Revised mechanistic part for the strategy and type of content on social media.

Strategy and type of content
<p>Entity: Public Institutions Activity: in crisis times:</p> <ul style="list-style-type: none"> • Share real-time updates (e.g., covid daily update) • Inform people about urgent and important events (e.g., vaccine rollout)
<p>Entity: Public Institutions Activity: in peace times (no crisis):</p> <ul style="list-style-type: none"> • Use humor, and trendy social media post types to fish for likes and engagement.
<p>Entity: Public Institutions Activity: in all times:</p> <ul style="list-style-type: none"> • Use visual content to keep the users'

As described in the new mechanistic part, three main strategies are followed by public institutions: one that is valid at all times, which is the trend to post more visual content, be it photos or short videos, and one that is in times of crisis where real-time updates and information about urgent and important events are being shared, and the last strategy in peace times (no crisis) where fishing for likes and engagement is the goal and where innovative strategies are being used to achieve that including humor, and the use of trendy content that generally attracts users on social media.

8.1.3. External promoters

The third stage of the model relates to external promoters, entities that act as catalysts for sharing and boosting the content published by public institutions on social media. As hypothesized, there are two entities identified. First are mainstream media agencies, which share selected posts from public institutions and promote certain types of content to display to their readers as relevant or time-sensitive. The Second is social media platforms, which promote specific posts by type or content to the users via their ranking algorithms due to relevancy or proximity to users.

8.1.3.1. Evidence

For this stage, a wide range of evidence was planned to be collected, some from citizens' interviews, where they were asked how often they have seen urgent and important posts. Also, the scraped data was used to find traces of the social media platforms promoting certain content, where the frequency of posts compared to the number of reactions was explored to identify if the type and topic of posts that public institutions share reached more citizens and if they interacted with them. The reach data from social media insights of public institutions were planned to be collected. None of the public institutions agreed to share such data as it might contain sensitive information about their followers that they would not want to share. However, they were asked in the interview about the influence they see of the type and topic of content on the reach of posts. Due to the inability to obtain posts' reach data and to update the confidence about the results, articles and information about the platforms' filtering and sorting algorithms were included to verify if the platforms promote the type of content shared by public institutions and identified in the previous stage.

The last type of evidence collected was about media institutions and their role in promoting the social media posts of public institutions. Mentions for social media posts were searched for in the two leading mainstream media in New Zealand: Stuff and New Zealand Herald.

Table 8.4

Evidence was used to test external promoters' role in boosting content shared by public institutions on social media.

Parts	Fingerprints	Empirical evidence	Alternative explanations	Source criticism	Uniqueness
Social Media Platforms Increase the reach of the posts shared by public institutions	Citizens' Interviews	Mentioning some of the posts gathered earlier about urgent and important topics.	They might have seen it by chance on Facebook or Twitter.	Citizens might not recall such information or think they saw those posts but did not (one way to overcome this is to check the username in the comments or reactions on the post)	Low
	Social Media posts	Check if users have interacted with the posts in any way	That the content of the post is more interesting than other content for the user, and not because social media promoted it more		Medium
	Social Media Insights (requires access to data from public institutions)	Look at the overall interactions and engagement with shared posts that are deemed concerning updates and important events to citizens compared with other regular posts.	Engagement numbers might be high due to ads placed on the post (this can be verified from the statistics by looking at organic reach instead of overall reach)	-	High
	Articles from the platforms	Articles confirming that social media platforms promote the type of posts being shared by public institutions	The social media platforms might confirm it, but it might not be true since the algorithms are concealed.		Medium
Mainstream Media Shares posts on their channels, creating hype	Media articles mentioning specific posts of public institutions	The number of articles that are issued, maybe the views on the articles are available on the website	-	-	Medium

8.1.3.2. Findings

In the previous parts of the model, three types of content shared by public institutions on social media platforms were identified. The first type is posts with topics that interest users on the platform, like humor, advice, or pets, designed to attract more users to the social media pages. The second type is the real-time, urgent posts mainly related to crises and the institutions' mission. The third type is visual content, commonly shared by public institutions (photos or videos).

Social Media platforms promoting content from public institutions.

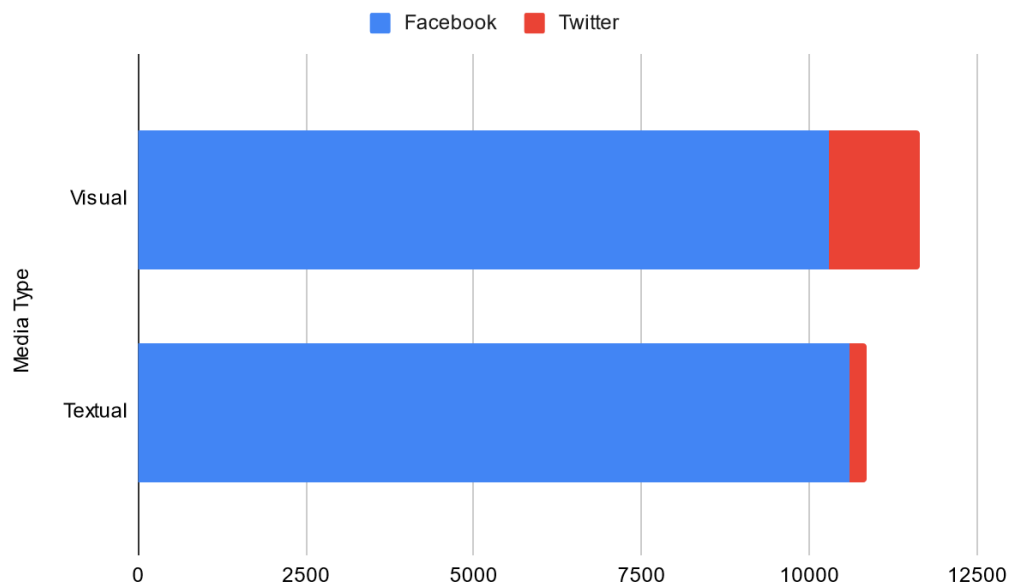
To measure the influence of the type of content shared by public institutions on the reach of social media pages to citizens and users, I followed several strategies:

First, I compared the visual content to the textual content from the scraped data to find evidence that the platforms might be promoting such content over the other by looking at the average interactions on the post per media type. However, this evidence, as explained in the previous section, might not only be evidence of platforms promoting such content but also that the users are interested in such content more than others. Thus, this empirical evidence cannot be used independently and should be updated with other evidence to improve its uniqueness.

The aggregated average interactions from all social media platforms and all institutions by post media type, visual (photo, video, gif) and non-visual (text, link, status), are displayed in the figure below:

Figure 8.9

Average post interactions on Twitter and Facebook for different media types



It was found that visual media types, on average, gain slightly more interactions from citizens than regular textual posts or links.

The confidence in this evidence can be updated with a few pieces of evidence found from the blogs of social media platforms and in research studies where it is mentioned that social media platforms promote more visual content for users. For example, in 2019, Facebook introduced a new change in their algorithm and announced that on their official website, where they decided to promote video content over another type of content to encourage video creators (Miller, 2019). Additionally, a study by Kite J, Foley BC, Grunseit AC, and Freeman B (2016) for Australian public health organizations found that videos and photos were among the types of content that achieved more reach and engagement than other textual types of posts.

Social media platforms not only promote posts because of their media type but also because of the time factor and the tone of content they provide. This argument is backed up by a study published in 2021 through a case study of user reach and engagement in a “Smoking Cessation Intervention” campaign (Pocs et al., 2021). The study found a strong correlation between the reach of the post and one type of interaction offered by Facebook, especially commenting, choosing the "love" or the “haha” reaction, which is used for expressing laughter or reacting to humor content. It was also found that the post reaches non-followers more when users click on it or share it.

In addition to interaction by post type, I analyzed the themes to detect the presence of similar mechanisms. I found that topics that are of high urgency and importance to citizens are, on average, highly interacted with, such as police arrests, announcements, or posts about the Christchurch attacks, and more topics about natural disasters and response on Twitter, because the emergency management depends on Twitter more than Facebook for disseminating alerts and warnings as shared by the social media specialists at the agency.

Figure 8.10

Average interaction with Facebook posts by theme

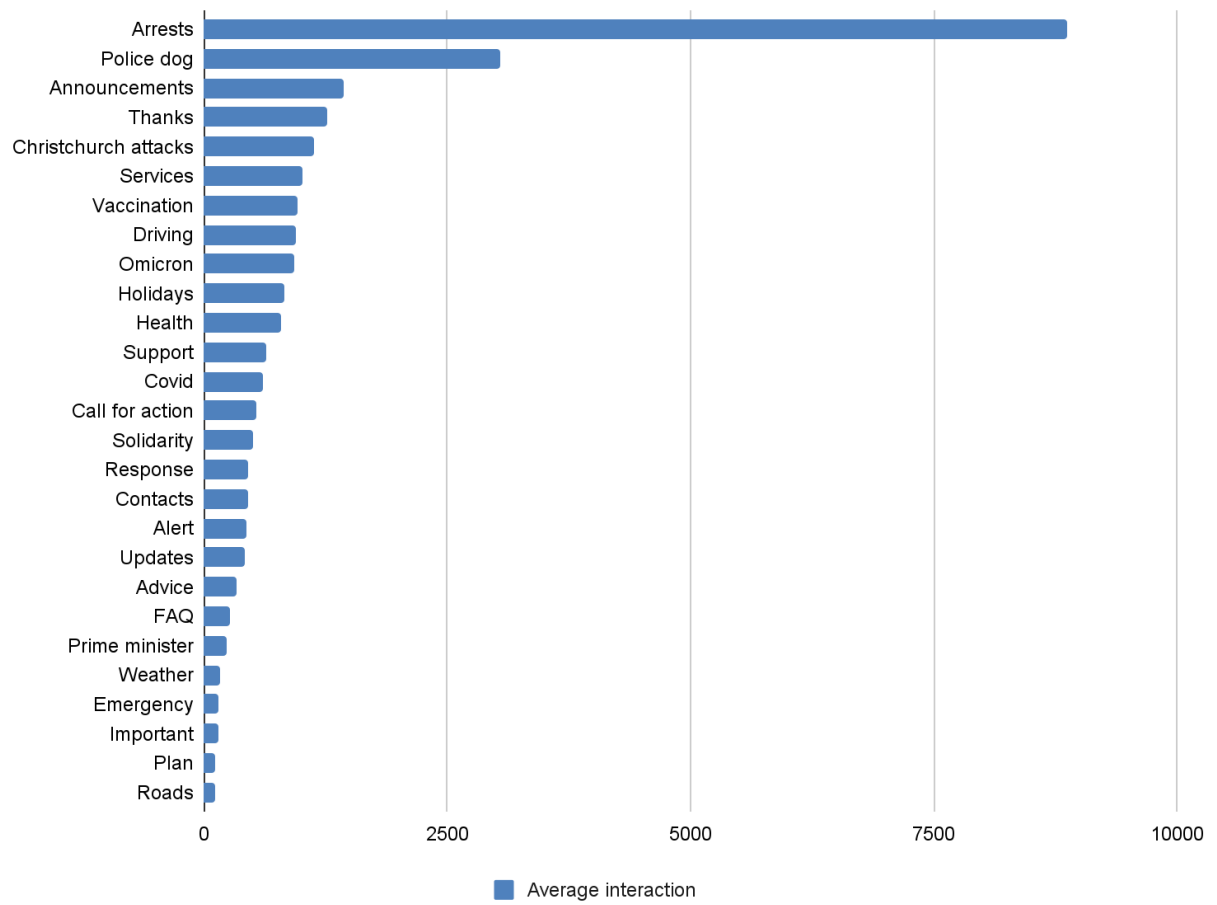
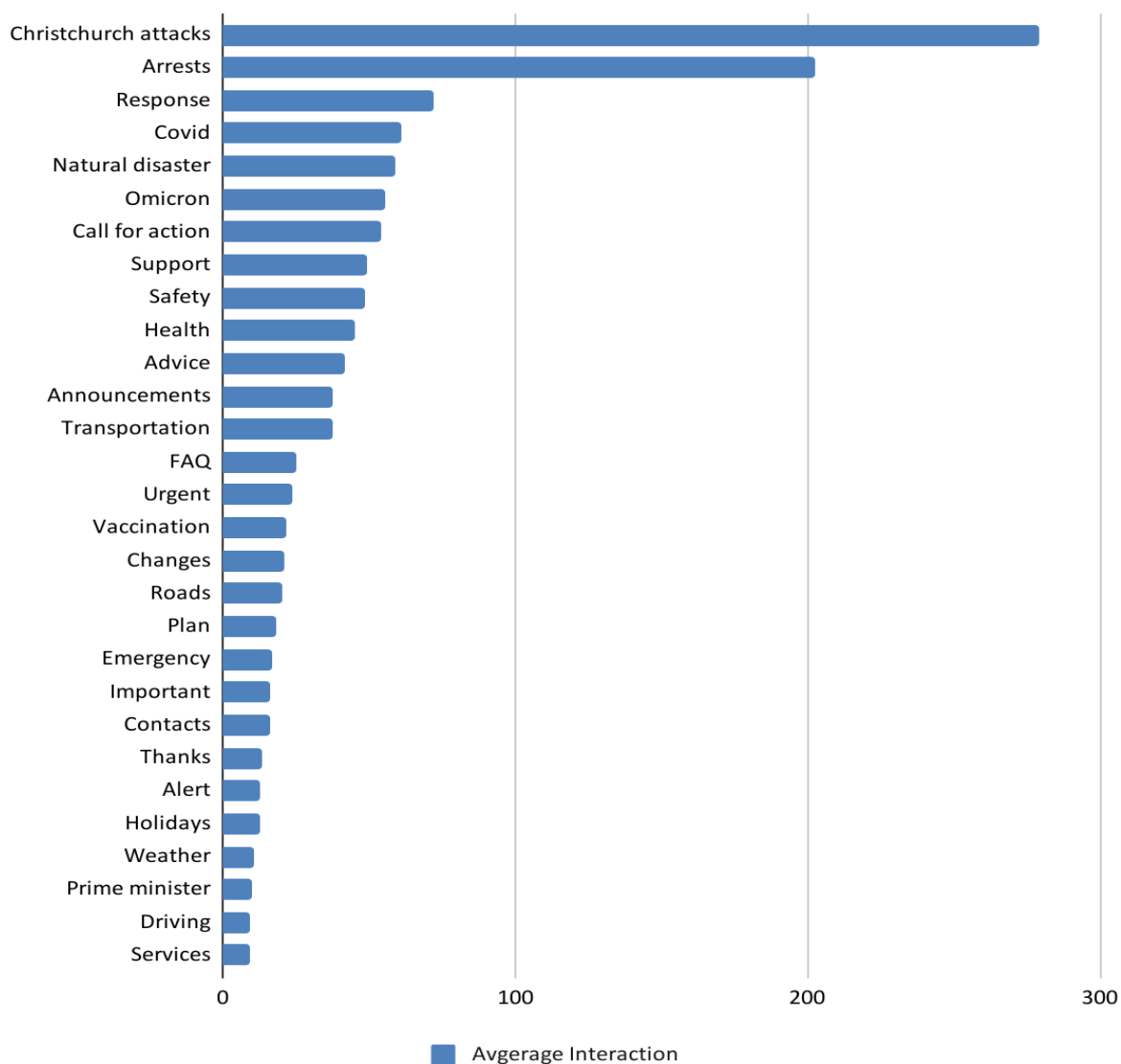


Figure 8.11
Average interaction with Twitter posts by theme



There was little evidence that social media platform algorithms promote crisis-related posts over other posts. However, one of the features that platforms such as Facebook have been developing over the years is safety checks. The safety check feature was developed for natural disasters and incidents. It works so that if an incident happens close to the users, they are notified to report their safety via the app to inform everyone they are safe. Such feature development indicates the tendency of the platform to prioritize communication in times of incidents. Additionally, there has been a degree of collaboration between the platforms and governments in times of crisis, such as the efforts done during the covid breakout, where Facebook announced that they promoted government content over other content when it came to information about vaccines and covid or on Twitter when they offered fact checking notices for content that may be misleading (Hegeman, 2020).

Mainstream media as a promoter of government social media posts

For traces of mainstream media promoting government social media posts, I searched for evidence in articles from Stuff and Herald newspapers. I used the words “Twitter,” “Facebook,” “Ministry,” “Agency,” “Waka Kotahi,” “Civil Defense,” and “Police” for my search. Several articles that cited original social media posts from government institutions were found. Some even date back to 2011, promoting the civil defense's new Twitter account for citizens to follow, stating what the page aims to achieve (Stuff, 2011). Some other posts were found about scandals concerning public services' use of social media. One example is an article written on Stuff citing users from Twitter who tagged the minister of transport and transport agency complaining about a civil servant who left social media with no updates about the disaster during the weekend (Killick, 2023). Media also shares posts from the official accounts of social media to share warnings and updates about incidents, crashes, or traffic updates with citizens (Bayer, 2022). Some even include the original post of the agency in the article, allowing users to interact with the posts and leave comments and reactions while reading the article.

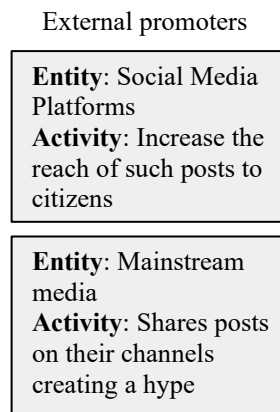
To conclude, evidence has confirmed all the initial parts of the process tracing mechanisms, where external actors, such as social media platforms and the mainstream media, actively promote the content shared by the government's social media teams.

8.1.3.2. Revised mechanistic part.

The mechanistic parts remained the same and are summarized in the following figure:

Figure 8.12

Revised mechanistic part for the external promoters.



8.1.4. Citizens' Reaction

The last stage of the process, as it appears in the initial model, consists of three parts related to citizens and their reactions to the strategies and type of content that public institutions share. The first part concerns citizens' interaction with public institutions' posts and tweets and how this influences them and their networks to like and follow government pages and accounts. The second part is concerned with what happens after following the government page or account, where citizens receive more updates from the government in total. The last part and the outcome of the mechanistic model is citizens' high perceptions of public value from the government's use of social media.

8.1.4.1. Evidence

The evidence for the three parts in this section was collected by different means. Most evidence focuses on the citizens through interviews or social media scrapped data about following government accounts and pages. Through the interviews, citizens were presented with a sample of the posts that were picked by the analysis to be among the topics mostly shared by the public institutions and asked questions on each post. The posts covered all four institutions under study and various topics and media types. The evidence also comprises fingerprints found in the scraped data collection about certain interaction and liking mechanisms in the dataset. A summary of the empirical evidence plan is illustrated below:

Table 8.5
Evidence for the citizens' reaction to mechanistic parts

Entity	Fingerprints	Empirical Evidence	Alternative explanations	Source criticism	Uniqueness
Citizens interact with the posts and follow government accounts on Facebook and Twitter.	Social Media Insights	Check the source of following the page, if it is from the post itself	They may be joining because of something else, maybe because of advertisements to make them like the page (that can also be checked via the insights)	-	Low
	Interviews with citizens who trust the government and platform, asking them about their reason for following government pages	Found that one of those posts was the reason	The interviewed people might not be representative of the population. This data must be mixed with aggregate data.	People might have memory issues recalling certain events	Medium
	Experiments in Citizen interviews	Show citizens samples of the posts that are urgent, fast, and important and ask them what their first impression would be and how they would engage with these		-	High

posts.

Citizen interaction leads to receiving more updates from the government	Documents about Facebook's reach algorithm (Facebook blog) and interviews with people working with Facebook	Finding that when people interact with posts and follow pages, they get more of that content on their feed	It might not represent the reality as social media algorithms are proprietary	Social media algorithms are proprietary, and even people working there do not know about how it functions	Medium
	Citizen profile page	Check if the citizen unsubscribed from any of the pages	They might not have been using social media at that time		
	Social Media Insights	Unfollow does not increase after an increase in reach and is not done from the news feed of the user (indicating that they did not see something they did not like afterward and unfollowed)	Users who interacted were not very active on the platform and did not see more posts in the future.		Medium
Citizens receive more updates from the government regarding issues that are not per se urgent.	Interview citizens asking about their opinion on specific posts that they saw after liking a page.	Interviewees expressing their interest in non-urgent posts			High
	Citizen profile page	The number of interactions, shares, and comments on posts on the government pages and whether the comments were positive or not.	They might have been more active during that period, requiring confirmation during the interviews.		Medium
	Social Media Insights	Reach and engagement for posts that followed a crisis, event, or urgent matters were not of the same urgency where the ratio between both posts is still comparable.	Advertisements were involved (this can be excluded in social media insights)		Medium

Citizens perceive high public value from the government's use of social media.

8.1.4.2. Findings

- People interact with government posts.

Citizens in New Zealand interact with a wide variety of posts from the government, as illustrated previously in the earlier parts of the mechanism. However, this was tested by interviewing citizens, showing them eight examples of posts from Facebook and Twitter that received high interaction, and asking them whether they would interact with those posts and why. I also questioned them about the public value they see from each post and how they would have improved it if they were given a chance to provide more value for themselves and others.

The interviewees could be divided into three main groups based on their interactions with the posts: A group that would interact with posts from public institutions, a group that would not interact with their posts, and a group that would interact with the posts offline or on another social media platform.

The first group is the one that would typically interact with the post, whether by placing a reaction (like), commenting, or sharing the post. Their reasons for doing that differed based on the post and personal preferences. However, many have mentioned that they would interact with the posts if they were simple, specific, and direct. Many respondents also highlighted the role of humor in making the message more memorable and likable. For example, one of the videos published for Dr. Ashley Bloomfield by the Ministry of Health had a non-conventional way of using humor to push vital messages about the pandemic and regulations to New Zealanders. Interviewees remembered the video when they saw it. One of them even mentioned that “Everyone got crazy for it” (R10), and another respondent said that “using humor is good, it can make it memorable, it can help” R12).

Additionally, using images and videos was highlighted by the respondent as attention capturing, making the message more memorable and easily recognized.

Some respondents preferred sharing the posts with their friends and networks when they felt it would help them. They also indicated that they would share them if they were relevant to them or their community. Some felt the moral obligation to share certain information because it is important to them, and others, “I feel I have a moral obligation to share it” (R8). R17, for example, said, “In the post about COVID-19 on Facebook, “I would definitely interact with it because it is very important. It will impact not just me but the entire nation in a serious way. I would definitely share it.”

The type of interaction with the posts and the reasons behind it are summarized in the table below:

Table 8.6*Summary of interactions and reasons for respondents*

Type of interaction	Reason	References
Place a "like," "laugh," "love," or similar reaction to the post.	Simple, specific, and direct.	R1(4) R2(2) R4 (2) R5(1) R6 (1) R7(2) R10(4) R11 (3) R12 (1)R14(2)R17(2)
	No effort to write a comment.	R2 (4)
	Humorous.	R2 (1,4) R3 (3) R5 (1) R7 (1) R9 (4) R10(1) R11(1) R12 (4) R17(1,4)
	The image captured the respondent's attention.	R2 (1,2) R4 (2), R5 (1) R12(3)
Share the post.	Important.	R13(3) R6(2) R5(2)R11(3)R14(2)R17(2)
	Help others (helpful material).	R4 (2, 3) R5(1, 3) R6(3) R15(3) R16(1)
	Interesting.	R6(1) R5(3)
	Relevant.	R8 (3) R10 (4)
	Urgent and emergency.	R11(4) R17(2)
Comment on the post.	More information is needed.	R9(1)
	Important.	R13(3) R6(2) R5(2)R11(3)R14(2)R17(2)
Watch the video till the end.	Catchy and interesting.	R1(7, 8), R10 (1)

The second group was those who would not interact with the post but might still see some value in it. The reason for them not interacting would differ from one person to the other. For example, they do not feel they should spend effort commenting or interacting as they are busy, so they read and scroll past it (R1, R3). Others would not interact because it is irrelevant to them at the moment R1(2) R3(3) R5 (4) R7(1,4)R13(1)R14(3)R15(2,4) or that they know the information already from a different source R1(2) R3(1)R11(1,2) and they would just read and scroll past it R9 (2) R13(1,2)R14(2)R15(1)

The third group is the most interesting one, as they point out a new mechanism for public value creation that was not considered in the initial model. This group finds high value in the posts and would interact with them, but not on the same platform. They would copy the link to the post or the content and share it with their friends through messaging services, in a group chat, or talk about it with others on a phone call. Even though several respondents mentioned this part of the mechanism, it is often hard to trace for this research because these sharing mechanisms occur in private spheres.

Table 8.7*Respondents' interaction with posts away from the government pages.*

Action	Where	References
Search more about the news.	On the same and other social media platforms	R3
Sharing to help others	Messenger	R2, R3, R4, R12, R14
	Phone call	R6
	Group chat (family, friends)	R8, R9
	WhatsApp	R10

- People follow government pages when they see important and urgent content.

This mechanistic part presumes that users not only interact with the posts but also follow the government accounts when the government finds their posts interesting, relevant, urgent, and visual and when they are promoted by external actors, as explained by previous mechanistic parts.

In the interviews with citizens, some respondents mentioned that they follow the pages because of the relevant content they offer (R3, R4, R7, R14, R17). Others follow pages because their content is informative, updating them about the current situation (R3, R14) or because the posts have a personal and humoristic approach (R1, R18). An example is respondent R18, who highlighted the role of posts that involve personal language in creating trust for the government. They said: "I really like their posts. It is really entertaining. I love it. It goes in the right direction. I just love their humor, like this, they create more trust" (R18).

In addition to analyzing the interviews, the growth in the number of Twitter and Facebook followers was captured from 2019 until 2022, covering the period during which the scrapped posts were published. The data was retrieved from Crowdtangle for Facebook and the developer API for Twitter. The data shows a spike in the number of followers around the time of the Christchurch attack in March 2019 for police-related pages and around the time of the Covid breakout in March 2020 for the health-related pages. The spikes in the number of followers were the same on Twitter and Facebook. There was another spike in the number of followers on the emergency management pages around the beginning of March 2021. The latter spike came after several warning messages were shared from NEMA's official pages on Twitter and Facebook for a tsunami hitting the northlands of New Zealand following an Earthquake in the Kermadec Islands with a magnitude of 8.1. Various mainstream media also shared social media warning posts, and following that, a hike in the number of followers was detected (Piper et al., 2021).

Figure 8.13
New Zealand government's Twitter followers' timeline

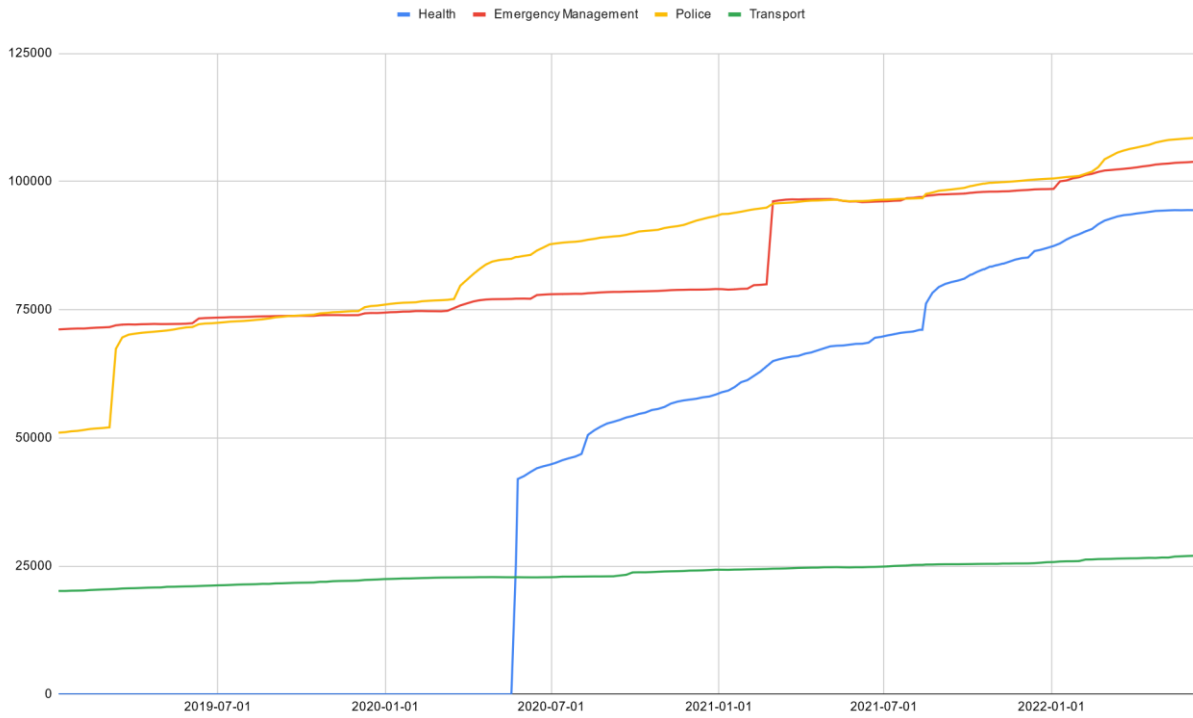
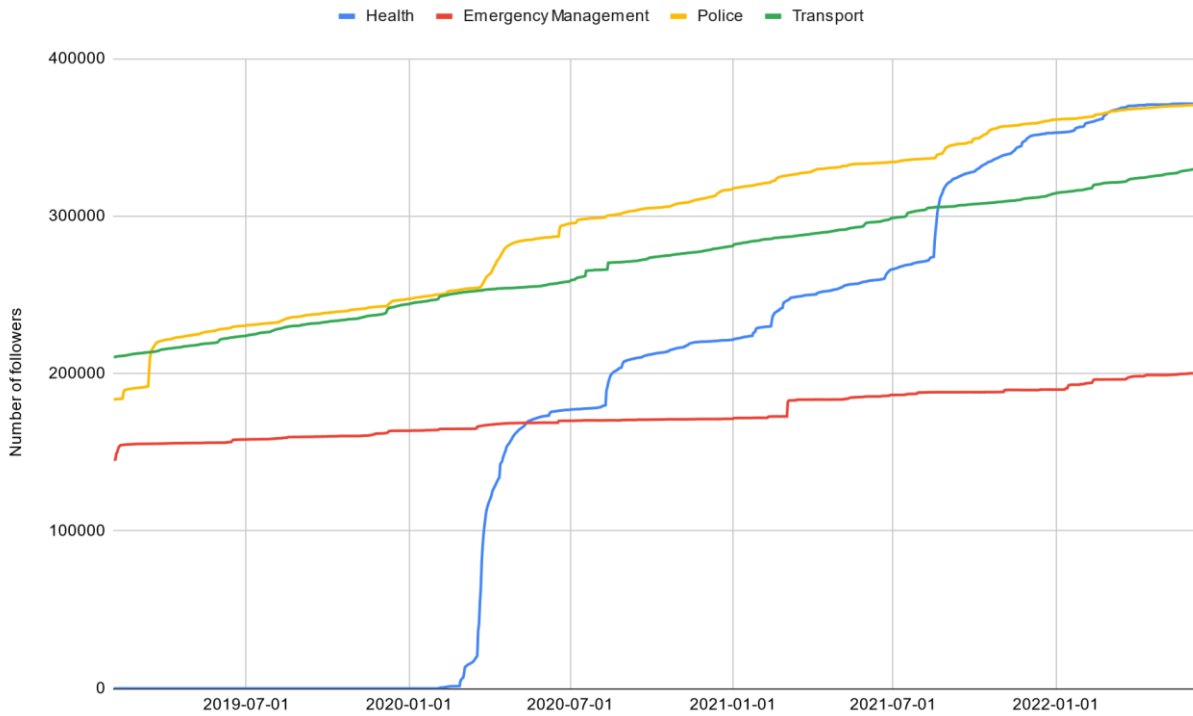


Figure 8.14
New Zealand government's Facebook followers' timeline



- When Citizens interact with posts, they receive more updates from the government.

After citizens follow government pages and accounts and when they interact with them, they start receiving more updates on their newsfeed or timeline (i.e., on their social media homepage). All respondents who indicated that they follow government pages and accounts reported that they see much of the government news through their newsfeed (R2, R3, R8, R11, R13) or when a friend interacts with the post or shares it directly with them (R3, R6, R7, R10, R11, R13). A recent study (Pocs et al., 2021) found a strong correlation between commenting on posts on Facebook or specifically selecting the “haha” reaction (indicating a humorous post) and the reach of such posts to friends of the person doing that interaction.

- Citizens perceive public value from government posts.

Among the interviewees, those who belonged to the group with a high perception of public value verified the findings on how social media contributes to public value creation for individuals and the community. Many mentioned its impact on keeping citizens informed and updated. Some mentioned how this keeps public institutions accessible and engaged with citizens, while others talked about its role in making the government more transparent.

Overall, citizens who perceive value from social media use by their government form their perceptions based on the quality and content of the posts published by the government on social media. Respondents repeatedly mentioned the posts that are shared in a timely manner in crisis times and those that inform the public and warn them of urgent matters. Respondents also saw value in posts that educate the public through humor, making them memorable and engaging citizens with public institutions. Even citizens who do not interact with the posts still read them, get informed, or share them with others offline or on other social media platforms like WhatsApp or Messenger.

8.1.4.2. Revised mechanistic part.

The initial mechanistic parts about citizens’ interaction with social media posts were revised due to the new traces and findings. The new mechanistic parts indicate four possible pathways to public value creation on social media. Some are strengthened with positive feedback loops, increasing the reach of specific posts and tweets and maximizing the overall public value perceptions among the group that trusts the government, follows government pages, and trusts the social media platform.

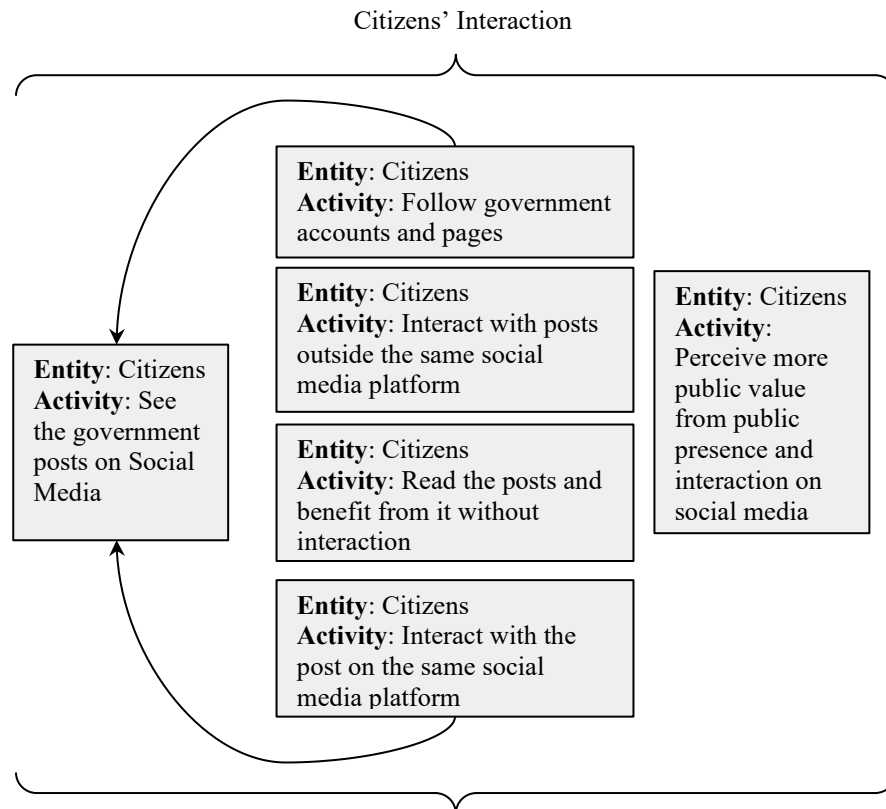
In the previous stage of the process, it was found that external promoters have a role in influencing the reach of posts and making them visible to a broader audience on social media platforms. After seeing the posts, citizens could take one of four possible pathways. One is to follow a government page or account, and then they start seeing more of the posts in a feedback loop to the previous mechanistic part. The second pathway is when they start interacting with the post outside the social media platform by calling their friends and family to inform them about the post or start a discussion about something that was shared. This part creates value that might hardly be traced or observed through the platforms. The third pathway is that citizens benefit by reading the posts or watching the videos or images without interacting with them.

The last discovered pathway was when citizens interact with posts by sharing, liking, or commenting, and therefore create another loop letting their friends see more of the posts and themselves receive relevant posts in the future, creating more public value and benefit overall.

Below is a snapshot of the revised mechanistic parts of the model.

Figure 8.15

Revised mechanistic part for citizens' reactions.



8.1.5 The mechanistic model for public value creation

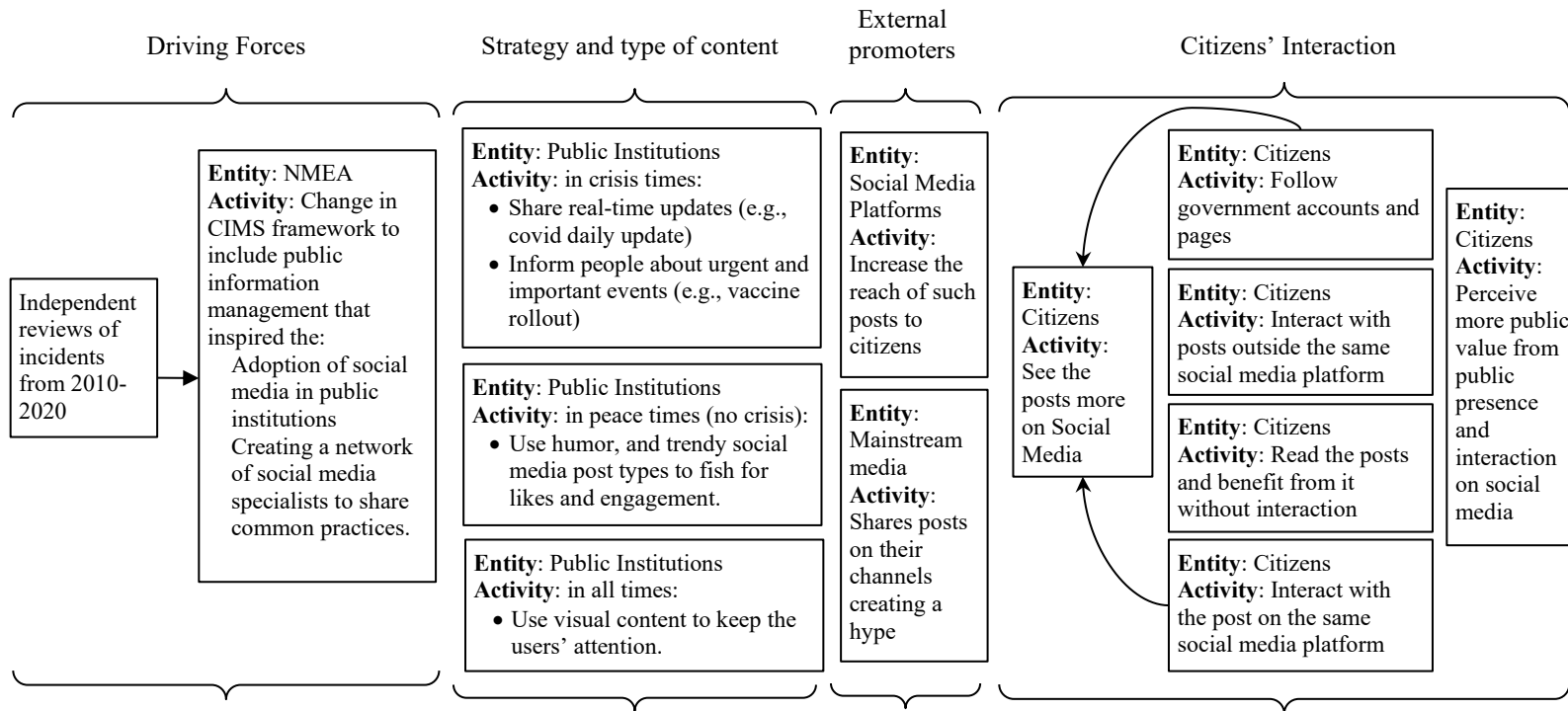
According to the findings, the model can be brought together through the four building blocks that are essential for public value creation on social media. It is important to stress that this model works for specific profiles of citizens identified in the previous chapters. Citizens of such profiles tend to trust the government and the social media platform. They are also young and recent adopters of social media.

The process in the final model starts with the driving forces for social media adoption and positive practices, going through the practices of social media teams in public institutions and the type of content they tend to share on their social media pages (government practices), then followed by external promoters who help in magnifying the impact and who act as catalysts for change. The model ends with different pathways for citizen interaction with social media content that directly or indirectly impacts citizens' perception of public value from social media adoption.

The complete model is expressed in the following figure:

Figure 8.16

The final model for public value creation on Social Media in New Zealand



8.2. A mechanistic model for public value erosion

The second model for the erosion of public value is investigated using evidence and traces planned in Chapter 4, section 4.4.2. The analysis and discussion are divided into three sub-sections reflecting the three stages of the initial mechanistic model. Similar to the previous process model, more evidence was added to verify existing parts or unpack new parts and mechanisms.

8.2.1. Driving forces

The first stage of the initial process model highlights the triggers of negative public value perceptions in New Zealand. One part was identified through conducting the Facebook and Twitter surveys. Several respondents to the survey related the cause of negative perceptions of public value on social media to the controversial opinions shared by some citizens on the platforms. An example is citizens who opposed the temporary hunting ban introduced by the government during the pandemic in 2020 (Game animal council, 2020). The group was active on social media and promoted their ideas opposing the new mandate and seeing hunting as part of their culture as irrelevant to the pandemic. Some of them were among the respondents to the survey and indicated that they had been faced with bans, comment deletions, censorship, and reports. Therefore, they trust the government and the platforms the least to support freedom of expression or transparency.

Another more popular group in the survey was the anti-mandate, anti-vaccination group (known as anti-vax). Those citizens share different views about the government's reaction to the pandemic. They see that the complete lockdown was a wrong idea, that borders should not be closed the way they were during COVID-19, and that vaccinations should not be mandated for citizens (Corlett, 2022). Similar to the previous group, they also indicated that they have been subject to censorship from the government and the platform, leading them to have less trust in the government and the platform and not to follow any of their accounts, which, in their opinion, is full of lies and propaganda.

8.2.1.1. Evidence

The claims from the survey were analyzed by surveying the social media platforms looking for hashtags, events, or posts that discuss the hunting ban or anti-vaccination, anti-mandate and verifying the information being received in the survey that those groups exist on social media and that they try to mobilize and use the platforms to share their opinion. In doing that, a search was conducted on Facebook and Twitter for general hashtags (used to group posts on Twitter and Facebook) discussing surveillance, censorship, and moderation, filtering results for New Zealand. Then, more specific hashtags were found among the posts containing those general hashtags.

On Facebook, a set of hashtags were found connected with vaccination protests, such as #convoynz and its variants: #convoynz22, #NZConvoy2022, #ConvoyForFreedom2022, #Convoy2022NZ. On Twitter, the most popular hashtags were #freedomconvoynz or #freespeechNZ.

With such hashtags, I found several prominent posts and tweets about the protest, events, surveillance, and censorship. The convoy is a movement that mobilized followers to set up tents around the country, and the parliament in particular, in February in response to vaccine mandates. It was dispersed by the police on March 4th. The convoy protests were the nation’s largest in 40 years since 1981 (New Zealand History, 2023).

In addition to the data search on social media, the interviews with citizens were used to find traces for this stage, looking at traces of driving forces to negative public value creation among the group classified as having low perceptions of public value from government social media use.

Below is the revised plan for evidence collection:

Table 8.8
Planned Empirical Fingerprints for the drivers’ mechanistic parts.

Part	Fingerprints	Empirical Evidence	Source criticism	Uniqueness
Citizens use social media to promote their ideas that the government does not approve of and mobilize for action (e.g., hunting groups, anti-vax groups)	Social media evidence suggests using platforms to promote and mobilize opposition ideas.	Events, hashtags, posts, and interaction with those posts.	Some of the posts that exist on social media might have already been deleted by the platform or removed by the government if they were on government accounts.	Medium
	Citizens’ interviews	Evidence from interviews talking about reasons for the low perception of public value from social media use	Citizens might be biased because of their untrust of the government	Medium

8.2.1.2. Findings

The evidence indicated that even though Facebook and Twitter have some mechanisms for content moderation, especially when it comes to the covid and vaccination mandates, many New Zealanders were able to post on the topic on both platforms and mobilize for action in three ways: using hashtags to group posts, using events to call for people to protests and using posts to spread awareness about their cause. Forty-two posts from Facebook and twelve tweets about the anti-vax group were collected and analyzed. Other posts or tweets were filtered out because they either had low interactions (did not prove any mobilization) or did not contain relevant content to this study.

The posts mainly called for action and aimed at raising awareness around the cause. At the same time, many of them commented on the censorship and reactions of the government to their calls and protests and asked for more freedom in expressing their opinion and feelings about the topic.

Multiple events were found on Facebook during the search organized inside and outside the capital. The Events feature of Facebook lets people group around an organized event with a specific date, time, and location. They can gather RSVPs through the event feature, add essential information about it, and stay connected with those who have attended or had an interest in attending. The collected events showed a mobilization on social media, preparing for the famous parliament protests dispersed by the police in March 2022.

Table 8.9
Summary of events found on Facebook related to the anti-vax groups.

Date	Event Title	Platform
03/07/2022	Convoy from Auckland to Marsden Point	Facebook
03/04/2022	Fuel Protest	Facebook
06/05/2022	Occupy Parliament 2022	Facebook
07/04/2022	Unite. Day 7 Public Health Response Act	Facebook
05/02/2022	NZ Freedom Convoy Roadside Supporters	Facebook
12/02/2002	Community Solidarity Rally and March	Facebook

In addition to events, five closed groups were found for those who support the same opinion and thoughts about vaccinations and mandates. Groups are a way in social media to group users around a specific topic where members can share and discuss the topic with one another and share information with the group members. Groups allow administrators to offer restricted access, thus creating a filter against outside influence and keeping the members focused on the topic of interest. The groups found, namely NZ Truckers Convoy 2022 - Freedom, Convoy 2022 NZ, NZ Convoy 2022, and Official Convoy 2022, provide evidence of the presence of such users on the platform in groups where they share their opinions and interact with one another frequently.

During citizens' interviews, other driving factors contributing to the low perception of public value from social media use were spotted. The new mechanisms are related to the type of content and the government's strategy for social media. Respondents were asked about their opinion of what erodes public value on social media. They were also presented with posts that achieved low interactions on both Facebook and Twitter. They were asked their opinion on why those posts did not achieve any interaction by citizens. They were also asked about their ideas to make those posts deliver public value.

Respondents highlighted two main issues: one focused on the strategy of posting, and the other focused on the content of posts.

For the posting strategy, several respondents indicated that they receive too much information from the government (R2, R4, R14, R16). For example, when R2 was asked about what erodes public value when the government uses social media, they said, "...when it is too much when they sell things as a sort of

brand, which is overcommunication because then the people stop listening”. Others also talked about the government sometimes being politicized in their posts (R9, R11, R14) or spreading misinformation (R2, R6, R7, R15). However, they could not provide any examples or traces for their claim.

Regarding the type of content, some of the older respondents in the interview had an issue with using humor on government pages, which was perceived as unprofessional and sometimes risky, depending on the context of the post (R13, R8, R14). For example, R8 said, "Sometimes it is kinda risky to make funny posts in bad periods." Other respondents highlighted the issues with the irrelevance of posts to where they are or their situation, which discourages them from interacting with the post or seeing similar ones, or continuing to follow the government accounts (R1(2) R2(5) R3(3) R5 (4) R7(1,4)R13(1)R14(3)R15(2,4))

Other respondents complained about posts being unclear, without the important information the citizen might need to take action (R10, R1(5), R3 (5, 6), R6(5, 6) R8 (5), R10 (5) R11 (6), R12 (6), R16(7)). Others indicated that content sometimes is long (R6(7) R12 (7,8), R13 (8)) or not inclusive (R15(8), R1).

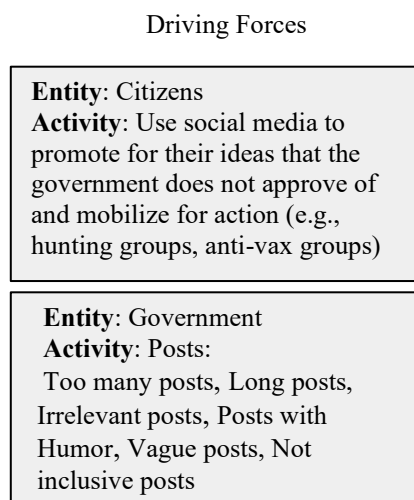
8.2.1.3. Revised mechanistic parts.

The part concerning citizens on social media platforms communicating ideas and opinions that are controversial for the government and contradictory to their key messages has been verified through evidence of hashtags, posts with interactions, events, and groups on both Facebook and Twitter.

A second part was deduced from the interviews with citizens regarding the content shared by government institutions on social media. It was found that using irrelevant, vague, not-inclusive, prolonged, or repeated content and using humor in times of crisis can contribute to the erosion of public value. The new revised mechanistic parts appear as follows:

Figure 8.17

Revised mechanistic parts for the driving forces of low public value perceptions.



8.2.2. Platform moderation

When certain groups of citizens use social media platforms to mobilize and raise awareness on controversial topics, the government and social media platforms perform moderation activities to hinder their reach. As discussed in the theoretical framework chapter, both entities perform moderation to limit what they consider harmful opinions for society. Moderation activities include removing the content, warning the user that their content is against the community standards, blocking the user's activity on the platform for a certain amount of time as a punishment for posting unwanted content, or deleting their account. On the other hand, the government has several other tools. Platforms like Facebook and Twitter can also block the ability of the user to comment on a post or reply to a tweet. Governments can do that by reporting a particular tweet or post or entirely removing a comment on any of their posts (only on Facebook).

In the survey, it was reported that both the government and social media platforms utilize those tools for moderating the content and limiting the opinions of those individuals. Some respondents in the survey also mentioned that laws are being developed in New Zealand to support moderation activities, such as the hate speech law, which was developed following the Christchurch gun attacks. Some respondents believed that the new law would limit their freedom of expression on social media and could be a powerful tool in the hands of the government to stop anyone from saying anything they do not want to hear.

8.2.2.1. Evidence

The following evidence was planned to be collected to investigate the three parts in this section. While collecting evidence about censorship is one of the most challenging topics, since the traces are often removed, I relied mainly on interviews with citizens. Other evidence was collected as part of the interviews with civil servants to verify the existence of moderation activities and to understand what has been considered by the government as harmful content that needs to be removed or blocked.

Additionally, a search was conducted on social media, looking for citizens who complain about their content being removed or blocked on social media.

The planned evidence is presented in the following table:

Table 8.10

Planned Empirical Fingerprints for the moderation-related mechanistic parts.

Part	Fingerprints	Empirical Evidence	Source criticism	Uniqueness
Social media platforms censor posts and accounts that do not align with their community guidelines. The government deletes and hides the comments of users or reports them to the platform for providing an opposing opinion. The government introduces laws that may hold users accountable for their opinions on social media (e.g., hate speech law)	Citizen interviews with people from opposition groups Collecting data about blocked accounts or deleted posts by following hashtags on censorship Collecting data about cases of the government acting legally based on existing laws to stop users from posting	I asked about incidents when their posts were deleted and why they may be sharing a screenshot of the message that came from the platform. Asking about fears of posting and legal consequences. Checking the content of the deleted posts/blocked accounts	People may not recall events exactly or may have an alternate scenario in their mind for the way their posts were written	Medium

8.2.2.2. Findings

- Social media censoring content

The topic of social media moderation and the censorship of posts have been around for a long time and have been reported by several researchers (Myers West, 2018; Gillespie, 2018). In the case of New Zealand, particularly the anti-vax groups, there was plenty of evidence that Facebook and Twitter organized activities to fight misinformation related to vaccines and the pandemic (Koetsier, 2020; Twitter, 2022). According to Twitter's website, around 100,000 posts have been removed and 11 thousand accounts suspended since the pandemic started. There have also been reports that Facebook removed content from major newspapers such as Stuff, The Independent, and the NY Post, where Stuff is one of the largest New Zealand mainstream newspapers (Ibid.).

In the interviews with citizens, some respondents indicated that people they knew had their accounts blocked or their comments removed from the platforms (R8, R18). Only one respondent had their content removed from Facebook and their account blocked on Twitter (R16). The respondent mentioned two incidents on Facebook for pictures posted and then removed by the platform and a tweet that suspended her account. The respondent was asked to remove the tweet to reactivate the account, but the respondent deactivated the account instead.

Some posts were found on Facebook and Twitter for New Zealanders claiming their content had been removed. However, it is unclear if the content was removed or reported by the government or social media platforms. Below are examples of the content found in the New Zealand anti-vax groups.

Figure 8.18

Evidence for Censorship on Facebook and Twitter

February 10, 2022 · 🌐

"I don't agree with you that my rights to life, liberty and the pursuit of happiness are extinguished by a government declaring a pandemic. To me those rights are absolute...
The protest is a little spark of human spirit."
#kiakaha #notmyaunty #endthemandates

This content isn't available right now
When this happens, it's usually because the owner only shared it with a small group of people, changed who can see it or it's been deleted.

5

July 1, 2022 · 🌐

If your post was declined, don't take it to heart. FB is messing around with our status, we are walking a thin line to stay open

14 2 comments

Like Comment Share

All comments ▼

there should be free speech on facebook
Like Reply Share 31w

The zuc is starting to back off. he knows he is liable. they are running now. Lets keep chasing.


June 29, 2022 · 🌐
⋮

Pathetic. Government controlled socialist-anarchists are usually behind these reports.

🔒 **This content isn't available right now**
 When this happens, it's usually because the owner only shared it with a small group of people, changed who can see it or it's been deleted.

👍👎 5
3 comments 3 shares

👍 Like
💬 Comment
➦ Share
👤

Most relevant ▼


Write a comment...


 🗨️ 😊 📷 🧠 🎭


More tax payer money wasted on suppressing the truth.
👍 2

Like Reply 32w


How bloody stupid, it's a post about brutality not nudity. 🤡🤡🤡🤡🤡
👍

Like Reply 31w


⋮

[#FREEDOMOF SPEECH](#)
[#NEWZEALANDPOLICE](#)
[#CENSORSHIPNZ](#)

See this Instagram video by [@qthewakeup](#) [instagram.com/tv/CECFu2Egdtl...](#)

11:19 AM · Aug 19, 2020

@QTheWakeUp

Account suspended

Twitter suspends accounts that violate the Twitter Rules. [Learn more](#)

- Government censoring content

The government also offers a second layer of moderation for content, sometimes as a filter for blocking people from expressing their opinions, especially on their pages and posts on social media accounts. Evidence from citizens' interviews supports this hypothesis, showing how this censorship impacts citizens' trust in their government on social media.

Some interviewed citizens believed that deleting comments is inappropriate (R7), that it is not a good practice when it comes to transparency (R14), or that it leaves a wrong impression and defies the purpose of social media interaction where communication should be symmetrical (RR4).

It was not easy to find actual reports from the government about removed comments because they are not on the platform anymore. However, by looking at the community guidelines for social media content moderation on the official government pages (also available on their websites), it was mentioned that user content would be actively deleted under certain conditions, many of which are similar to the platform guidelines about offense, illegal content and swear words. However, all social media accounts mentioned that they also remove content irrelevant to the posts' content. They also state that they can determine what constitutes appropriate content.

Civil servants were asked in the interviews about adverse reactions from citizens on any of their social media posts or campaigns. The NZTA mentioned their campaign about the promotion of cycling and the adverse comments they received from users on the campaign. The civil servants said they watch out for the comments, and if they are abusive or repeated multiple times, the users are blocked from the page. However, they mentioned blocking a user is the last resort (R3, R4). For example, R3 said about the anti-cycling comments, "Normal opinions are fine. People are allowed to have their opinions. It is the nature of social media. But not the abusive comments, nasty comments. That is why now we have a clear guideline of what is acceptable and what is not" (R4).

On the other hand, the government sometimes takes a precautionary measure to turn off comments on posts they believe to be controversial. Then, when not many adverse reactions are received, they enable the comments again. An example of this is what happened in NZTA with the social media campaign about the introduction of signs in both languages English and Māori (the natives' language in New Zealand). One of the interviewed civil servants said: "We decided to hide comments first, and then after we saw that there were not many negative reactions, we opened it because the feedback was very positive on this" (R3). In other instances, civil servants block comments simply because they cannot handle them. An example of that is speed limits and speed reviews. R3 mentioned that "Speed review annoys people, so we stop comments sometimes because we cannot handle all of them. Because we have a lot of negative reactions, we could not deal with all the negative reactions and comments". So, instead of creating dialogue on social media about controversial topics and sensing public opinion to improve decisions, comments are hidden, deleted, or blocked when they are negative and too much to handle.

The Ministry of Health had a similar response. They also hide content on their page from the anti-vax groups and label it as misinformation. When they were asked to give an example of what they perceive as misinformation, an example was given about a comment from a user saying, "Masks do not work." According to the ministry, this comment falls under the misinformation category and should thus be hidden. In their opinion, the comment would not be classified as misinformation if it was in the form of a

question, like: “I heard masks do not work. Is it true?” and then they see this as an opportunity for them to clarify this information to the users.

The NEMA was an interesting case because they avoided blocking users from their page at all costs. Their reason is that the page is used for crises and lifesaving purposes, and no one should be left out. However, they were unclear whether negative comments about the institution's image should be kept or hidden (R1,2). All interviews with public servants proved that deleting and censoring comments of users on social media takes place. Even though social media guidelines exist on all their accounts, some moderation decisions are subjective.

In the scraped data from the public institutions, several incidents were found on Facebook and Twitter, where the government limited the ability to interact with their posts and blocked comments or replies on the thread. Some of the posts were related to information about holidays taken by staff of the agency, and therefore, replies were switched off or on posts shared on behalf of other organizations, such as this post shared on the transport agency on behalf of the Ministry of Health.

Figure 8.19

Example of posts from NZTA with the inability to comment



Waka Kotahi NZ Transport Agency February 11, 2022 ·

It's Big Boost Feb! Get your booster this month and help slow the spread of Omicron: www.bookmyvaccine.nz

Two shots were great protection against Delta, but boosters are the best way to fight Omicron.

If you had your second vaccination at least three months ago and you're 18 and over, get your booster ASAP. Book online via www.bookmyvaccine.nz, or visit a walk-in or drive-thru vaccination clinic. You can also call the COVID Vaccination Healthline on 0800 28 29 26 (8am to 8pm, 7 days a week) to make a booking.

THE BIG BOOST
February 2022

Te Kāwanatanga o Aotearoa
New Zealand Government

Unite against COVID-19

MINISTRY OF HEALTH
MANATU HAUORA

46 2 shares

Like Share

Waka Kotahi NZ Transport Agency limited who can comment on this post.

Alternatively, comments were disabled when a sensitive topic was discussed, for instance, arrests in protests or an action that the public might not welcome.

Figure 8.20

Example of posts from New Zealand Police with the inability to comment.



New Zealand Police ✓
10 February · 🌐

Police continue to have a significant presence at the ongoing protest on Parliament grounds. Around 120 people have now been arrested. They face charges including trespass and obstruction, and will be bailed to appear in court. Parliament grounds were officially closed this morning however a number of protesters are still refusing repeated requests to leave the precinct. While many are protesting peacefully, others have attempted to breach the Police cordon. Police have twice deployed OC spray after officers were pulled into the crowd. They were not seriously injured however such behaviour is unacceptable. Anyone threatening the safety of Police staff or the public should expect to face enforcement action. Police are again urging anyone with a vehicle unlawfully blocking the streets around Parliament to remove it immediately. Officers are assisting Wellington City Council parking wardens as they begin to issue infringement notices, and Police will now look to have the vehicles removed. Police will continue to have a presence at Parliament into the night and as long as necessary to ensure public safety.

👍👎👤 1.9K 72 shares

👍 Like ↪ Share 🔒

🗨️ New Zealand Police limited who can comment on this post.

Citizens in the interviews had varying reactions about blocking users from reacting to the post. Some felt it is needed to improve the quality of the comments, avoid trolls on the internet, prevent increasing tension, or avoid emotional comments. Others were against it, thinking it was a form of authoritarianism and censorship, offering no transparency. One respondent indicated that not being able to reply to the tweet or comment on the posts (R4, R9, R11, R12, R16) even makes them feel bad and furious.

Like Facebook, there are several examples on Twitter for removing the ability to reply to tweets. Seven posts were found in the dataset scrapped from organizations with disabled replies to anyone not following the account. All of those tweets were replies to particular users in a conversation. An example of those tweets is a tweet in reply to two users suspecting someone is not following the rules during the pandemic, telling them about reporting such violations and offering advice on how to do that. Some other tweets were more restricted. In the dataset, I found 27 posts that were blocked for reply. Similar to the Facebook posts, the police also had tweets talking about dispersing the New Zealand convoy protests without an ability to reply.

Figure 8.21

Example of tweets from Police with the inability to reply.



No evidence was found about New Zealand hate laws being used to curb freedom of expression. Since the survey's period, the law has not yet been published due to extended community discussions and parliament debates, mainly around the same fears discussed earlier (Daaler, 2022). Thus, this part was dismissed as there was no evidence to verify its existence or contribution to the process model.

8.2.2.3. Revised mechanistic parts.

According to the findings from interviews and scraped data, the mechanistic parts are revised. First, the part concerning the influence of the new laws in limiting or censoring social media was removed due to a lack of evidence. Second, a new part was added about governments using the feature to turn off comments for users on specific issues due to fear of negative response or their limited capacity to interact with the comments.

Figure 8.22

Revised mechanistic parts for the platform moderation.

Platform Moderation	
Entity: Social Media	Activity: Censor posts & accounts that do not align with their guidelines
Entity: Government	Activity: Deletes or hides comments of users of opposing opinion, or disable commenting on posts
Entity: Government	Activity: Blocks accounts of certain users

8.2.3. Citizens' Reactions

The final stage of the process tracing mechanism consists of five parts related to citizens' reactions to platform moderation activities. The first part is triggered platform moderation activities, which leads citizens to have less trust in the government or the platform. The second part refers to users interacting less with government posts or unfollowing their pages and accounts. The third part is where citizens start to see and interact less with the government on social media. The fourth and last part is the outcome of the process, where citizens are excluded from the process of public value creation on social media.

8.2.3.1. Evidence

A wide variety of evidence is used to verify the parts of this stage. Citizens were asked in the interviews about the activities that contribute to their trust in the government and the platforms.

Citizens and civil servants were asked about their reasons for not following government pages and accounts.

The survey evidence was used to verify some of the transitions between parts in this stage.

The list of empirical evidence collected in this stage is illustrated in the following table:

Table 8.11

Planned Empirical Fingerprints for citizens' reactions to mechanistic parts.

Part	Fingerprints	Empirical Evidence	Source criticism	Uniqueness
Citizens have reduced trust in the platform for sharing their opinions on social media. Citizens have less trust in the government.	Citizen interviews with people from opposition groups (anti-vax or those who have responded to the survey that they had incidents)	Asking about their attitudes in sharing their genuine opinion and barriers to sharing their thoughts	People may not recall events exactly or have a different alternate scenario in their minds for how their posts were written.	Medium
Citizens do not follow government accounts, unfollow them, or hide their posts.	Survey correlation between trust in government and following government accounts (collected) Citizen interviews	Asking people about the relationship between their trust in the government and their willingness to follow them. Asking citizens to react to a post when they do not trust the government		High
Citizens receive fewer updates from the government	Check citizen's news feed	Check whether they see government updates on their timeline compared to those who follow government pages and ask them to pinpoint all the posts they could find	There might not be posts because no posts are issued at that particular time.	Medium

on their feed coming
from the government
during the interview.

8.2.3.2. Findings

Trust in government and the platform

Several respondents indicate the effect of social media strategies on their trust in the government on social media. One respondent, R6, indicated that having too much information from the government confuses them, and therefore, they cannot trust the government. Some indicated general distrust for the government regarding their posting strategy and moderation activities, deleting comments or blocking users (R9, R12). R15 and R16 indicated that they do not trust the government on social media for various reasons, including that they decide what is true and what is not and that they control everything, including information (R16). Public servants of the MENA shared a similar opinion when asked about how the government can avoid the erosion of public value; they said, “You know, if we start hiding anything we do not like, then you know what else we are hiding? So, I think you know leaving those comments there. I would say it increases trust”.

There was evidence from citizen interviews that they unfollow government pages when the content becomes irrelevant to them or when the topics are more political (R11, R18). Additionally, interviewing public servants indicated similar reasons why citizens unfollowed their pages. One is “content irrelevancy,” highlighted by the NEMA respondents and the Ministry of Health. Additionally, R2 mentioned that negative comments they received regarding the use of Māori content were among the reasons some citizens might have unfollowed them on social media. It is worth noting that the same public servants mentioned the negative comments about Māori signs as an example of comments they may delete or hide.

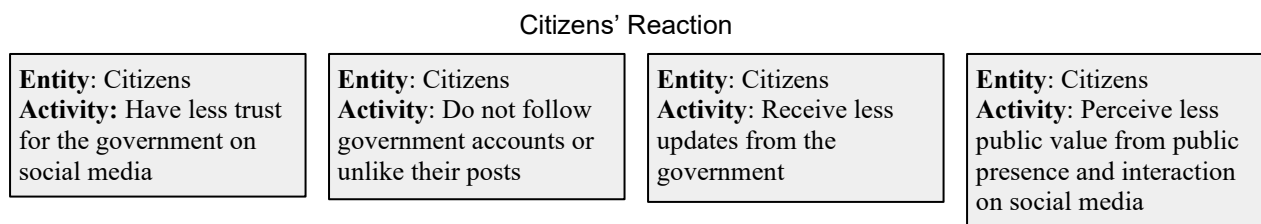
Overall, most of the users who experienced incidents of blocking, comments hiding, or issues with the content being irrelevant indicated that they have a low perception of public value from the government's use of social media (R5, R9, R12, R14), which verifies the connection between different parts of the mechanism.

8.2.3.3. Revised mechanistic parts.

The revised mechanistic parts verified in this stage of the model are illustrated in the figure below:

Figure 8.23

Revised mechanistic parts for citizens' reactions and low public value perceptions.



8.2.4 The mechanistic model for public value erosion

The revised process tracing model for the erosion of public value on social media consists of several stages that connect the triggering actions to the outcome of low public value perceptions. The model was divided into two, each representing the effect of one of the triggers on the outcome.

The first process model is triggered by citizens who adopt controversial opinions on social media. Their use of social media to share their ideas and mobilize and interact with government pages is met by censorship from the social media platform and the government. In some cases, the government blocks user accounts, which terminates the process of public value creation on the platform. Users blocked by the government resort to their filter bubbles and do not perceive any value from the government's use of social media. When user comments are hidden or deleted, the users' trust in the government is reduced. They tend to unfollow government accounts and pages. Then, the number of future updates and posts users would see from the government on social media is reduced. Eventually, users would perceive low public value from the government's use of social media.

The government posting practices trigger the second causal model. The identified practices drive certain users away from the government's social media accounts and pages. Their posting behavior can directly influence the citizens' preference to post or interact with government accounts on social media, whether by unfollowing their pages or hiding their posts from their feed, leading to reduced updates from the government. Eventually, users would perceive less public value from the government's social media presence.

The following two figures illustrate the two process models summarized before:

Figure 8.24

First model for the erosion of public value on social media in New Zealand

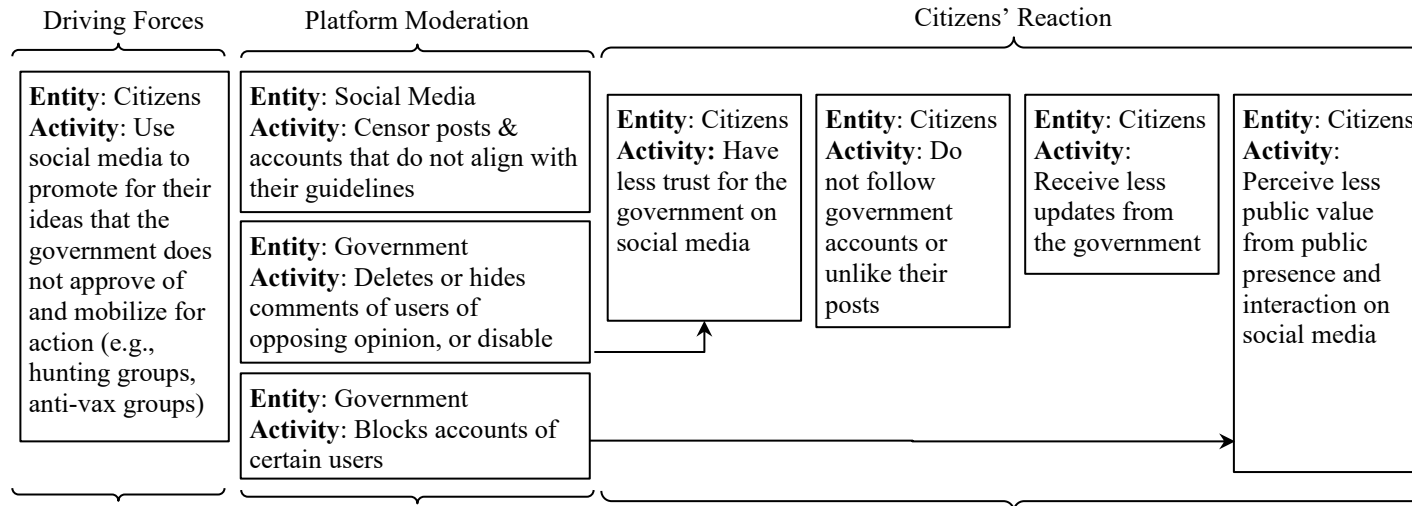
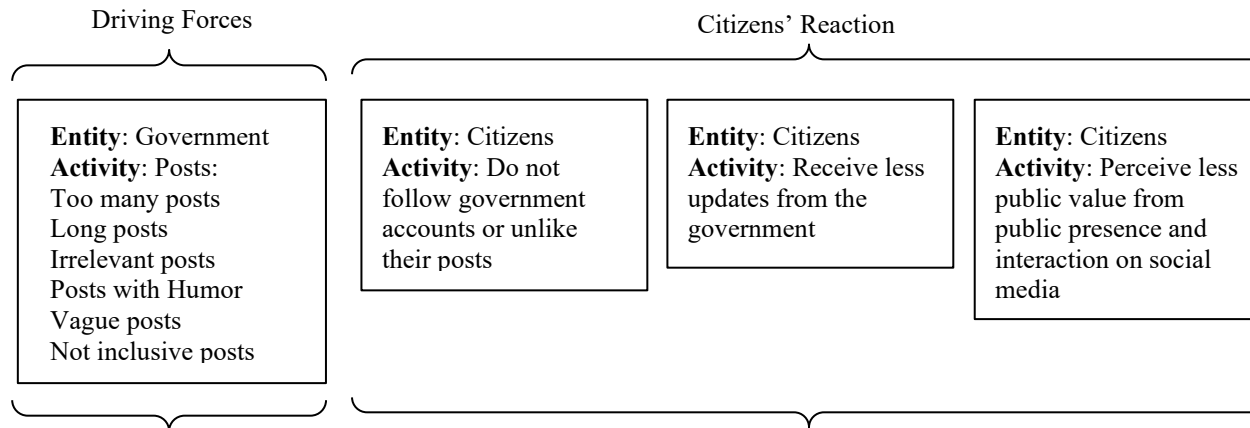


Figure 8.25

Second model for the erosion of public value on social media in New Zealand



8.3. Conclusion

In this chapter, the initially developed process tracing mechanisms were investigated in light of the empirical evidence and traces found in the four case studies highlighted in the survey. Various fingerprints were used to unpack the mechanisms for public value creation and erosion, including previous research, interviews with citizens and civil servants, data scraping from the cases' social media accounts and pages, and finally, documents, strategies, news articles, and other sources that were very relevant to the process tracing activities.

A mechanistic model for public value creation on social media was developed for the first group of users identified in chapters 5 and 6, who share similar characteristics and perceptions of public value. The model consists of four main stages, each pointing to a group of entities and their activities contributing to public value creation. The model starts with a set of driving forces for public value creation on social media, followed by adopting particular strategies and types of content that public institutions share. The second stage of the model relates to external promoters of government social media activities. The stage comprises two parts acting as a catalyst to maximize governments' reach and voice on social media. Then, the process ends with another stage highlighting citizens' reactions to all the previously mentioned activities and their contribution to the high perceptions of public value on social media.

Moreover, two mechanistic models were developed for public value erosion on social media for users with low perceptions of public value and who share similar demographic and behavioral characteristics. The first model is triggered by citizen activities on social media platforms that oppose government opinion on controversial topics. The second model is triggered by certain posting practices of public institutions that drive users away from their pages. In the first model, moderation of content comes as the second stage, which, as explained in the model, introduces distrust and other adverse reactions among citizens and eventually limits the public value-creation process. Both models end with a chain of citizens' reactions that leads to low perceptions of public value among citizens.

In the next chapter, a summary of the study findings will be presented in the form of policy recommendations, alongside the limitations of the research and further research questions that emerged from the study.

Chapter 9 : Policy Recommendations and Conclusion

In this chapter, I will further discuss the findings from the survey and the process models for public value creation and erosion to formulate policy recommendations for civil servants of New Zealand. The recommendations and findings can also offer new opportunities for conducting similar research in other countries where enablers of public value creation are present. The chapter is structured around four main sections. The first section discusses ways through which the public sector can enable value creation, drawing on the recent literature about enablers of public values on social media and reflecting on the findings from Chapters 5 and 6. In the second section, I discuss social media governance and how civil servants can work with stakeholders and other independent reviewers to improve their work and deliver more value to citizens. The third section discusses strategies for creating public value on social media, whether through changes related to posting practices, organizing social media work, being more open to citizens, and moderating content. Finally, in the last section, I discuss the study's limitations and what could be improved in further research on public value and social media.

9.1 Enabling public value creation.

Enablers of public value creation on social media are widely discussed in the literature. Several key enablers were highlighted in Chapter 2, including organizational capabilities and efficient resource management. Enablers include citizens' trust in the platform or government, citizen-centric service design, responsiveness, and inclusion.

9.1.1. Organizational capabilities

Undoubtedly, readiness in organizations is vital to creating public value on social media. Allocating enough resources for social media management and enabling engagement with the public through legal and organizational frameworks are crucial elements to the success of collaborative social media policies. In New Zealand, resources can be efficiently allocated through the CIMS framework for incident coordination, and there is a high degree of flexibility in sharing resources across government institutions quickly to respond to unforeseen incidents. The case of United against COVID-19 vividly shows how organizational capabilities play a role in creating such success stories on social media. A team was formed from expertise pulled from across the government, money was allocated under the CIMS framework, and necessary tools were purchased (e.g., Sprinklr) in quite a short time, enabling great support for citizens quickly and effectively, as complementary to other offline and online service touchpoints for the same initiative. In all cases studied, except for the police department due to limited data access, social media teams, those who respond to messages, post, and deal with citizens, range from 10-35 civil servants, allocating some of their time for social media communication. Some organizations, such as the NZTA, had a complete integration of social media expertise into their service teams, which generally respond to citizens on helplines and take action. Social media is part of their job as well, and they can use the channels to respond to citizens and integrate it with their service delivery.

All studied organizations in New Zealand had at least one channel for public consultations, which is one of the keys to identifying co-production methods across the New Zealand public sector. Currently, most organizations do that through their websites and online portals using surveys and one-way communication. However, social media has yet to be utilized for public consultations. Social media has the potential to reach a wide variety of audiences and is a place where information can be shared and discussed in a multifaceted way.

Several considerations should be taken when using social media for co-creation and public consultations. First, social media users are not guaranteed to be citizens of New Zealand unless the government chooses to limit access to their pages to people in the same country, which is a feature possible in many social media platforms. There can also be fake accounts and trolls who can change the course of discussions or influence other citizens in specific directions. That is why such a step can be taken with caution. Tools such as Sprinklr can filter helpful comments and reply to them. Close monitoring can help remove or hide only comments that are harmful to others, keeping only the flow of valuable ideas that other citizens or users can build on. Social media cannot be the only place for creating such dialogue. However, it can be used as a complementary method to start a dialogue and then take it to other platforms and channels through which citizens can physically or virtually participate.

Another enabler related to organizational capabilities is innovation in the public sector. Several prominent cases of enabling innovation on social media have been observed in New Zealand. Such cases with innovative strategies on social media achieved a larger audience and impact, as observed in the findings. Those were the police and NZTA; for example, both had used and were allowed to innovate in their posting strategies, whether by using humor or creating contests, videos, or creative campaigns for public education, which attracted a broader audience.

9.1.2. Citizen trust

Another key enabler of public value creation is citizens' trust, whether for the social media platform or the government. Such a topic is closely linked to inclusivity, especially for minorities such as the Māori and Whānau. As discussed in the literature review, several researchers have highlighted this for digital government. For social media and the case of New Zealand, it was found that both factors contribute primarily to the perceptions of public value among citizens.

Government social media teams should focus on creating trust in the government on and outside social media. Some evidence showed cases in New Zealand where public institutions consider trust building in their posting strategy and the content they develop and publish. However, as shown in the findings, people who follow government pages trust their government in the first place. Therefore, trust-building strategies should be extended to those who do not trust the government. The aim of those strategies should be to penetrate filter bubbles and engage with users who are not following government pages. This can be done through targeted ads, for instance, trying to reach citizens who perceive less public value from the use of

social media by the government, whose profile has been identified in the findings from the surveys. Or through posting in the Māori language alongside English to attract minority groups to government pages.

Trust in the platform is another crucial element for creating public value on social media. Even though governments have little influence on this factor, they can influence the type of platforms they can use to communicate with citizens. The government should be sensing and following metrics of social media use in their country, noticing growing trends, and adopting strategies accordingly to be present on social media platforms that citizens trust and use. Governments need to understand the degree of trust of users in the platform so that they can shape their policies around it, considering this factor while being flexible to shift away from platforms when citizens lose trust in them.

9.1.3. Citizen-centric service design

The last set of enablers for public value creation on social media is related to citizen-centric service design. Even though the public sector cannot entirely influence the technology design, since all these platforms are global, the government can still influence the way they interact with citizens on the platforms.

Responsiveness is vital on social media. All interviewed public servants highlighted that rapid reach was the main reason for their presence on social media. Social media is used to disseminate information to citizens and inform them promptly of urgent matters. However, social media is designed as a multi-way communication, so citizens have the exact expectations to reach the government rapidly. Responsiveness is one of the success factors of one of the case studies, such as United against covid. Civil servants working on the initiative said they respond quickly to messages in their inboxes. Interviews with citizens indicated that citizens appreciated more personal and responsive communication from the government.

It is also vital to understand citizens more by speaking to them. In this study, many mechanisms were uncovered by talking to citizens on social media about their preferences and the way they use social media. However, New Zealand has no dialogues on social media about public value from social media utilization. The platforms are designed for dialogue and should be used for that, especially for understanding what citizens perceive as good or bad on social media. Understanding citizens' needs helps the government create better strategies that suit them while coping with the continuous evolution of the platforms' features and affordances. Dialogues should be made proactively with citizens and minorities, such as Māori communities, to understand their needs and their experiences in collaborating with the government on social media.

9.2 Social media governance

Another area inspired by the findings is the governance of social media platforms. As discussed in the theoretical framework, it is essential to understand that social media is not just a tool. It is a platform where several actors and collaborators exercise control. Some stakeholders help shape how posts spread or users interact with them.

9.2.1. Working with Stakeholders

The government should collaborate closely with various stakeholders that influence social media platforms. One of the stakeholders is the companies themselves operating social media. Laws are one way to regulate and force companies to do actions that align with government policies, but it is not the only way. Working together can provide more impact in terms of understanding how their algorithms work or offering collaboration in times of crisis where posts from the government are given priority over others. This collaboration has been proven to work in the case of COVID-19, where platforms such as Facebook and Twitter worked with governments to highlight content from their agencies for COVID-related topics. However, more work is needed to cover other crises and allow governments to reach citizens quickly and effectively.

Another stakeholder is mainstream media. The study found that mainstream media plays a vital role as a catalyst in increasing the reach of social media posts by public institutions. The degree to which both governments and media work together has yet to be discovered for this research, but it could be a good topic for future research and could be a good area for policymakers to consider. Mainstream media can create hype around specific topics as they are trusted sources and have their own methods to reach citizens.

Another stakeholder that is often overlooked by public institutions and even in New Zealand is the citizens themselves. There is growing literature on the role of influencers in shaping users' decisions on social media (Zak & Hasprova, 2020; Cheng et al., 2021), an area that has not been tapped yet by public administration in New Zealand but shows a promising future. Considering citizens as crucial stakeholders in magnifying the reach of government content on social media or even creating content should be considered for research and policy implementations in New Zealand.

9.2.2. Evaluation of social media practices

Another crucial area of focus is evaluation. It was found in this research that independent reviews of government response in crisis played an essential role in creating new frameworks and initiatives in public administration to use social media for public value creation. However, there are not yet similar reviews conducted on the use of social media by the government. As shown in the process tracing model, independent reviews can inspire dialogue around social media use and trigger positive changes to social media practices.

Social media strategies should be evaluated against a framework for measuring public value, like the one developed in this study. The evaluation should involve citizens as the primary stakeholders for public value creation on social media. For example, frequent polls can be utilized to measure the satisfaction of citizens with posts on social media channels. Additionally, measuring hidden work on social media (number of inbox messages received, responsiveness in the communication) can help evaluate social media strategies for public value creation. Measuring public value erosion in social media is as important as measuring success in promoting public values. There are measurement tools already in place on social media

(insights) to identify, for example, how a citizen unfollowed a government page or account and thus explore practices that induce adverse reactions in citizens.

Such evaluation can help in decision-making to allocate resources or change strategies of social media use to maximize public value. Another benefit of such evaluation is to understand why citizens are not following the government's social media pages. It can also help adjust strategies to penetrate filter bubbles and reach those on social media who do not trust the government.

9.2.3. Moderation

The last area of recommendation for social media governance is moderation. As discussed in Chapter 3, moderation refers to how platforms and page owners censor content or block users from interacting with pages.

Social media platforms have community guidelines that they utilize to decide which content to remove or which users to block from using the platform. Those guidelines are enforced through moderators and algorithms that filter users' content. Moderators or algorithms decide, based on the guidelines, to take action against the content or the user. The guidelines target offensive content, hate speech, misinformation, profanity, sexual content, and other types of content that the platform tries to limit. The enforcement of those guidelines is often dependent on language and context. Social media platforms have employees who filter content based on a handbook that is not publicly available.

In this regard, governments should take an active role in cooperating with social media platforms to shape the contextual understanding of what is considered harmful or offensive content given the local context in the country. They should also involve employees who represent the minorities in the society in moderation activities, especially citizens from the Māori communities, to understand the context of conversations and shape moderation efforts to be more inclusive.

This recommendation aligns with recent findings from the European Union and UNESCO's funded research on the gap between local voices and content moderation on social media (Social Media 4 Peace, 2020). The report found that social media fails to listen to local communities regarding moderation and understanding what constitutes harmful and offensive content in local contexts. In collaboration with civil society and other actors, governments can take a role in helping social media platforms shape moderation implementation.

On the other hand, public institutions have their own social media guidelines on which they moderate content for their social media pages. Using features enabled by social media platforms, governments can hide comments, delete them, or block users from their services. It has been found that blocking users is one of the actions that can cut the process of public value creation for users forever and that civil servants should avoid it at all costs. Hiding comments, conversely, brings users negative perceptions of public value creation and reduce their trust in the government.

There is also a degree of ambiguity in the social media guidelines in all studied public institutions in New Zealand. The ambiguity revolves around what is considered relevant content and what is not (one of the criteria for removing content in most public institutions' social media community guidelines). These subjective criteria can be misused to limit user content and should be clarified to the public with various examples. Another strategy could be to enable irrelevant comments and redirect users to the places and channels through which they can share this content or respond privately to messages to ensure the user is directed to the appropriate service channels. According to the findings, this will increase citizens' trust in the government and their benefit and perception of public value creation.

As well as ambiguity, there is much duplication between community guidelines of public institutions and social media platforms. Similar criteria for offensive and harmful content are being shared using double the number of resources for moderation. However, suppose public institutions work closely with social media platforms. In that case, such duplication can be reduced to a minimum and replaced with oversight, audit, and monitoring of public institutions for the ways social media platforms moderate content, including their own social media pages. However, this moderation requires significant transparency and collaboration between the government and social media platforms.

9.3 Strategies for maximizing public value.

The final area or recommendation inspired by this research relates to creating content and social media presence on Facebook, Twitter, or other social media platforms that the government may decide to use. The mechanisms of public value creation and erosion have shown that proper social media content strategy can shape, to a large extent, public value perceptions. It can do so by enabling citizen engagement, communication, or service delivery on social media. NZTA is an excellent example of a place where social media is fully integrated into the institution's practices and service touchpoints. At NZTA, social media is used as a complementary method to their day-to-day work, similar to talking with citizens over the phone and other channels. Even though their strategies do not involve public consultations or co-creation, they are considered one of the most advanced cases studied in New Zealand in terms of innovation and social media integration.

9.3.1. Choosing an appropriate strategy

As seen throughout this research, content strategies for social media are crucial to creating public value. The studied public institutions in New Zealand follow a mixture of push and pull strategies, with a slight mix of collaboration and networking. There are rare cases of service delivery through the platforms.

Selecting the proper social media strategy should factor in the type of users that exist on the platform. For example, a push strategy could work perfectly fine if users are predominantly journalists and media professionals (such as on Twitter). In contrast, if users are mostly citizens who interact daily with public institutions, then a service delivery strategy may be appropriate for this platform (such as on Facebook).

A pull strategy can work well in New Zealand, especially for public consultations as a complementary tool. Social media can help start a dialogue around issues related to public consultation. Then, the discussion can be moved to other dedicated platforms or tools.

However, before thinking about content strategies, some concerns need to be addressed through regulations and collaboration with the platforms, such as the sensitivity of data, the protection of privacy and data shared between citizens and governments on the platform, and the degree of transparency of algorithms behind features and affordances that can be used for service delivery.

9.3.2. Decentralization vs. centralization

Another critical topic brought up by the findings is how centralized social media pages and accounts should be. For social media, this refers to whether an agency or institution should create multiple accounts on social media or operate through one central account.

A key finding in this research is that content relevancy is critical in determining public value created on social media. Users follow and unfollow government accounts based on how helpful and relevant their content is. Multiple accounts should be made for addressing citizens in specific geographical locations and around certain topics (i.e., United Against Covid). Some institutions in New Zealand adopt a topic separation strategy. NEMA, for example, had one account on Twitter for public education and another for responding to a crisis when it happens and sharing alerts and warnings with citizens. In contrast, the police department had a separate account for each district on Facebook, sharing only relevant content with citizens living in these areas. Such decentralization in social media accounts is beneficial because users who subscribe to one of them would not feel that they are receiving too much or irrelevant content, two of the major issues highlighted in the public value erosion mechanism.

9.3.3. Content

The research found evidence of several content-creation practices that contribute to public value creation on social media. Such practices include using proper language, visuals, humor, trendy content, and engaging in relevant and exciting discussions with citizens.

The appropriate use of language is a crucial aspect of content strategies on social media, particularly in relation to inclusivity. Some public institutions in New Zealand have already adopted the practice of posting in both English and Māori. However, this approach has not been universally implemented across all government social media platforms. This situation calls for the adoption of new content strategies that promote the use of the Māori language in social media communications.

Using humor and other trendy content on social media, like pet pictures, contributes to both public value creation and erosion simultaneously. In New Zealand, such content attracts more followers to the social media pages during peacetime, keeping citizens updated as soon as incidents happen and enabling fast and effective reach for the future. The strategy is very effective on pages such as the police and the NZTA.

However, it is effective with only one particular group identified in the surveys as the ones with high perceptions of public value from social media use. The group consists primarily of young citizens and new adopters of social media platforms who trust the government and the platform. However, for the other group, composed of senior citizens, using such techniques was identified as unprofessional, reducing their trust in what the government shares, especially in times of crisis.

Professional and innovative content should be balanced to attract citizens to government pages. Both contents should be targeted so the message does not reach the unintended group of users and negatively influence their images of the government. Such targeting is doable on most social media platforms. Additionally, in times of crisis, civil servants should be careful about using humor or content that does not match the public sentiment around the time of the incident.

Another critical finding regarding content strategies is visualization. Visual content has been identified as more catchy, memorable, and effective in delivering messages on social media. Therefore, governments should use more visual content in their messages. This content should be short, relevant, and simple to understand. Several respondents in the interviews reacted negatively to videos that are, for example, long images that are too busy or complex to understand or images that are not specific or relevant enough. Thus, care should be given when tending to rely heavily on visual content that would still be relevant, short, and simple.

9.3.4. Openness

The last recommendation related to strategies for maximizing public value is being more open to the public on governments' social media accounts. Openness can be achieved by opening data about the platform's use to citizens. It can also be achieved by opening up to dialogues with citizens on social media about relevant topics.

Although several institutions studied in New Zealand are open about social media use, some are still very reserved, such as the police department. Some data are hardly available to citizens, such as advertising budgets on social media, the tools used in managing social media, or handling users' inquiries or requests. During the research, I tried to collect data through the open information act requests to all studied public institutions, and only a few institutions responded to the requests. The rest did not want to share the data publicly or did not respond to the request. Opening up this information contributes positively to public accountability and citizen satisfaction. It can also help monitor the effectiveness of social media policies and also help users have more trust for the government on social media, which contributes to the overall perceptions of public value.

Government institutions should be more open to the public about their hidden work, for example, how many messages they receive, their average response time, and how many messages are answered or not answered.

Regarding their content moderation policy, institutions should be more open and transparent, providing examples to the users of irrelevant content, for example, or what is considered harmful or offensive to others. Transparency in moderation will help citizens have more clarity about why their comments are being deleted and have more trust in the government that they will not just delete any content that they do not like. Additionally, appealing against comment hiding, deleting, or blocking users from government social media pages should be possible and transparent. However, when doing this research, such mechanisms did not exist in all studied social media pages and accounts.

The last and most important recommendation for openness is that governments should not avoid discussing controversial topics with citizens on social media. Many of the interviewed civil servants are very careful in bringing topics that are somewhat controversial for New Zealanders on their social media pages, such as the He Tohu Huarahi Māori bilingual traffic signs program led by Te Mātāwai and Waka Kotahi, whether because they are afraid of negative comments or that they cannot handle all of them. Such topics should be discussed openly on social media. Campaigns should be financed and launched with dedicated resources to engage users on social media around those topics and moderate discussions. The government can also involve volunteers from different communities to assist in moderating such discussions and make them more constructive. Such engagement can help the government understand citizens' needs, engage with them, and spot possibilities for better decision-making.

9.4 Research limitations

There are several limitations that should be considered when looking at this study. The limitations frame the findings and should inspire further research on the same topic.

- Transferability of findings.

The nature of this study, as a "*within case analysis that constructs causal mechanisms for public value creation and erosion on social media*," is relatively new in the field of public value and social media.

Even though process tracing is a powerful method for uncovering causal mechanisms that lead to a certain outcome within a specific context, the generalizability of such mechanisms to other contexts is inherently limited. This limitation arises because the causal mechanisms identified through process tracing are deeply embedded in the specific conditions, structures, and dynamics of the context in which they were traced. These mechanisms are often contingent on a complex interplay of factors that may not exist or may operate differently in other contexts. Therefore, while process tracing can provide rich, detailed insights into causal mechanisms within a particular context, these insights cannot be directly applied or generalized to other contexts without careful consideration of the differences in conditions and dynamics.

Despite the limitations, the causal mechanisms uncovered in this research can be used in further research. They can act as initial models that can be tested using deductive and inductive process tracing approaches to verify or falsify the existence of their parts or the relationship between them in another context. The evidence collection can also inspire future research to identify sources of fingerprints and evidence for causal mechanisms related to social media and public value, which can possibly be investigated.

- Understanding users outside of social media platforms.

Another limitation of the study is that it only covered the perceptions of social media users. The study could not cover the perceptions about the public value created or eroded by the government's use of social media for those who do not subscribe to any social media platforms. Therefore, results cannot be generalized to the population of New Zealand but can be understood as a way to explore mechanisms of public value creation or erosion for citizens who choose to subscribe to the platforms studied herein. It is also important to conduct similar research on citizens who choose not to be part of any social media platform or those who subscribe to platforms other than Facebook and Twitter to understand their motives and opinions better.

Furthermore, the research faced other limitations related to data access and processing:

- Access to public institutions

One of the most considerable limitations of the study was access to all public institutions. The police department refused to provide access to its data or civil servants for interviews. The sensitivity of the data and the work of such departments make it difficult for them to be open to researchers, especially from

overseas. This limitation can be addressed in future studies by gaining more insights from within the public institutions and collaborating with them for the research.

- Access to data and insights

Additionally, there were many difficulties in accessing social media data, especially those related to content moderation, blocking, and removing accounts because the content did not exist on the platform. In addition, social media insights were hard to access. They remained only visible to public institutions as they may contain personal data that can reveal users' identities and could not be shared by public institutions. Such data could have been beneficial to the research to understand how and why people unfollow pages or mark their content as irrelevant, thus further unpacking the mechanisms and understanding the motives behind user reactions.

- The difference in data access between Twitter and Facebook

Another limitation is related to the data formats retrieved from Facebook and Twitter. On Twitter, there is much less data about the accounts' admins and the ads run on the platform. On Facebook, the information has become available in recent years as a way for Facebook to offer more transparency for their users about pages' administration. Some of this data was still retrieved during interviews with civil servants, except for the police department.

- Access to social media platforms

The final limitation of the study is that the research focused only on Facebook and Twitter as examples of social media platforms. Other platforms, especially relatively new ones such as TikTok and Instagram, need to be researched further to verify the validity of the discovered mechanisms of public value creation and erosion on those platforms and explore new mechanisms through which public value can be created or eroded.

9.5. Conclusion

This chapter concludes the study by presenting several policy recommendations for maximizing public value creation on social media in New Zealand. The policy recommendations in this research are multifaceted and delineate several focus areas. Firstly, enhancing organizational capabilities is crucial, urging the government to fortify its capacities in harnessing social media for public value creation by allocating resources and promoting innovation. Secondly, establishing an enabling environment for public value creation is stressed, calling for a conducive ecosystem that fosters participatory engagement, trust building, and equitable access to information and resources. Thirdly, improvements in social media governance are advocated, entailing the formulation and implementation of robust regulatory frameworks that promote responsible moderation and transparency of algorithms. Finally, a call is made for adopting innovative strategies to maximize public value, necessitating proactive measures to leverage innovative content-creation strategies, openness, and decentralization of social media presence.

Nevertheless, it is imperative to acknowledge the limitations inherent in this study. While tailored to the New Zealand context, the recommendations proffered may warrant contextual adaptations for application in other regions. Further inquiry is warranted to examine the transferability of the identified causal mechanisms to different countries, contexts, and platforms, wherein enablers of public value may manifest differently.

The scope of this research promotes an imperative of ongoing exploration. The pressing questions explored in this study compel further investigation: Do the discerned causal mechanisms possess universal relevance, transcending national borders and varying contexts? To what extent do distinct social media platforms contribute to or erode public value, and what contextual factors underpin these dynamics? Moreover, what perspectives do stakeholders beyond the scope of this study hold concerning public value creation on social media?

Addressing these lingering inquiries is pivotal for comprehensively understanding public value creation on social media. Addressing those inquiries can uncover more causal mechanisms and complete the scholarly comprehension of this domain.

This dissertation accentuates the significance of proactively shaping policy landscapes to foster public value creation on social media platforms in New Zealand. Its contribution to the academic discourse rests on formulating pertinent recommendations and inspiring future inquiry.

Annex I: Facebook Survey Questions (Same for Twitter)

Question	Variable name	Option Value	Option Label	Source
1- Respondent's behavior on Facebook (PGID 5218187)				
How many years have you been using Facebook? (q_9438995 - Type 111)	years_using_facebook	1	<i>Less than a year to 2 years</i>	Author
		2	<i>2-3 years</i>	
		3	<i>3-4</i>	
		4	<i>4-5</i>	
		5	<i>5-6</i>	
		6	<i>Over 6 years</i>	
How many hours do you spend on Facebook per day? (q_9439008 - Type 111)	hours_using_facebook_per_day	1	<i>Less than 1 hour</i>	Author
		2	<i>1 hour</i>	
		3	<i>2 hours</i>	
		4	<i>4 hours</i>	
		5	<i>8 hours</i>	
		6	<i>More than 8 hours</i>	
How often do you interact with the following features on Facebook? (q_9439014 - Type 311)				
Live Videos	interaction_frequency_live_videos	1	<i>Always</i>	Author
		2	<i>Often</i>	
		3	<i>Sometimes</i>	
		4	<i>Rarely</i>	
		5	<i>Never</i>	
Covid Information Center	interaction_frequency_covid_center	1	<i>Always</i>	Author
		2	<i>Often</i>	
		3	<i>Sometimes</i>	
		4	<i>Rarely</i>	
		5	<i>Never</i>	
Have you ever noticed or interacted with a government live video on Facebook? (q_9440164 - Type 111)	interact_government_live_video	1	<i>Yes</i>	Author
		2	<i>No</i>	
		3	<i>Maybe</i>	
Have you ever noticed or interacted with a government post on covid information center on Facebook? (q_9440166 - Type 111)	interact_government_covid_post	1	<i>Yes</i>	Author
		2	<i>No</i>	
		3	<i>Maybe</i>	
Have you ever followed or become a fan of a Facebook account for a government agency or a public official? (q_9440167 - Type 111)	followed_government_page	1	<i>Yes</i>	(Song and Lee 2016)
		2	<i>No</i>	
		3	<i>can't remember</i>	
Which New Zealand government pages or groups do you follow on Facebook? (q_9556796 - Type 142)	government_followed_pages	-	-	Author
2 - Citizen trust in Facebook (PGID 5218189)				
To what extent do you agree with the following statements about Facebook: (q_9440169 - Type 311)				
Facebook has adequate protection techniques and mechanisms to make me feel safe and comfortable when I use it.	citizen_trust_facebook_safety_comfort	1	<i>Strongly Disagree</i>	(Carter and Bélanger 2005; Hofmann et al. 2012; Teo,
		2	<i>Disagree</i>	
		3	<i>Undecided</i>	
		4	<i>Agree</i>	
		5	<i>Strongly Agree</i>	

Generally, Facebook is a robust, reliable, and safe environment to be used.	citizen_trust_facebook_safety_reliability_robustness	1	<i>Strongly Disagree</i>	Srivastava, and Jiang (2014)).
		2	<i>Disagree</i>	
		3	<i>Undecided</i>	
		4	<i>Agree</i>	
		5	<i>Strongly Agree</i>	
3 - Government Presence on Facebook (PGID 5218190)				
In your opinion, your government's presence on Facebook (q_9440176 - Type 311)				
Makes government agencies and officials more accessible	public_value_accessibility	1	<i>Definitely Not</i>	(Al-Hujran et al. 2015; Bertot, Jaeger, and Grimes 2010; Bonsón, Ratkai, and Royo 2016; Bonsón, Royo, and Ratkai 2015; Wahid and Sæbø 2014)
		2	<i>Probably Not</i>	
		3	<i>Possibly</i>	
		4	<i>Probably</i>	
		5	<i>Definitely</i>	
Helps people be more informed about what the government is doing	public_value_informing	1	<i>Definitely Not</i>	(Al-Hujran et al. 2015; Bertot, Jaeger, and Grimes 2010; Bonsón, Royo, and Ratkai 2015; Wahid and Sæbø 2014)
		2	<i>Probably Not</i>	
		3	<i>Possibly</i>	
		4	<i>Probably</i>	
		5	<i>Definitely</i>	
Threatens citizens' privacy and freedom of speech online	public_value_negative_consequences_threat_privacy_freedom	1	<i>Definitely Not</i>	(Al-Hujran et al. 2015; Bertot, Jaeger, and Grimes 2010; Bonsón, Royo, and Ratkai 2015; Wahid and Sæbø 2014)
		2	<i>Probably Not</i>	
		3	<i>Possibly</i>	
		4	<i>Probably</i>	
		5	<i>Definitely</i>	
What is your general opinion about the use of Facebook by your government to communicate with citizens? (q_9613792 - Type 142)	opinion_use_facebook_by_government	-	-	Author
4- Government Facebook Posts (PGID 5218191)				
How far do you agree with the statements below:				
My government's presence on Facebook would increase its transparency.	public_value_transparency	1	<i>Strongly Disagree</i>	(Al-Hujran et al. 2015; Bertot et al. 2010; Bonsón et al. 2016, 2015; Wahid and Sæbø 2014)
		2	<i>Disagree</i>	
		3	<i>Undecided</i>	
		4	<i>Agree</i>	
		5	<i>Strongly Agree</i>	
	public_value_decision_making	1	<i>Strongly Disagree</i>	(Al-Hujran et al. 2015; Bertot et al. 2010; Bonsón et al. 2016, 2015; Wahid and Sæbø 2014)
		2	<i>Disagree</i>	

My government's presence on Facebook would help them reach better decisions.		3	<i>Undecided</i>	
		4	<i>Agree</i>	
		5	<i>Strongly Agree</i>	
My government's presence on Facebook would help them achieve their mission.	public_value_mission_achievement	1	<i>Strongly Disagree</i>	
		2	<i>Disagree</i>	
		3	<i>Undecided</i>	
		4	<i>Agree</i>	
		5	<i>Strongly Agree</i>	
Overall, I am satisfied with my government's presence on Facebook	public_value_citizen_satisfaction	1	<i>Strongly Disagree</i>	
		2	<i>Disagree</i>	
		3	<i>Undecided</i>	
		4	<i>Agree</i>	
		5	<i>Strongly Agree</i>	
I believe that interacting with my government's posts on Facebook would be beneficial to me.	public_value_interaction_individual_benefit	1	<i>Strongly Disagree</i>	
		2	<i>Disagree</i>	
		3	<i>Undecided</i>	
		4	<i>Agree</i>	
		5	<i>Strongly Agree</i>	
I believe that interacting with my government posts on Facebook is a good idea.	public_value_interaction_good_idea	1	<i>Strongly Disagree</i>	(Ajzen 1991; Mathieson 1991; Taylor and Todd 1995)
		2	<i>Disagree</i>	
		3	<i>Undecided</i>	
		4	<i>Agree</i>	
		5	<i>Strongly Agree</i>	
If I interact with a government post on Facebook, I will feel that I am doing something valuable for the community.	public_value_interaction_community_benefit	1	<i>Strongly Disagree</i>	(Al-Hujran et al. 2015; Bertot et al. 2010; Bonsón et al. 2016, 2015; Wahid and Sæbø 2014)
		2	<i>Disagree</i>	
		3	<i>Undecided</i>	
		4	<i>Agree</i>	
		5	<i>Strongly Agree</i>	
For me, the advantage of interacting with my government on Facebook outweighs the disadvantages.	public_value_interaction_advantages_outweigh_disadvantages	1	<i>Strongly Disagree</i>	
		2	<i>Disagree</i>	
		3	<i>Undecided</i>	
		4	<i>Agree</i>	

		5	<i>Strongly Agree</i>	
5- General Information (PGID 5218194)				
Your gender (q_9440209 - Type 111)	gender	1	<i>Male</i>	(Lai and Yang, 2014)
		2	<i>Female</i>	
		3	<i>Other</i>	
		4	<i>Prefer not to say</i>	
Your age (q_9440213 - Type 111)	age	1	<i>< 17 years old</i>	
		2	<i>18-24</i>	
		3	<i>25-34</i>	
		4	<i>35-44</i>	
		5	<i>> 45 years</i>	
Your highest educational degree completed or currently enrolled in (q_9440219 - Type 111)	education	1	<i>Diploma Degree</i>	Author
		2	<i>Bachelor's degree</i>	
		3	<i>Master or Doctoral Degree</i>	
		4	<i>Other</i>	
Your current occupational status (q_9440221 - Type 111)	occupation	1	<i>Student</i>	Author
		2	<i>Employee</i>	
		3	<i>Retired</i>	
		4	<i>Unemployed</i>	
You live in (q_9440226 - Type 131)	location	1	<i>Ashburton District</i>	Author
		2	<i>Buller District</i>	
		3	<i>Carterton District</i>	
		4	<i>Central Hawke's Bay District</i>	
		5	<i>Central Otago District</i>	
		6	<i>Clutha District</i>	
		7	<i>Far North District</i>	
		8	<i>Gisborne District</i>	
		9	<i>Gore District</i>	
		10	<i>Grey District</i>	
		11	<i>Hastings District</i>	
		12	<i>Hauraki District</i>	
		13	<i>Horowhenua District</i>	
		14	<i>Hurunui District</i>	
		15	<i>Kaikoura District</i>	
		16	<i>Kaipara District</i>	
		17	<i>Kapiti Coast District</i>	
		18	<i>Kawerau District</i>	
		19	<i>Mackenzie District</i>	

		20	<i>Manawatu District</i>	
		21	<i>Marlborough District</i>	
		22	<i>Masterton District</i>	
		23	<i>Matamata-Piako District</i>	
		24	<i>New Plymouth District</i>	
		25	<i>Otorohanga District</i>	
		26	<i>Ōpōtiki District</i>	
		27	<i>Queenstown-Lakes District</i>	
		28	<i>Rangitikei District</i>	
		29	<i>Rotorua Lakes</i>	
		30	<i>Ruapehu District</i>	
		31	<i>Selwyn District</i>	
		32	<i>South Taranaki District</i>	
		33	<i>South Waikato District</i>	
		34	<i>South Wairarapa District</i>	
		35	<i>Southland District</i>	
		36	<i>Stratford District</i>	
		37	<i>Taranua District</i>	
		38	<i>Tasman District</i>	
		39	<i>Taupo District</i>	
		40	<i>Thames-Coromandel District</i>	
		41	<i>Timaru District</i>	
		42	<i>Waikato District</i>	
		43	<i>Waimakariri District</i>	
		44	<i>Waimate District</i>	
		45	<i>Waipa District</i>	
		46	<i>Wairoa District</i>	
		47	<i>Waitaki District</i>	
		48	<i>Waitomo District</i>	
		49	<i>Western Bay of Plenty District</i>	
		50	<i>Westland District</i>	
		51	<i>Whakatane District</i>	
		52	<i>Whanganui District</i>	
		53	<i>Whangarei District</i>	
		54	<i>Other</i>	
		55	<i>Auckland</i>	
		56	<i>Christchurch</i>	
		57	<i>Wellington</i>	
		58	<i>Hamilton</i>	
		59	<i>Tauranga</i>	
		60	<i>Lower Hutt</i>	
		61	<i>Dunedin</i>	
		62	<i>Palmerston North</i>	
		63	<i>Napier</i>	

		64	<i>Hibiscus Coast</i>	
		65	<i>Porirua</i>	
		66	<i>Rotorua</i>	
		67	<i>New Plymouth</i>	
		68	<i>Whangārei</i>	
		69	<i>Nelson</i>	
		70	<i>Invercargill</i>	
		71	<i>Hastings</i>	
		72	<i>Upper Hutt</i>	
		73	<i>Whanganui</i>	
		74	<i>Gisborne</i>	
Other location	other location	-	-	Author
Your email (q_9440231 - Type 141)	email	-	-	Author
Would you like to be contacted for a follow-up discussion related to this survey? (q_9441209 - Type 111)	contact	1	<i>Yes</i>	Author
		2	<i>No</i>	

Annex II: Interview Questions for public institutions

1. Can you tell me more about the **history of using social media** in the **ministry**, how it started, what inspired it, and how it evolved over time?
2. How is the social media **team** in your department **structured**?
3. What are the main **roles and responsibilities** of the **team**?
4. What are the organization's **common posting practices** on Twitter and Facebook?
5. What are the organization's **common advertising practices** on Twitter and Facebook?
6. How do you think posting on social media is **different from using traditional media** (TV, radio, or printed press)?
7. How did the introduction of social media in the organization **change spending** on marketing and communication and on resources, too? What would you consider the **biggest area of spending** when it comes to social media adoption in your organization?
8. What **role** do Facebook and Twitter have in your **organization's success** and in **achieving your mission**?
9. What would you consider a **major achievement** for your department with regard to social media communication over the last few years?
 - In your opinion, what were the **practices** that might have led to that success?
10. What would you consider as a **major backfire** or unexpected negative response from people on the department's accounts on Facebook or Twitter in the last years?
 - In your opinion, what were the **practices** that led to such a negative response?
11. What is usually the **standard practice** when you receive a **positive comment** on social media?
12. When users **post** something that **degrades the image of the organization**, how do you deal with it? (moderation features: comment deletion, reporting, or blocking of users)
 - Is this **practice different** from when the comment goes **against the guidelines**? How?
 - Can you give me some examples?
 - How do you deal with **opinionated comments** that do not go against the rules of the page but are still not in line with the government's opinion, especially when this **comment receives attention**?
 - Can you give me some examples?
13. What are the most **important metrics** that you look for that would **indicate success** in your communication efforts on Facebook or Twitter?
14. How do those **metrics change** the way you do your day-to-day **practices**?
15. **Why** do you think people mostly **follow or unfollow** your organization's page?
 - What have you **learned** from the social media **insights** and day-to-day practices?
16. In your opinion, what should be avoided in government communication on social media to prevent **destroying public value**?
17. In your opinion, how can social media be used to **create public value** for people?

Annex III: Citizen interview guide

Citizens Interview Guide

Updated: 25 July 2022

At the beginning of the interview:

Before the interview begins, the interviewer should make sure of the following:

- The subject is welcomed to the interview and thanked for participation.
- The subject is asked about the possibility of recording the interview on Zoom and then making sure the recording is enabled with the settings to save all conversations and transcripts to the cloud and not to the computer.
- The subject is made aware that the recording is going to be used just to transcribe the interview and then will be deleted.
- The subject is asked if they have read the project information sheet and if they can sign a consent form that will be sent to them after the interview.
- The subject is asked if they have any questions about the research before proceeding and make sure all their concerns are clarified.
- The subject is explained briefly, along with the process and duration, and I may need to share some questions via screen share with him/her/them.

Questions for Facebook Users:

Show the subject the following posts and ask them the following questions:

1. How would you normally interact with this post? (e.g., like, share, like the page, follow the page, etc.)
2. Why did you choose to interact with the post the way you did (liked it, shared it, commented on it, etc.)? (based on their previous answer)
3. If you were the one making this post, what would you have done differently to make it deliver more value to citizens?

Note: The interviewer should summarize the post or say a few keywords in the recording to refer to the post so that while transcribing the audio, it is clear which post was being discussed, e.g., Interviewer: Now I'll show you some posts on Facebook and will ask you a few questions about them. The first post I have was published by the police on their official Facebook page on Valentine's Day. Please read it as if you just saw it on Facebook, and let me know when you finish.

Posts:

4. High interaction posts (do not mention this classification):
 - a. The first post (Police): Valentine Post Status
(<https://www.facebook.com/100068937288764/posts/251876413786933>)
 - b. The second post (Transport): Contest Photo
(<https://www.facebook.com/290135634463004/posts/2291983100944904>)
 - c. The third post (Health Covid): Information Link
(<https://www.facebook.com/101916541447786/posts/117045843268189>)
 - d. The fourth post (Civil Defense): Cyclone
(<https://www.facebook.com/104601368466463/posts/251516843774914>)
5. Low interaction posts (do not mention this classification)
 - a. The fifth post (Transport): Crash post:
<https://www.facebook.com/100068823146367/posts/277322177905218>

- b. The sixth post (Civil defense): Tsunami post:
<https://www.facebook.com/568348449962113/posts/1856083084521970>
- c. The seventh post (Health): Shellfish post:
<https://www.facebook.com/100069136752742/posts/239457111702179>
- d. The eighth post (Police): Water sports advice:
<https://www.facebook.com/183410325126292/posts/1910487075751933>

Questions for Twitter Users:

Show the subject the following tweets and ask them the following questions:

- 6. How would you normally interact with this tweet? (e.g., like, retweet, quote, reply, follow the account, etc.)
- 7. Why did you choose to interact with the tweet the way you did (liked it, retweeted it, replied to it, etc.)? (based on their previous answer)
- 8. If you were the one making this tweet, what would you have done differently to make it deliver more value to citizens?

Note: The interviewer should summarize the tweet or say a few words in the recording to refer to the tweet so that while transcribing the audio, it is clear which post was being discussed, e.g., Interviewer: Now I'll show you some tweets on Twitter and will ask you a few questions about them. The first tweet I have was published by the police on their official Facebook page on the day of the Christchurch attack. Please read it as if you just saw it on Twitter, and let me know when you finish.

- 9. High interaction tweets: (do not mention this classification)
 - a. First tweet (Police): Christchurch post:
<https://twitter.com/nzpolice/status/1106402006183219203>
 - b. Second tweet (Transport): Holidays driving tips:
<https://twitter.com/wakakotahiwgtn/status/1472705945008549888>
 - c. Third tweet (Health Covid): New Year Covid post:
<https://twitter.com/covid19nz/status/1476691085912993798>
 - d. Fourth tweet (Civil Defense): Tsunami post
<https://twitter.com/nzcivildefence/status/1482249845943717888>
- 10. Low interaction tweets: (do not mention this classification)
 - a. Fifth Tweet (Police): Crash tweet:
<https://twitter.com/nzpolicemedia/status/1488405262004224000>
 - b. Sixth Tweet (Health): Covid FAQ tweet:
<https://twitter.com/covid19nz/status/1242737890011959297>
 - c. Seventh Tweet (Civil defense):)Weather warning tweet:
<https://twitter.com/nzcivildefence/status/1491529265250189313>
 - d. Eighth Tweet (Transport): Road alert:
<https://twitter.com/wakakotahiwaibp/status/1106400907711913985>

Questions for all subjects:

- A. How much do you trust what the government says on social media?
- B. ...
- C. In your opinion, how can the government create public value when using social media?
- D. How can the government destroy public value when using social media?
- E. Where do you normally see and check posts from government organizations?
(if they cannot think of something, give them some examples:
 - a. The post was shared in a personal message to them, in a group, or on their timeline.
 - b. They were tagged in a comment by someone they know.
 - c. They saw it organically in their timeline while following the page.
 - d. They saw it organically in their timeline while not following the page.
 - e. They saw it through an advertisement from the government.
- F. Have you previously followed any of the following government Facebook/Twitter pages/accounts: police, civil defense, ministry of health, or New Zealand transport authority?
 - a. If yes, why did you follow them?
 - b. If not, why didn't you follow them?
- G. Have you ever unfollowed any of these pages? Why?
- H. What barriers do you think are there for people to express their opinion by posting a new status/tweet or interacting freely with a post/tweet made by the government on Facebook/Twitter?
- I. Have you heard about Convoy New Zealand and the anti-vaccine parliament protests? What role do you think Facebook/Twitter has played in this? Can you elaborate more?
- J. What do you think about posts that are published on Facebook/Twitter by government organizations without the ability to reply to them? E.g.
<https://www.facebook.com/100068937288764/posts/249164830724758>
<https://twitter.com/wakakotahiwgtn/status/1473479890867523589>
- K. Have you ever been blocked from a government account on Facebook/Twitter? Or were your posts/tweets ever removed or hidden? Why do you think that happened? What do you think about it?
- L. **Only for Facebook:** What do you think about the Facebook feature that allows page owners (including government page admins) to delete comments on their posts?
- M. Do you have any final comments that you would like to add that might help the research?

Thank you very much for your participation.

Annex IV: Tables for regression analysis

Logistic regression for specific public value variables related to the presence of government on social media (low perception) against demographic and behavioral covariates.

Dependent Variable	Covariates	Models	Estimate (B)	Std. Error	Sig. (p)	
Accessibility	Age	M1	0.178	0.190	0.348	
		M2	0.565	0.118	0.000***	
	Following government accounts	M1	-1.031	0.420	0.014*	
		M2	-0.803	0.263	0.002**	
	Has a university degree	M1	-0.030	0.415	0.942	
		M2	0.146	0.267	0.586	
	Hours using the platform per day	M1	-0.087	0.195	0.657	
		M2	0.110	0.116	0.345	
	Is respondent male	M1	1.219	0.508	0.016*	
		M2	0.173	0.250	0.489	
	Lives in a city	M1	-0.280	0.480	0.560	
		M2	0.102	0.250	0.684	
	Trust in the platform	M1	-0.520	0.116	0.000***	
		M2	-0.438	0.204	0.032*	
	Trust in government	M1	-1.095	0.165	0.000***	
	Years using the platform	M1	0.056	0.114	0.622	
		M2	0.104	0.100	0.298	
	Informing	Age	M1	-0.591	0.217	0.007**
			M2	0.284	0.107	0.008**
		Following government accounts	M1	-0.550	0.473	0.245
M2			-0.827	0.254	0.001**	
Has a university degree		M1	-0.236	0.439	0.590	
		M2	0.192	0.255	0.451	
Hours using the platform per day		M1	-0.147	0.199	0.460	
		M2	0.027	0.113	0.810	
Is respondent male		M1	-0.338	0.445	0.447	
		M2	0.372	0.240	0.121	
Lives in a city		M1	0.870	0.523	0.096	
		M2	-0.020	0.242	0.934	
Trust in government		M1	-1.495	0.191	0.000***	
Trust in the platform		M1	-0.547	0.112	0.000***	
		M2	-0.128	0.178	0.472	
Years using the platform		M1	0.162	0.123	0.189	
		M2	0.172	0.095	0.070	
Transparency		Age	M1	-0.001	0.171	0.997
			M2	0.433	0.105	0.000***

	Following government accounts	M1	-1.219	0.401	0.002**
		M2	-0.870	0.252	0.001**
	Has a university degree	M1	-0.049	0.387	0.899
		M2	0.236	0.247	0.339
	Hours using the platform per day	M1	0.039	0.179	0.827
		M2	0.066	0.111	0.549
	Is respondent male	M1	-0.095	0.378	0.801
		M2	0.459	0.234	0.050*
	Lives in a city	M1	-1.355	0.510	0.008**
		M2	-0.062	0.236	0.794
	Trust in government	M1	-1.249	0.151	0.000***
	Trust in the platform	M1	-0.488	0.110	0.000***
		M2	-0.297	0.137	0.030*
	Years using the platform	M1	0.075	0.102	0.464
		M2	0.293	0.093	0.002**
Decision Making	Age	M1	-0.134	0.133	0.312
		M2	0.364	0.102	0.000***
	Following government accounts	M1	0.098	0.338	0.773
		M2	-0.649	0.246	0.008**
	Has a university degree	M1	-0.162	0.310	0.601
		M2	-0.198	0.242	0.413
	Hours using the platform per day	M1	-0.128	0.143	0.371
		M2	-0.143	0.109	0.191
	Is respondent male	M1	0.631	0.299	0.035*
		M2	0.897	0.228	0.000***
	Lives in a city	M1	-0.273	0.354	0.441
		M2	0.083	0.230	0.717
	Trust in government	M1	-0.831	0.118	0.000***
	Trust in the platform	M1	-0.527	0.110	0.000***
		M2	-0.598	0.212	0.005**
	Years using the platform	M1	-0.018	0.076	0.813
		M2	0.218	0.085	0.010*
Privacy and Freedom of Expression	Age	M1	-0.274	0.227	0.228
		M2	0.173	0.093	0.063
	Following government accounts	M1	-1.861	0.475	0.000***
		M2	-0.310	0.229	0.176
	Has a university degree	M1	0.285	0.482	0.555
		M2	0.098	0.221	0.659
	Hours using the platform per day	M1	-0.453	0.222	0.042*
		M2	0.230	0.100	0.021*

Mission Achievement	Is respondent male	M1	0.802	0.590	0.174
		M2	0.445	0.212	0.036*
	Lives in a city	M1	-0.125	0.563	0.825
		M2	-0.554	0.213	0.009**
	Trust in government	M1	-1.115	0.195	0.000***
	Trust in the platform	M1	-0.315	0.101	0.002**
		M2	-0.322	0.151	0.033*
	Years using the platform	M1	0.271	0.136	0.046*
		M2	-0.137	0.076	0.073
	Age	M1	-0.454	0.154	0.003**
		M2	0.306	0.103	0.003**
	Following government accounts	M1	1.019	0.416	0.014*
		M2	-0.698	0.247	0.005**
	Has a university degree	M1	0.112	0.341	0.742
		M2	0.195	0.246	0.428
	Hours using the platform per day	M1	-0.150	0.159	0.348
		M2	-0.172	0.112	0.125
	Is respondent male	M1	0.014	0.328	0.966
		M2	0.177	0.232	0.447
	Lives in a city	M1	0.013	0.393	0.973
M2		0.407	0.238	0.087	
Trust in government	M1	-0.852	0.125	0.000***	
Trust in the platform	M1	-0.353	0.107	0.001**	
	M2	-0.285	0.192	0.137	
Years using the platform	M1	0.189	0.092	0.041*	
	M2	0.217	0.093	0.020*	
Citizen Satisfaction	Age	M1	0.714	0.205	0.000***
		M2	0.519	0.106	0.000***
	Following government accounts	M1	-0.040	0.469	0.931
		M2	-0.686	0.249	0.006**
	Has a university degree	M1	-0.252	0.419	0.548
		M2	0.419	0.247	0.090
	Hours using the platform per day	M1	0.565	0.211	0.007**
		M2	-0.008	0.112	0.942
	Is respondent male	M1	0.310	0.445	0.486
		M2	0.101	0.236	0.670
	Lives in a city	M1	-0.564	0.513	0.272
		M2	0.055	0.238	0.817
	Trust in government	M1	-1.134	0.167	0.000***
	Trust in the platform	M1	-0.604	0.113	0.000***

	M2	-0.518	0.136	0.000***
Years using the platform	M1	-0.097	0.113	0.394
	M2	0.014	0.090	0.876

M1: Twitter regression model, M2: Facebook regression model
Significance: * p<.05; ** p<.01; *** p<.001

Logistic regression for specific public value variables related to the interaction of government with citizens on social media (high perception) against demographic and behavioral covariates.

Dependent Variable	Covariates	Models	Estimate (B)	Std. Error	Sig. (p)
Benefit to Citizen	Age	M1	-0.544	0.139	0.000***
		M2	0.272	0.102	0.008**
	Following government accounts	M1	-0.784	0.332	0.018*
		M2	-0.706	0.255	0.006**
	Has a university degree	M1	-0.293	0.309	0.342
		M2	0.723	0.246	0.003**
	Hours using the platform per day	M1	0.242	0.144	0.094
		M2	-0.152	0.113	0.179
	Is respondent male	M1	0.085	0.298	0.777
		M2	0.042	0.234	0.856
	Lives in a city	M1	-0.083	0.367	0.821
		M2	-0.121	0.239	0.613
	Trust in the platform	M1	-0.555	0.112	0.000***
		M2	-0.255	0.142	0.073
	Trust in government	M1	-0.411	0.102	0.000***
		M2	-0.411	0.102	0.000***
	Years using the platform	M1	-0.024	0.077	0.750
		M2	0.447	0.096	0.000***
Interaction good idea	Age	M1	-0.368	0.147	0.012*
		M2	0.239	0.104	0.021*
	Following government accounts	M1	-1.476	0.332	0.000***
		M2	-0.475	0.247	0.054
	Has a university degree	M1	-0.067	0.326	0.836
		M2	0.673	0.247	0.006**
	Hours using the platform per day	M1	0.039	0.148	0.792
		M2	-0.189	0.113	0.094
	Is respondent male	M1	-0.879	0.306	0.004**
		M2	0.284	0.232	0.222
	Lives in a city	M1	0.124	0.385	0.748
		M2	-0.087	0.236	0.711
	Trust in government	M1	-0.423	0.109	0.000***
		M2	-0.423	0.109	0.000***
	Trust in the platform	M1	-0.255	0.142	0.073
		M2	-0.313	0.107	0.003**

Benefit to community	Years using the platform	M1	0.040	0.083	0.633
		M2	0.351	0.098	0.000***
	Age	M1	-0.413	0.124	0.001**
		M2	-0.086	0.095	0.366
	Following government accounts	M1	0.212	0.307	0.489
		M2	-0.619	0.235	0.008**
	Has a university degree	M1	0.384	0.277	0.166
		M2	0.308	0.228	0.176
	Hours using the platform per day	M1	-0.180	0.130	0.165
		M2	-0.208	0.105	0.046*
	Is respondent male	M1	-0.141	0.268	0.598
		M2	0.195	0.216	0.365
	Lives in a city	M1	0.203	0.316	0.521
		M2	0.175	0.220	0.425
	Trust in government	M1	-0.286	0.095	0.003**
	Trust in the platform	M1	-0.147	0.121	0.224
		M2	-0.357	0.102	0.000***
	Years using the platform	M1	0.115	0.070	0.103
M2		0.314	0.084	0.000***	
Interaction advantages outweigh the disadvantages	Age	M1	-0.215	0.138	0.118
		M2	0.081	0.098	0.407
	Following government accounts	M1	-0.826	0.322	0.010*
		M2	-0.625	0.240	0.009**
	Has a university degree	M1	0.172	0.312	0.583
		M2	0.620	0.236	0.009**
	Hours using the platform per day	M1	-0.019	0.146	0.894
		M2	0.020	0.108	0.854
	Is respondent male	M1	-0.553	0.293	0.059
		M2	0.046	0.225	0.838
	Lives in a city	M1	-0.479	0.393	0.223
		M2	-0.195	0.228	0.394
	Trust in government	M1	-0.208	0.104	0.046
	Trust in the platform	M1	-0.091	0.138	0.509
		M2	-0.570	0.108	0.000***
	Years using the platform	M1	-0.057	0.077	0.453
		M2	0.107	0.084	0.202

M1: Twitter regression model, M2: Facebook regression model
Significance: * p<.05; ** p<.01; *** p<.001

Annex V: Social Media evidence for the erosion of public value

No.	Platform	Reactions	Topic	Date	Link	Hashtags
1	FB	4 likes, 2 love, 1 angry, 7 comments	Protest and Vaccination	18/02/2022	https://www.facebook.com/jacob.harris.3517/posts/pfbid0432Bez8SHNyw4iyKmwP3ob7cagiSGs1hkysyQp6VeqwAnrab2w8vcY3fnVRnJUxFl	#protestnz , #wellingtonprotest, #antimandate
2	FB	3 likes, 2 hugs	Protest and Vaccination	10/02/2022	https://www.facebook.com/chelly.stokman/posts/pfbid0gJdFoYCCHay8EP1qxCGjyZxPCchi5UZ9KUWBkxQ97BTZqWDDZoktXp4weo2xRZVfl	#notmyaunty
3	FB	31 likes, 19 love, 3 laugh	Protest, Freedom	06/02/2022	https://www.facebook.com/permalink.php?story_fbid=pfbid02RdfDX8Q9QxVBcJvtVsZ9iXWL6aDAyVRQutTPUNXbEo8xFartJQoqUhePnvOPDxwol&id=817264017	#freedomfighters
4	FB	49 love, 31 like, 1 wow, 5 comments	Protest, Freedom	08/02/2022	https://www.facebook.com/jojo*wira/posts/pfbid0es5bxVpcVhwAez1w8wGRQY68oeD1htMq4djMiwHuWUGktWACVQVeJSyqc2ZLA9rZl	#freedom, #nzconvoy2022
5	FB	14 likes, 6 love	Protest and Vaccination	14/02/2022	https://www.facebook.com/permalink.php?story_fbid=pfbid02v6ooaVsGmLqHzp93ZDXzaBrs1ZTDeW5v8SxHzd47Y4mWwG6M9qxeJnoC4qr574Pl&id=100000281362587	#nzconvoy2022, #notmyaunty
6	FB	22 love, 15 likes, 10 comments	Protest and Vaccination	04/02/2022	https://www.facebook.com/tracey.pita.518/posts/pfbid033Swmr5DKvrr9sWHgCsrojQ23evWdsfwNJqCjgCm8ueqYtumyUhhe1G84mdnA19RUI	#nzconvoy
7	FB	1 laugh, 2 comments	Protest, Hate-speech	16/05/2022	https://www.facebook.com/michelle.j.pieterse/posts/pfbid0bWmkr98TDMRQQ3rmc3nhFXw2rrXm2UzX33re3tdG4dEvAyxZBstfmcMcWUZy8vxXl	#UniteAgainstNose
8	FB	12 likes, 10 love, 4 comments	Protest and Vaccination	19/02/2022	https://www.facebook.com/100078117400248/videos/630179038285021/	#NZConvoy2022, #Wellington, #COVID19
9	FB	135 love, 104 like 7 hugs, 1 sigh, 26 comments	Protest, Freedom	19/02/2022	https://www.facebook.com/palatewholesomecollective/posts/pfbid0fi1LtXakFNWZSBhf95gXadtML4VQt4ujzcyswNq7B6xmMCPoeNCEtCt	#nzconvoy2022, freedomvillage,

					PqVm67HUCI	#endthem andates, #wellingt on
10	FB	6 likes, 2 love, 1 comment	Protest and Vaccination	18/02/2022	https://www.facebook.com/jacob.harris.3517/posts/pfbid0tGz37LSP7STmDmnFupHBERB6p4VRjsgnWgUCMPF1jfRhuh62JAbcwJcEJCCSyJBcl	#protestnz #wellingt onprotest #antimandate #nzconvoy2022 #anticovid19
11	FB	20 love, 19 likes, 3hug, 8 comments	Vaccination	16/02/2022	https://www.facebook.com/debbielimcreative/posts/pfbid02NBv1ogdTGDANGtjqrGgXar6EYnbukto2EfhRdxYfKH2JAYQSnxMUYamzkB4L7dN6l	#nzconvoy2022 #nzconvoyforfreedom #endthemandates #endthemandatesnow
12	FB	80 likes, 79love, 4 hugs, 3 laughs, 1 sigh, 1 wow, 1 anger, 45 comments	Protest and Vaccination	06/02/2022	https://www.facebook.com/christelle.woodside.3/posts/pfbid02LS2CDMpdFrZzjVzd582twf9x9cHvKBmaAxVtBS9b6Y6EVTTu3BfdiZfjizyT4MNgl	#convoy2022nz #nzconvoy2022 #ConvoyForFreedom2022
13	FB	15 likes, 5 love, 3 hugs, 8 comments	Media, Lie, Protest	13/02/2022	https://www.facebook.com/rene.lessing.3/posts/pfbid0Z44Jd4i7Yp4TEPLGRUDS5tTAwjdzFouuWBBki9aQxbRr4BgJzJc12NyG5e4jtKsl	#endmandates #antimandatesnotantivax #protestnz #Convoy2022NZ
14	FB	38 likes, 9 love, 3 hug, 1 laugh, 1 wow, 22 comments	Protest	25/06/2022	https://www.facebook.com/groups/5338163556248580/posts/5431533560244912/	#policebrutality #wellingtonprotest2022 #nzpolice #nzconvoy2022
15	FB	7 likes, 3 love, 2 sigh	Media, Lie, Protest	02/03/2022	https://www.facebook.com/brooke.ritch.37/posts/pfbid0UvT6kQpahpNbVb5mPXUqKhS557D4LakA8x5Jv2Wi27gChjFG8AF4pTeC5RRM	#convoy2022nz #nzconvoy2022

					UJj6l	#ConvoyF orFreedo m2022
16	FB	5 likes, 3 anger, 1 laugh, 8 comments	Police, Protest, Arrest	10/02/2022	https://www.facebook.com/rightmin/dsnz/photos/a.1343104045742982/4697516656968354/	#convoy2 022nz
171 819 20	FB	1 like	Protest, Freedom Of Speech	13/11/2021	https://www.facebook.com/photographybyhana/posts/pfbid0yGHGiy6GXULvftmRhMHf6yv8k8NvT4hFtu2EJVkYJj8MQ6GKDW4ZuAQPabGLYkb9l	#freedom nz #nzgovt
21	FB	10 love, 8 likes, 11 comments	Protest and Vaccination	05/02/2022	https://www.facebook.com/anna.royal.18/posts/pfbid02aQ9BrkSouD8VLoYDpQs9XXxoSY8js6emGb53zTe5MiHKKK8s5ytd3cJnpWM1ADxKl	#ConvoyF orFreedo m2022 #Convoy NZNZ
22	FB	8 love, 7 likes, 2 comments	Protest	27/02/2022	https://www.facebook.com/permalink.php?story_fbid=pfbid02QuitXJagvL2Xf6rrUhM9XGeJXk6N6JD8rRZVZBoxQZdAKBioSZvtWbAUZEak2c4el&id=100026319093760	#convoy2 022nz
23	FB	32 likes, 15 love, 4 comments	Protest	18/02/2022	https://www.facebook.com/pete.kirkwood.18/posts/pfbid02D9Ntm2zpTwMT3LVKLO7BWNgeJjSiR31nX6JKZMyyaHUbT1bhXZQggHrkPb1x9vXX2l	#wellingt onprotest
24	FB	10 love, 4 likes,	Protest	01/03/2022	https://www.facebook.com/zavier.nebraska/posts/pfbid02SEiVQBfoRLJSF5yGGwsX8JWaKtcET4Lv9gLCFWjAerbsH9rGFw22GRHuDHMuHjTgl	#wellingt onprotest
25	FB	30 love, 25 likes, 5 hugs, 17 comments	Protest	16/02/2022	https://www.facebook.com/permalink.php?story_fbid=pfbid0woCwX69qKk9mDjVDhCSLGbeHP5dg3kfnV6N43X1T3hLwwM8Fq3dHsL5WYregoXnSl&id=100029861949655	#wellingt onprotest
26	FB	12 likes, 8 love, 2 sigh	Protest, Tension	22/02/2022	https://www.facebook.com/aejayhendry/photos/a.2656332697712029/7379023868776198/	#convoy nz22
27	FB	10 likes, 1 love, 1 hug, 1 sigh	Protest, Tension	02/03/2022	https://www.facebook.com/aejayhendry/photos/a.2656332697712029/7418537131491538/	#Convoy2 022NZ
28	FB	12 likes, 3 love, 1 laugh, 2 comments	Protest, Vaccination	26/02/2022	https://www.facebook.com/zvandorp/posts/pfbid0265d2UdERDt3MHK m94yXmDT3WEXjR6DcPPiDZY9ueBDeiHtw1rNSugBHHdvGfYuKBl	#notmyau nty
29	FB	65 love, 56 likes, 11	Protest, Anti-	20/02/2022	https://www.facebook.com/john.slig	#notmyau

		hugs, 51 comments	mandate movement		o.58/videos/696987695045081	nty
30	FB	3 likes, 1 love, 5 comments	Protest, Vaccination, Freedom	13/02/2022	https://www.facebook.com/permalink.php?story_fbid=pfbid0nHUdbDERCgRoJsR5eKjzYCbcwweaycNH2WX6ZUB1pLpwubdqFEfo367U6JixUv4rl&id=100004257394644	#notmyaunty
31	FB	No reactions	Vaccination	21/11/2021	https://www.facebook.com/marie.narrow.9250/posts/pfbid02qVTh38eSnNHYKD8igecxNgyay8jQzX6Zzfpjh7qXJT5MomQDHMiC9WBcK8vJWYxsl	#notmyaunty
32	FB	12 love, 8 likes, 9 hugs, 6 sighs, 8 comments	Protest, Tension	02/03/2022	https://www.facebook.com/permalink.php?story_fbid=pfbid02hE8yLrkj1XeEYuDUuSvSosz7kuXdnqHEZJjk5o948FFRSWAxeUBQV4fjEPkPe8L1l&id=100069411030170	#FreedomFightersNZ
33	FB	2 likes, 1 hug	Protest, Tension, Vaccination	06/03/2022	https://www.facebook.com/theosophikal/posts/pfbid0hk4aGNp1yWpsyl1aVowE7PGdjYtKRE1yLDWQd7kkjJ1DHXYW6HKnM42a217svQaxl	#FreedomFightersNZ
34	FB	11 likes, 2 sighs, 1 anger	Censorship	01/07/2022	https://www.facebook.com/groups/nztruckersconvoy2022freedom/posts/1990700084450212/	
35	FB	4 likes	Vaccination, deaths	17/06/2022	https://www.facebook.com/groups/nztruckersconvoy2022freedom/posts/1979693162217571/	
36	FB	402 anger, 61 likes, 15 laughs, 11 wow, 6 sighs, 910 comments	Protest, Prime Minister	03/03/2022	https://www.facebook.com/groups/nztruckersconvoy2022freedom/posts/1901564126697142/	#nzconvoy2022 #stepdown
37	FB	18 likes, 1 love	Protest, Letter	14/02/2022	https://www.facebook.com/groups/nztruckersconvoy2022freedom/posts/1888400854680136/	#nzconvoy2022
38	FB	14 likes, 1 love	Protest, Canceled	06/05/2022	https://www.facebook.com/events/940985379947753/?post_id=968248303888127&view=permalink	
39	FB	147 interactions, 54 comments	Protest, Police	28/06/2022	https://www.facebook.com/photo?fbid=397593995735398&set=a.303982048429927	
40	FB	503 interactions, 54 comments	Covid, Censorship, Media	27/06/2022	https://www.facebook.com/nzoutdoorsparty/posts/pfbid02N6tjwJUDvGtmkmtQ8bE6SufWjuJyFLVDE5n7CVwKZKz1qGQ88xt6hhhSCUvESxn2l	
41	FB	5765 likes, 1011 comments	Propaganda	25/06/2022	https://www.facebook.com/GroundswellNZ/photos/a.167409928514336	

					/505009321421060/
42	FB	429 interactions, 104 comments	Protest, Censorship	21/06/2022	https://www.facebook.com/nzoutdoorsparty/posts/pfbid02mstWcPWSSamPcyvy8b1jRFevVPWjvmVqcC9igZNwaeP2qzwpoxmV8jbJxJ9AhZo3l
43	FB	278 interactions, 77 comments	Protest	17/06/2022	https://www.facebook.com/nzoutdoorsparty/posts/pfbid02CzkchCa8Kca9Ho6vKE6kjUcAU1PTaJB5burzLt19569RcZyg1R8RoSte5PrNSUsdl
44	FB	20 interactions, 2 comments	Censorship, Deleted post	29/06/2022	https://www.facebook.com/voiceoffreedomnz/posts/pfbid0365qkwz3JqvSYrsmCyQL5fAD49tzGjEex8xRNchDXM7LJqX5peQKAosZBwZ7494A8l
45	FB	8 interactions, 2 comments		29/06/2022	https://www.facebook.com/voiceoffreedomnz/posts/pfbid02PppVmWQuY7hZRPckHzR4sVvjFwhq3rfEQFtkPGYM2QuQg2YeF2Aq1DiLY2obrWEbl
46	TW	2 likes	Censorship	06/07/2018	https://twitter.com/babynandos22/status/1015107348388433922 #freespeac hnz #censorshi p nz
47	TW	1 likes	Freedom of expression	29/03/2020	https://twitter.com/adamsmith1922/status/1244379127139823618 #Freespeac hNZ
48	TW	135 likes, 15 retweet	Blocked	17/04/2022	https://twitter.com/gzx_human/status/1515508854921961479 #Convoy Nz
49	TW	5 likes, 2 retweet	Vaccination	26/04/2022	https://twitter.com/sfwd/status/1497371555248021507 #Convoy Nz, #convoyfor freedom
50	TW	33 likes, 16 retweets	Protest	08/02/2022	https://twitter.com/Canucklegri/status/1491043782598758402 #freedomc onvoynz
51	TW	2644 likes, 611 retweets	Protest, Convoy	14/02/2022	https://twitter.com/rupasubramanya/status/1493209294845665284 #freedomc onvoynz
52	TW	37 likes, 25 retweets	Protest, Convoy	02/03/2022	https://twitter.com/jj0lxi/status/1498870566824005635 #wellingto nprotest
53	TW	4034 likes, 972 retweets	Protest, Convoy	17/02/2022	https://twitter.com/BernieSpofforth/status/1494440140147765248 #NZConvo y2022
54	TW	117likes, 31 retweets	Protest, Convoy	03/03/2022	https://twitter.com/nzhotdog1/status/1499288357645406210 #NZConvo y2022
55	TW	295 likes, 69 retweets	Protest, Convoy	10/02/2022	https://twitter.com/stew_rachel/status/1491905378291908613 #NZConvo y2022
56	TW	333 likes, 58 retweets	Protest, Convoy	09/02/2022	https://twitter.com/kaiвити_cam/status/1491206345349300226 #NZConvo y2022

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