THE HOT TOPIC

An investigation into the role that New Zealand organisations' Facebook pages play in communicating climate change

BY
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Abstract

This thesis investigates the role in which New Zealand organisations Facebook pages address the issue of climate change.

The text will initially provide background to the evolution of climate change communication, highlight the responsibility of mass mediated media, and dive into the key notions behind the traditional public sphere and the digital public sphere. Unpacking the development and role of the digital public sphere will also assist the investigation into the role of social media as a Nature 2.0.

Ten different Facebook pages that fell into the categories of business, activist, news and political parties will be investigated to answer how have organisations used social media to communicate climate change and environmental issues. The thesis will then consider if New Zealand based Facebook pages/posts have been successful at stimulating the online community in climate change engagement.

Two research methods were used to unpack the 270+ posts from three periods over September 2017- January 2018. A coding system categorised the data in four categories: how the content addressed the audience, the language used, the reason for the post and the type of content. Content analysis was used to measure the amount of times each of the posts fit into their respective categories, followed by a thematic analysis to demonstrate themes and trends that arose in the data. Identification of the engagement ratio provided insights into how well these posts were at stimulating the online community.

Results from this investigation not only provided insights into the different ways in which different types of organisations address climate change but also how different

organisations within those categories have different methods of addressing the same issue. There were key trends and themes that developed through these different pages. Businesses communicated climate change through a traditional business model tactic, the use of call to actions to drive profits, and through a brand awareness strategy where the brand's "green" philosophy was the focus of communications. Activists took a more inclusive approach to addressing climate change, where a large focus was on sharing the stories of other experiences with combating climate change or struggles faced due to climate change. Political pages focused on the public's vote and strived to convert or retain their audience. Their strategies involved highlighting their goals and missions if they were to take office which aligned with their beliefs. And finally, news organisations, who were a major influencer in the traditional public sphere, have recognised the move into the digital public sphere and have started to use platforms like Facebook to ensure their cut through. Though their climate change communications still followed traditional techniques of news communication, new organisations have opened the dialogue, changing the power status and opening up the conversation to many.

With the increased demand for environmentalism, different organisations, who might not have previously addressed climate change, are now communicating this issue to the New Zealand public through their Facebook pages. Therefore, understanding the role social media plays in the digital public sphere is instrumental to identifying the ways in which climate change is being communicated to the public of New Zealand.

Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and my belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university of other institution of higher learning.

Signed:

Troy Asia Xian Guang Han

Dated: 20/08/2018

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1. Introducing the HOT topic investigation

> *"Climate change is real, it is happening right now. It is the most urgent threat facing our entire species, and we need to work collectively together and stop procrastinating" – Leonardo DiCaprio, 2016 Oscar Acceptance Speech*

2014 was recorded as the hottest year in history. In 2015, the temperature rose to beat the 2014 record and claim the title. As 2016 approached, an increase by .94 C above the 20th-century average allowed 2016 to earn the award of the hottest year so far ("National Centers For Environmental Information", n.d.). Climate change impacts are coming faster than ever, and rising temperatures is just one of the dangerous consequences of human-made ignorance to our planet. In 2015, there was 322 million tons of plastic in our oceans (Plastics Europe Market Research, 2015). There were 24.2 million people who were newly displaced in 2016 alone due to natural disasters ("Global Report on International Displacement", n.d.).

New Zealand, being an island, is going to feel the impacts of climate change more quickly than other western countries. If the earth's temperature were to rise 4^{c} degrees then the majority of Christchurch would be submerged in beneath the water (Before The Flood, n.d.- Crisis Management 2016). Wellington, Whangarei and other cities around New Zealand would also feel the dire effects. Therefore, understanding how we, as a country, are communicating this issue is pivotal to unpacking how New Zealanders will encourage and promote change for the earth.

And that's not to say that New Zealand has not started the push for climate change talk and solutions. In 2016 New Zealand was one of the 195 different countries and institutions who signed the Paris agreement which agreed to reduce their CO2 emissions to help keep the warming of the earth under the 2-degree increase. In 2017, the women leading the way into the election formally stated that climate change is an issue with which we have not done enough. In June 2017, Greenpeace NZ released their annual report, foregrounding climate as one of their 2016 campaign highlights. To this day, news as a medium of communication has provided New Zealander's insights into the world of climate change and encouraged talks surrounding this issue.

However, to what extent and how has it helped the public of New Zealand to get involved in the climate debate?

The digital world and rise of online networks have created a platform for communication unlike ever before. The public can engage, discuss and absorb information about different topics within these online communities. This transformation of the digital public sphere has expanded the communication threads and chains, where more people can be involved and contribute to the solution. Social media platforms, like Facebook, have allowed climate change conversations to move into the hands of the public in a way unlike before. And with this comes different types of pages talking about the same message. From businesses to activists, these different pages all are addressing climate change in some way or form. Through breaking down how they are communicating climate change initiatives, insights will arise into the ideologies that New Zealanders have around climate change.

This thesis will highlight the ways organisations in New Zealand have used social media to contribute to the dialogue on climate change to enable a more active and engaging space for the public, illustrate engagement that is received on these posts and to ultimately contribute to the discussion on climate change.

Historically, traditional media has been the focus of climate change communication, and so when trying to find answers on social media's ability to communicate climate change, the research was more limited. Therefore, understanding the methods that traditional media use to describe the issue will then inform the potential advantages that social media have in sharing climate change messages. The traditional public sphere and the development of the digital public sphere have expanded the space for communication, working hand in hand and perhaps even increasing the inclusion of more people to be involved.

This thesis will to answer two key research questions:

R1: How have New Zealand based organisations used Facebook to communicate climate change and environmental issues?

R2: Have New Zealand based Facebook pages/posts been successful (receiving an engagement rate of 1-3% or higher) at stimulating the online community in climate change online engagement?

The data will be collected from ten different New Zealand Facebook pages that fit into the categories of businesses, activist, news and political parties. This thesis will aim to approach these questions through the use of thematic analysis and content analysis that will produce both qualitative and quantitative data respectively. Thematic analysis will then be used to create themes and trends within the data. This methodology will help explain how different pages address climate change. The data is then unpacked through a coding system that identifies trends of how they address their audience, the language used, type of message and the type of content. Content analysis will answer the second research question by providing a quantitative count of engagement of each of the posts compared to the followers. It will also help determine the frequency of how often each page chose to talk about climate change.

This thesis is divided into six chapters that will to construct a narrative that answers the thesis' research questions.

Chapter two will highlight previous literature that has informed this investigation. It aims to unpack the role that news media have played in climate change communication and will identify areas of weakness and success that has encouraged my pursuit into the realm of social media communication.

Chapter three will emphasise the function of the traditional public sphere and the development of the digital public sphere in social media. Through this I will distinguish the establishment of the blurring between public and private spheres, through the example of climate change, due to the advancement in the functions of social media communication.

Chapter four will display the theoretical framework and research design that will be used to carry out this investigation. First, I will present the role of social media communication and then displaying the research design for this thesis. A dissection of the how and why the Facebook pages were selected for this investigation will be highlighted, followed by a breakdown of the coding system used for this thematic and content analysis.

Chapter five will present the data and the analysis from this investigation. A mixed method approached will be used to analyse the data collected for this investigation. First, content analysis will be used to divide the pages into their categories: how the content addressed the audience, the language used, the reason for the post and the type of material. This system visually displayed how the data talked about climate change. Through examples of the posts, a thematic analysis will identify themes that arise in each of the posts. The key findings will then be related to the literature that has been previously acknowledged highlighting fundamental theories and learnings.

The final chapter will conclude this investigation providing a summary of the entirety, highlighting limitations and significance of research and final thoughts of this thesis.

2. Environmental Communication

Understanding where and how environmental communication (including but not limited to climate change) has been addressed through time provides context and background to know how we talk about the issue to date. This chapter will first examine the evolution of environmental communication starting from the 1960's when the topic began appearing in mainstream traditional media sources. I will then identify the role of other sources such as activists, businesses and the entertainment industry who all have played a role in addressing climate change.

The chapter will then move on to highlight the role of news media and environmental communication. News media has played a significant role in the influence of discussion of environmental communication to the public. Seen as a credible and reliable source of information, people gather their information from news outlets to then develop their own opinions and attitudes on the matter. It also acts as the medium between the scientific community and the public, where the journalists relay the statistics and facts based on their interpretation (Boykoff & Boykoff, 2007, Olausson & Berglez, 2014).

Journalists follow journalistic norms to ensure they are providing factual information for the public to absorb and later form their opinions and attitudes. Their journalistic code requires them to be balanced and to provide newsworthy information. It also needs analytical framing techniques and angles to ensure the message is exciting while also getting the facts across. This section will identify the strengths and weaknesses of the journalistic code of ethics and how this proves problematic for climate change communication in the traditional news medium.

I will then proceed to highlight the role of environmental language and how ultimately this proves detrimental to communicating climate change to the public. For example, uncertainty, being a typical word in the scientific community, hinders the message of climate change as people then do not think that it is as severe as it is. Media practioners also play a part as they choose the words to use to express the scientific

data which can eventually destroy the true meaning of the facts or potentially change the meaning entirely. When breaking down environmental communication, it is evident that the power of language plays a vital role in constructing meaning.

This chapter will provide a guide through the background and context of environmental communication that has therefore led to this investigation.

2.1 Environmental Communication To Date

In the 1960's environmental communication sparked as the world started to feel the effects of the industrial revolution. From dust storms to pollution, to raging natural disasters, scientists, media and the public began questioning our human-made impacts on the earth. Through environmental communication, we are not only able to make sense of our relationship with the environment but how we need to respond to environmental problems that may arise affecting society (Cox, 2013). Eder (1996) argues that how we to talk about the environment and its conditions/ideas will explain the type of public discourse that arises about the environment (cited in Cox, 2013). This subsection will provide a summary of climate change communication so far.

There are a few established sources that have taken the lead in climate change communication. Groups like the Society of the Environmental journalist (SEJ) and The Sierra Club have been at the forefront of climate change communications. By providing critical messages about environmental impacts and strategies to support sustainable habits, these organisations have attempted to provide a resource for people to understand human relationship with nature. But there have been other, non-traditional, sources of information that have also taken an interest in climate change communication.

Non-profit organisations have taken an increased interest in climate change communication. Activists are striving for climate-related initiatives to be addressed and dealt with to raise awareness and act against those making poor decisions that

impact the earth. Greenpeace is an example of how an activist organisation has brought to light some of the many problems that our environment is facing. From the oil companies with profit-driven motives to plastic bags hurting our sea life, as an activist organisation, they have been able to make headlines and statements to provoke thought and action which has been an essential means of gaining influence in the public sphere of communication. In more recent years, with the rise of a more ethical purchaser, the environmental discussion has also been seen from businesses in the community. Though their motivation may be partly profit driven (part CSR), their communication is still a means to educate society about how we can make daily changes to our wasteful habits to help the environment. In the subsequent chapter, a further examination of the role the activist, ethical consumption and movement towards green lifestyles will be discussed.

The entertainment industry also plays a role in society's ability to construct meaning. Whether it be fictional films like *The Day After Tomorrow* (2004) about the superstorm that wiped out New York into a wintery blizzard or documentaries created by Al Gore, former vice president of the United States, *An Inconvenient Truth* (2006) and *An Inconvenient Sequel* (2017), or the documentary that went viral, *Before the Flood* (2016) by award-winning actor and UN Messenger of Peace, Leonardo Di Caprio, all forms of media play a significant role in communicating environment related messages.

Scientists have a significant role in climate change communication. They provide the facts and research that proves that our actions have direct consequences for the anthropogenic effects of climate change. Without scientists, climate change would not have been discovered as one of the more pressing issues we face this century. However, not all scientists are effective and proficient communicators. Though they provide the information, without an intermediary, their messages will get lost and in turn, put a damper on environmental communication and public understanding. An example of how words can consequently work in opposition to the climate change movement is through the basis of scientific language. Scientific uncertainty and risk are both primary considerations when conducting research and have to be addressed

to ensure valid and accurate data. However, as Painter (2013) highlights, this scientific language can be perceived that the data is not 100% factual and when presented to the uneducated eye, can, therefore, prove dubious.

Many external political factors need to be considered when unpacking environmental communication. Hansen (2011 cited in Olausson & Berglez, 2014) states economic, political and cultural power play a huge role in the ability to communicate environmental issues to the public. Also, Schafer and Schlichting (2014) suggests that there is a global difference in the quantity of coverage devoted to environmental stories. Consequently, each nation will not necessarily be on the same page nor communicate the same way about environmental issues. Therefore, this can hinder progression as a global community, because of the lack of a consensus. Painter (2013) illustrates through his investigation the lack of communication of environmental issues in the non-western countries. It could be suggested that Painter is highlighting this as it is due to the lack of funding placed on environmental research or merely the fact that climate-related issues are not given priority due to more urgent problems such as famine and war. Audiences are not only socioeconomically differentiated but culturally selective (Bourdieu, 1984 cited in Carvalho & Burgess, 2005). For example, with the 2017 United States election of President Donald Trump, he has pulled out of the Paris Agreement 2016 due to his belief that climate change is a “hoax” (Matthews, n.d.). Not having the United States on board for the progression towards a healthier environment potentially hinders advancement in funding for scientists and turn, reducing environmental understanding. These factors can have a significant impact on climate change communication.

As outlined, there are many sources of environmental communication that have informed the public of environmental issues, including that of climate change. However, there are a variety of other forms of environmental forums for discussion including that of legislation, public meetings internet/blog discussion on so forth (Bengston, Fan, Reed & Goldhor-Wilcok 2009). Through the social representation of the environment, society can construct meaning, attitudes and potentially influence their decision making (Cox, 2013). For this investigation, where the focus is on media

communication of the environment, the subsequent section will explore the role news media play in the public's understanding of environmental issues.

2.2 News Media & The Journalist

The media play a significant role in providing context and knowledge surrounding environmental issues. Arlt, Hoppe and Wolling (2011) noted that people rely on the press for environmental communication. Such news programs have a significant influence over the political and societal issues that are presented to the public (Cottle & Matthews, 2013). From this information, the public can form attitudes, make decisions and respond to the material provided. This section will examine the role the news media play in communicating environmental issues (including climate change).

News media provides a pathway between the scientific community and the public (Olausson & Berglez, 2014). Scientists, not being media experts, tend to lack the communicative nature of talking to the public. Therefore, the media become the interlink between the two. Media practitioners work off an informational model for scientific communication, where producers (news media) transmit messages across spaces through time to receivers (the audience/public) (Carvalho & Burgess, 2005). The media proves to be an essential agent in the production, reproduction, and transformation of meaning surrounding this social issue (Carvalho, 2010). Their messages act as an authoritarian voice which the public help us to make the social construction of the problem and the possibility of working upon it (Carvalho, 2010). However, to what extent has this traditional media model been useful? Jimenez-Castillo and Ortega Egea (2015) conducted a study investigating surveys of 592 adult's perceptions of proactive environmental behaviour based on media influence. Even though there was a positive relationship with print/internet news and dynamic response, TV news results showed that people were less likely to make sacrifices for the environment. TV news had the potential to even create anti-environmental attitudes and actions (Besley & Shanahan, 2004). Zhao (2009 cited in Schultz, 2003) found that print news and web news illustrated some positive effects on self-

professed knowledge of environmental issues however TV news showed little/no consequences. From these studies, it is suggested that even though media messages are critical to understanding the public discourse (Boykoff, 2011), this single way communication model has its downfalls in traditional media sources.

Though this section potentially questions legacy media, and the traditional journalistic standards that come with traditional media communication it should be considered that there has been recent works from The Guardian, The Independent and other local new outlets like Newsroom that have taken climate change and other environmental issues on board to present them in the most effective means possible. This section hopes to highlight just some of the areas in which traditional media norms and the role of the journalists have limited the means of environmental communication.

Journalist provide stories for the news. They have semi control to angles and priorities of the news (editors also have a large portion of this responsibility). There are many journalistic norms that a journalist must follow to ensure the most newsworthy and ethical content is presented to the public. According to the Society of Professional Journalism (2017), journalists must follow a code of ethics when practising in the field. These norms include but are not limited to objectivity, fairness, accuracy and balance (Bennett, 1996 cited in Boykoff & Boykoff 2007). However, environmental communication, like climate change, does not necessarily always fit into these norms and therefore gets left out of the media's attention. These norms are ingrained in the culture of journalism, but for environmental issues to be addressed most appropriately and to be effectively communicated, there is a necessary change in this mindset. Olausson (2011) suggests that news media need to, therefore, break free from traditional news structures and logic as they no longer are fitting to the most urgent issues that the public needs to be informed about. This subsection will address how the news norms, through the examples of balance and newsworthiness, have stalled and even hurt the progression of climate change communication.

Balance is considered one of the most crucial aspects of journalism as it is used to ensure a well-rounded story. Used by journalists as an objective means of storytelling

to provide an equal voice, this news norm can pose detrimental to climate change communication as it can appear as presenting two sides (Zehr, 2000). Ross Gelbspan (1998 cited in Boykoff & Boykoff, 2004) asserts that this journalistic fairness requires reporters to present competing viewpoints. Balance is used to fend off acquisitions of one-sided coverage, and a form of ensuring validity for the work (Bruggemann & Engesser, 2017). But what about issues that do not have two sides? For example, Ward (2009) presented the question "would you say that we need to challenge a report saying that the sun rises in the east and sets in the west". This is a fact that most would not challenge. By having these 'balanced viewpoints' on scientific fact then it suggests that each side should be given equal weight (Boykoff & Boykoff, 2004). Because environmental stories, especially that of climate change, are based on factual information, presenting a balanced account is not an appropriate means of communicating science. And to add to this complication, balanced coverage does not always mean accurate coverage (Boykoff & Boykoff, 2004). Boykoff and Boykoff (2004) conducted a study investigating US media and the journalistic norm of balance. They found that the majority (52.2%) of coverage by the press was balanced, meaning that there was roughly an equal portrayal of environmental impacts made by humans and environmental consequences as natural fluctuations. By providing this "balance" of news, giving two sides of the story, news media is ultimately hurting the chance for action to be taken.

An example of when "balance" as a news norm has hurt the climate change movement is in the documentary, *Merchants of Doubt* (2014), TV news media was used as an example of how balance only distorts the efforts of science communication. Marc Morano is famously known for his beliefs against climate change. His passionate tone and expert communication skills allow him to dominate against many scientists that are presented on TV news interviews. However, little does the audience know that he is a former spokesperson for the Tobacco industry (an industry that controlled the media messages for decades to drive money into their pockets) and is also currently on the pay slip of large oil investors. Nevertheless, when pitted against famous media personality, the friendly scientist Bill Nye, in a news interview, Morano's other voice on the issue only increased doubt about climate change in the audience's minds even

though the scientific belief is 99 to 1, not 50/50 (Gess, 2012). With this, dramatisation occurs, another journalistic norm, where the creation of these personalities, like Morano, make the story more interesting, regardless of the truth (Boykoff & Roberts, 2007).

Newsworthiness is another journalistic norm that has created limitations on environmental communication. Journalists' role in news media is to provide updated content on global issues. Newsworthiness is used to attract readers and viewers with the promise of highlighting the prominence, timeliness, proximity, impact magnitude, and conflict that the subject or event might bring about (Cox, 2013). But environmental issues like stories about climate, are hard to represent on a continuous basis because they do not fit the traditional norms of a newsworthy event. For example, in a study by Burk, Rock and Davis (2015), researchers examined the role news values played in TV news stories on climate change in New Zealand news media. Over 109 days, only 2.2% of stories were on climate change. Climate cannot be seen unless there have been natural disasters, but by then the damage has already been done. Journalists must maintain reporting at times when there are no dramatic events at hand (Olausson, 2011). This can pose challenging when climate change, occurring at a gradual rate, does not fit into their journalistic norm of newsworthiness (Bengston, Fan, Reed & Goldhor-Wilcok, 2009) thus pushing environmental stories, like climate change, to the back of the pile unless there is a dramatic event.

As highlighted earlier, balance and newsworthiness can pose a risk to the credibility of the new story. Hoppner (2010 cited in Carvalho, 2010) investigated polls about climate change in British newspapers. Her evidence suggested that the public developed a denialist view of climate change due to a negative attitude towards the media because of the lack of rationality, reliability, authenticity, and consistency. Because the media does not report consistently about the environmental issues, like climate change, the public begins to question the degree of seriousness that this issue might pose. And at the same time, having conflicting source report on the same topic can also create reservation about the issue. Bruggemann and Engesser (2017) also found that journalists recognise that the denialists are not representing credible

science but even articles that are neutral about the coverage can craft credibility for the denialist. Even if that facts are clear, and the science is sound, unless the coverage is strong climate/environmental pro, it leaves room for hesitations.

The climate gate pseudo-scandal (2009) is a clear example of how media portrayal of the anti-environmental story made headlines, spread like wildfire, and ultimately hurt the progression towards climate-related activity. The scandal happened before the Copenhagen Summit where parts of confidential emails were hacked and leaked by contrarian bloggers to discredit climate research (Holliman, 2011 cited in Bruggemann & Engesser, 2017). If taken out of context, the emails suggested that even the summit attendees did not believe in climate change and the necessary action needed to help the environment. Once the media got hold of this news, it was a frenzy. The aftermath allowed denialists to retain their voice in the media throughout the scandal (Bruggemann & Engesser, 2017). Paint and Ashe (2012) investigated the media reaction to climate gate pseudo-scandal. Through their cross-nations examination, they found that from 2007 to 2009-10 there was a significantly increased contrarian voice in news articles about climate change. In the USA alone, there was a jump from 17% to 33%; which was every third article that was written was contrary to climate change belief. And to make things worse, evidence by Carvalho and Pereira (2004), Olausson (2009) and Sampei and Aogyagi-Usui (2009) have all stated that in their respective investigations, that there has been an increase in news coverage during times of international gatherings. With the hype in media attention on the summit and then the surge of stories flowing from the climate gate pseudo-scandal, the denialists were in the perfect position to push for the alternative. Pew Research Center (2010) investigation found that only 57% of the surveyed believed that climate change was a severe issue in 2009 which is a 14% drop from the 71% who agreed in 2008. Because the stories were so newsworthy and headline valuable, the journalists at no fault of their own, had to write and spread the news. But because of their journalistic code of newsworthiness and balance, the increase in hype and swell of news stories only counteracted the proactive nature of the summit. The climate gate scandal created doubt in the minds of the public and ultimately limited climate change progression (Paint & Ashe, 2010).

2.3 The Impacts of Framing and Interpretation

How the media choose to frame a story will play a significant role in the public's understanding of the environment. News shapes the scientific data into a more satisfactory way which the audience can then interpret and make sense. In Environmental Communication and the Public Sphere, Cox (2013) highlights the role media play in filtering and selecting the issues that are presented to the public which in turn has a way of telling people what to think and even what not to think about. Responsible for creating awareness around an issue, the media is the primary source of environmental communication information for the public (Schafer & Schlichting, 2014). Therefore, understanding how media frame stories will, accordingly, inform how people perceive this content.

Framing is a critical method in which journalists take a stance or outlook on an issue. Cox (2013) says that frames act as the cognitive maps or patterns for interpretation that people use to organise their reality. Media frames are not entirely the result of sponsorship or powerful influencers. Rather media content and framing outcomes are most often unintentional but have the ability to construct a specific lens (Olausson & Berglez, 2014). With the nature of environmental communication, being unpredictable and slow in evolution, how a journalist frames a story becomes particularly tricky in meeting other standards. To obtain timely reliable information about scientific facts the process is sluggish and only a snapshot which is often limited in geographic representation and can be costly (Bengston, Fan, Reed & Goldhor-Wilcock 2009). Also, a lot of the time environmental problems cannot be seen or captured visually hence it is harder to collectively encourage ourselves to be proactive to climate threats (Boykoff, 2011). Given the way nature operates, and the way journalists work, the ability to frame a solid story around climate change or the environment becomes particularly difficult. Thus, it could be argued that the reason there are large amounts of coverage when a natural disaster occurs is due to the issue of meeting the journalist norms and expectations. The journalist can then frame the

subject, discussing the relation to anthropogenic effects or solutions or even other scientific data in correlation to the point. However, research has shown that journalistic framing might be counterproductive in the race for the climate. For example, Lomborg (2001) illustrates that even though media plays a role in educating how we perceive the natural world, due to human demand for exciting content, the news framing of environmental stories becomes distorted (cited in Besley & Shananhan 2004). The reporter wants to make the story as enjoyable as possible and thus may leave out the scientific facts that help the public make informed decisions. Gramelsberger (2007 cited in Arlt, Hoppe & Wolling, 2011) backs this evidence by arguing that how media reporting is framed, ultimately can make an audience more sceptical due to the overdramatising (or under-dramatisation) of the event. And because environmental news does not meet already established standards, it can be hard to frame a fact or concept into an exciting story that will captivate the audience.

To counter the framing issue faced by journalists, it is suggested that they should increase the gravity that comes with climate change and other environmental determents. But this would be a mistake. O'Neil and Nicholson-Cole (2009 cited in Boykoff 2011) illustrate that if we overdo the fear presented in the news, people will become distanced, unengaged or even form anti-beliefs about the issue. Manzo (2010 cited in Meisner & Takahashi, 2013) also backed up this claim as he discussed the need to provide more inspirational messages rather than rely on fear appeal. Therefore, how news organisations frame climate change, has a positive impact on the interpretation of the public.

The journalist will also frame environmental stories around other socio-economic factors that are making headlines in their area. This works as an advantage for environmental communication because public understanding of scientific content is based on their current interests, values, beliefs, and knowledge (Zehr, 2000). If journalists can frame the issue around other events occurring, then people are more likely to take greater understanding and efforts towards the environment. And at the same time, people are also able to create a framework of knowledge based on their exposure and observations about the environment and its effects such as climate

change consequences (Olausson, 2011). Olausson (2013 cited in Olausson & Berglez, 2014) demonstrated how climate news would become integrated with other economic, political and social factors that will all affect the public. If the public can see first-hand and experience the consequences of the environment, then they can put the facts with the events. This is particularly the case of natural disasters, as people realise the impact of the environment and understand the effect it will have if we do not instigate change. Even if people do not necessarily believe in climate change, attitudes and beliefs about the environment and climate are capable of evolution as new facts arise and other aspects of social context change (Bengston, Fan, Reed, & Goldhor-Wilcok 2009). In a study conducted by Liang, Tsai, Mattis, Konieczna, and Dunwoody (2014) researchers investigated the responsibility that the media have in the framing of climate change. The researchers looked at how TV news framed climate change in USA, Canada, and China. Their findings illustrated the power of media discourse providing information but also, guiding policy and decision-making. However, many of our mass contributors to climate change are not going to feel the first-hand effects. Painter (2013) points out, the worst impacts from environmental disasters are probably in a distant time or geographical location, with most people in the West (who are the main contributors to climate change) having no direct contact with the gravity of the issue and hence caring is minimal

When media are unable to frame a story with clear, factual, unbalanced communication, they open themselves to doubt. Peters and Heinrichs (2008 cited in Arlt, Hoppe & Wolling, 2011) argued that even with small statements that deny or contradict the detrimental effects of anthropogenic effects on the environment, the public becomes more unsure and less likely to believe scientific predictions. However, scientific data presents uncertainty and limitations that only adds to the problem surrounding environmental communication. Thus, it is vital for the media to frame environmental stories in the most authentic form to ensure the public receives critical messages.

2.4 Environmental Language

Media merge the gap between the data and the public. The way in which the audience responds to the information will, in turn, reflect how the scientists understand the public's understanding (Bengston, Fan, Reed & Goldhor-Wilcock 2009). Through the chain of communication, language plays a vital role in constructing meaning around the evidence. Scientists investigate the phenomena and report the data they find which the media is then to interpret, pick and choose, and relay this information back to the public. There is power in language because it helps shape the awareness, concern and possible actions (Boykoff, 2011). Within this process, language choice is crucial because it will determine how each subsequent party will take on scientific evidence or even combat the proof.

For example, uncertainty is a large part of environmental communication in both reporting and interpreting. The language that comes with scientific uncertainty can pose issues for environmental communication. There is an inability to see and predict to a finite point the effects of climate change and other natural disasters which can be capitalised on by those who benefit from carbon-based production. This can be highlighted in the documentary *Merchants of Doubt* (2014) which demonstrates how powerful oil companies are concealing themselves as credible sources to continue the fight to suppress climate/environmental communication. Oil companies have the financial dominance and influence to shape public perceptions and policy regarding the environment (Boykoff, 2011).

In scientific research, there is always going to be room for error, whether it be limitations or human-made fluctuations, and these must be noted down to form legitimate evidence. Evidence suggests that stressing uncertainties can lead to the diminishing of the problem in the audience's minds or even act as an obstacle for action (Painter, 2013). Professor Nick Pidgeon of Cardiff University in the UK (Painter, 2013) pushes for the reframing of communication surrounding climate change and other environmental issues. He suggests that we need to focus more on the risk to

society rather than the uncertainties surrounding decision making. Also, if the public sees that there is room for error, then it only increases the chance for denialists to use this information against the scientific consensus of anthropogenic climate change (Bruggemann & Engesser 2017).

Once the scientific evidence has been collated, mass media have the responsibility for identifying and interpreting this information (Boykoff & Boykoff, 2007). Mass media has the power to elicit more alarm (or less) about a particular issue (Boykoff, 2011). Elliott, Regens, and Seldon (1995 cited in Bengston, Fan, Reed & Goldhor-Wilcock, 2009) found that the public's attitude was significantly based on the impact of media coverage on the environment. And a later study by Cockerill (2003 cited in Bengston, Fan, Reed & Goldhor-Wilcock, 2009) also backed up this claim and adds that it is the tone and language of the news articles that will sway public attention. However, sometimes the communication line falls short, and there are many concepts miscommunicated due to the change in language. If the content has ideas and language that are unfamiliar to most, or if it presents a very bleak and unhappy situation of no clear answer of how to proceed from this, then the public will more than likely dodge and discount the news (Painter, 2013). Bell (1994) also argues in his New Zealand based investigation, that if people are presented with facts that are not clear or ambiguous, then they might overestimate the devastation of the disaster and feel that it is out of their control or hands to help. Painter (2013) suggests that communicating environmental issues that reflect the risk in not taking action might be more effective than if continuously bombarding the public with factual uncertainties. Zehr (2000) conducted a study that focused on the representations of scientific uncertainty in popular press articles about global climate change and how the scientific uncertainty constructs boundaries between scientists and press and public interpretations. Zehr argues that scientific uncertainty relates to journalistic norms of trying to create hype and controversy to capitalise on that dramatic event. He found that the responsibility lies with both the media and scientists. Media need to interpret the data and create detailed narrations regarding the scientists' work instead of taking direct quotations that can be misleading while the scientists need to frame information that will help journalists understand and make the correct

information without creating a discrepancy in the message that they are trying to convey.

Another miscommunication hindering the progression is the language used to describe environmental issues. For example, global warming, in the literal sense, means that the earth's temperature is increasing. However, there are many people out there that would question this, stating, how is the earth warming when we are getting excessive amounts of snowfall? The use of the scientific terms "positive feedback" and "negative feedback" is another example. Positive feedback refers to amplifying the change, i.e. temperature increases result in increasing atmospheric water vapour (a greenhouse gas) therefore resulting in further warming. Negative feedback would be if the increase in atmospheric water vapour led to a decrease in temperatures (Zuckerman & Jefferson, 1996). Both of these terms are used frequently throughout the scientific community to address the effects of climate change, but a non-scientist would assume that positive climate feedback is a good thing. The chosen terminology for describing environmental issues has backfired a lot of the time because it does not explicitly cater to the actuality.

This chapter has highlighted a historical context for a climate change communication. It has also illustrated the potential downfalls that traditional mass media has caused the climate change movement. Through unpacking the role of the journalists, how news stories are framed, and the environmental language used, this chapter provides background into weaknesses of the traditional media because of the complexity of climate change communication. The following section of the literature review will dive into the public spheres of communication in which climate change has been a part of and emphasise the development of the digital public sphere.

3. Spheres of Communication

This second chapter of the literature review will move to address where the public engages with climate change communication. Through first highlighting Habermas' work, the godfather of the public sphere, the section will provide insights into the traditional public sphere. With this background information on the traditional public sphere, the section will address the recent development of the digital public sphere, this being a key concept throughout this thesis, providing key research into social media and networking platforms to give context for the subsequent analysis section. This chapter will then move to address the blurring of the private and public spheres as a result of the digital public sphere, where we no longer can separate the 'political' from the 'domestic' content. The chapter will end with illustrating the increase in ethical behaviour in society and the creation of Nature 2.0 as a mini digital public sphere within the larger online digital public sphere. This chapter aims to provide background into how the public debates and shares knowledge about environmentalism.

3.1 Traditional to Digital – Progression of the Public Spheres

Understanding how we communicate issues in a society provides insights into how we operate. This section aims to highlight the characteristics of the traditional public sphere through the work of Jürgen Habermas, and the role mass mediated media plays in public communication.

The traditional public sphere has allowed us to understand the realm of debate, discussion and democracy. Jürgen Habermas is considered to be a founding father of the public sphere and is noted in much of the literature (DeLuca & Peeples, 2002, Kruse, Norris & Flinchum, 2017, Valysson, 2012, Papacharissi, 2010, Craig 2004). He believed that the public sphere was one of intellectual existence, where people could come together in coffee shops and town halls to discuss and debate the current topics. It involved people convening to discuss, debate and engage in public opinions (Papacharissi, 2010). He argued that the basis of the public sphere was influenced by

the historical background of that country or space and discussions were based on prior knowledge of that issue. Habermas believed "the public sphere is integral to the healthy existence of participatory democracy, leading to action in the way of social movements" (1991 cited in Kruse, Norris & Flinchum, 2017). The public sphere is defined by guiding principles such as being universal, a place for a public reason, and not confined to a single space. It also allows people to create their own opinions and social action within society helping the forward movement of civilisation. In his more recent works, he highlighted that the public sphere is made up of a highly complex network that has many spheres overlapping (1992 cited in Valtysson, 2012). These spheres include 'mini' spheres of selected interests or topics that encourage discussion for people participating in the public sphere. Through understanding the traditional public spheres, we can define the 'place' in which public debate can and has occurred.

Though Habermas should be credited for his contributions to the public sphere, there are many critiques of his work that should be equally explored to understand the public sphere further. Habermas's recognised that his theory of the public sphere has flaws, but it provides the groundwork for understanding the topic (DeLuca & Peeples, 2002). Eder (2006) highlighted that Habermas' work does not include women and children, who make up a large part of society and are considered part of the private sphere. Fraser (1992 cited in Papacharissi, 2010) also mentioned that women and children are not included and believe that Habermas romanticised the idea of the public sphere. Craig (2004) pointed out that Habermas thought that the sphere was a neutral space for communication but that we needed to theorise the role of power in the public spheres. Curran (1991 cited in Iosifidis, 2011) critiqued Habermas stating that his methodology of understanding the public sphere included those of highlight propagandised nature which reflects control rather than freedom of public engagement.

Since Habermas, the extensive literature on the traditional public sphere has analysed and debated defining the parameters. Youngs (2009) has outlined the traditional public sphere regarding time, space and the context it holds. He argued that the public

sphere is not uniform, that is based on language, cultures, political systems, history, the economy and other influencing factors that make each public sphere unique within its borders. Shao & Wang (2016) agreed with Youngs' conclusions and reiterated that the public sphere is dependent on both culture and country. For example, Fox News in the United States published an article on 24/01/2018, titled "Catastrophic global warming less likely, study says" (see link: https://fxn.ws/2uG82UR). As a country whose economy and are dependent on oil, encouraging pro-climate change initiatives would then contradict their countries drivers. DeLuca & Peeples (2002) state the public sphere is an autonomous sphere that is independent of state and is used to critique and control the power of the country. However, it depends on the state to the extent of whether the public sphere exists.

Nevertheless, the public sphere represents the democracy of its citizens, creating a place for deliberations and arguments regarding the public affairs to conclude in common goals (Papacharissi, 2010). Cox (2006), for example, reveals how the meanings and values of environmental communication are determined in the public sphere and very much influenced by the information provided by mass media communication. There has been an increasing amount of interest and research surrounding the traditional public sphere.

Mass media has played an essential role in communication within the traditional public sphere. As the medium in which the public has received the majority of information from, the media informs the public of issues both locally & globally. Their role as gatekeepers of knowledge has allowed them to control the traditional public sphere to a certain extent thus. But with the rise of consumerism and the need for quick production information, journalists are no longer able to produce the best, most accurate content to the public sphere. The once centralised forum for expressing several discussions and debates, no longer able to keep up with rising demands. Burns (2008) argues that the mass-mediated public sphere is no longer the most accurate representation of public opinion. With the rise of consumerism and the need for quick information exchange, journalists are no longer able to produce the best, most precise

content to the public sphere. The once centralised forum for providing information to the public can no longer keep up with the increased requirement for new information. Mass media's role has been vital in the traditional public sphere, but with increased demands and new technology, they are no longer the only players in the public sphere.

Technology is continually advancing, and social media has paved the way for a new realm of online communication. Through this online communication, the digital public sphere has formed. The subsequent section aims to explore the concept of the digital public sphere and how it has changed the boundaries and expectations of the traditional public sphere.

The online world has opened up a more diverse, accessible and engaging platform of communication to arise in the public sphere. With the rise of the internet, the ability to communicate online has increased. From social media platforms, blogs, messenger chats, society is now able to communicate like never before. The web has improved the democratic practices by connecting citizens in this virtual network. It has allowed online communities to participate in collaborative discussions and facilitate increased information flow and diversity of opinions which in turn can influence government decisions and more informed societies (Noveck, 2009 cited in Halpern & Gibbs, 2012). No longer bound by borders or journalist approval, the public sphere has become open to anyone. People who engage in this public sphere can share their common interests in space and encourage public debate (Hampton & Wellman 2003 cited in Hwang & Kim, 2015). It has provided a useful tool which breaks the barriers of social exchange and enhances the interaction of individuals on current issues (Hwang & Kim, 2015). The digital public sphere is being stretched across time and space where people can access information at anytime, anywhere. Unlike the traditional sphere, the digital sphere allows for greater citizenry production of information, opinions and discursive debate. This section aims to identify the role of the online community, the ability for collaboration and the development of social media and Facebook.

The digital public sphere has created a collaborative platform for discursive debate. There is no longer one group who is creating content and another who is absorbing it.

The online community allows users to act as both producer and consumer which was not recognised in the traditional public sphere. People can post their content, in the forms of blogs, photos, microblogging, videos etc. and then can absorb the content of others in the same sort of formats. Loader and Mercea (2011) state that there has been an increase in the number of independent online contributors to the information hub which has disrupted the power the media once had (cited in Kruse, Norris & Flinchum, 2017). Halpern & Gibbs (2012) say that there are more people today participating in content creation rather than just being content consumers. Unlike the traditional public sphere, where journalists or media were in control of the production and distribution of content into the public sphere, now the individual can act as both consumer and producer (Fuchs, 2012). Fuchs (2012) talks about this blurring of lines that separates the producer from a consumer, and indeed people are prosumers (both). Users can access and share information without the influence of the mass media and corporations, and data is now peer to peer rather than singularly powered (Kruse, Norris & Flinchum, 2017). The digital public sphere could be considered to have opened the channel of communication from the traditional one to many (journalist to public) to many to many (public to public).

It should be highlighted that the digital public sphere has not replaced the traditional public sphere but rather the two co-exist. Mass media still influences the content that becomes trending in the social world and vice versa. Mass media are also integrating social media, an example of the digital public sphere, into their commentary. For example, the New Zealand Breakfast show, run by one of the leading news organisations, TV 1 News, has an entire segment each morning on what's trending on social media. The show also encourages people to write in, via social media hashtags, to ask questions about what they are interested in and want the news to investigate. The same can be seen in social media's influence over the coverage of mass media. The #MeToo movement gained increasing momentum in the digital sphere. From celebrities to the average 'joe', people where engaging, sharing and debating the realities of sexual assault against women. This trending topic in the digital sphere then spilt over into the realm of the traditional public sphere and mass media (see The

Guardian, The New York Times, Chicago Tribune etc.). The two spheres working together has opened up the sphere's communication.

Social media, defined as "technology that facilitates dialogue through a platform such as blogs, content sharing, social networking etc.…" (Kaplan & Haenlein, 2010 cited in Reilly & Hynan, 2014), is a prime example of a digital public sphere. Social media has had the capability for people to share their thoughts on political issues to a mass society (Boykoff, 2011), meaning that social media encourages the many to many communication structures versus the traditional one to many. Shirky (2011) adds that over the last couple of decades' social media has become a daily life tool for civil society worldwide where regular citizens, activists, organisations, and governments alike all share and engage with information on the respective platforms. With the internet being relatively accessible to most, the majority can distribute and create information without external influence allowing a variety of people to access the digital sphere (Fuchs, 2012, Halpern & Gibbs, 2013). Boykoff (2011) illustrated that extent of social media use in the Indian population where over 400 million, both literate and illiterate, use the internet to consume media communication through text and images. According to Fuchs (2012), Facebook, a platform of social media, alone is the second most accessible site capturing 43.3% of the world's internet users. Social media is not only more accessible but also creates a more inclusive public sphere than that of the traditional public sphere. Facebook is free and only requires an email address and internet connection to be part of the network, and this is a creative platform in understanding the digital public sphere as it allows people a place to communicate and publish their work (Loader & Mercea, 2011). This thesis will use Facebook, a social media platform with over 3.1 billion users, to provide insights into the digital public sphere.

Facebook was developed in 2008 and has since become a booming communication platform. Valtysson in 2012 investigated Facebook as a digital public sphere and found that initially the platform was considered a micro public sphere but today people spend such a considerable amount of time on Facebook that it could be regarded as a large part of the digital public sphere, impacting daily life habits of the active user.

Facebook, like other public spheres, is fluid and ever changing with its environment which allows for customisation and other tools that cater to the user (Valtysson, 2012). Ndlovu and Mbenga (2013) rationalise Facebook as a public sphere as it works as part of internet communication that acts as a public sphere with mere bypassing of traditional gatekeepers. The researchers believe that Facebook pages and groups are established to help youth and social media users participate in political discourse. Valtysson (2012) adds that public and public spheres are interrelated, and that Facebook can be considered a public sphere and the users engaging in the content and communication as the public. Social media, as a platform, has created features that allow for the interaction between people in the sphere. Facebook, for example, encourages certain behaviours and communications from the user (Valtysson, 2012). Buscher (2016) called these features social plugins. Facebook has been a vital player in creating these interaction buttons. The ability for its users to share, like, or comment is integral to Facebook's communication methods but are now being seen on the web. They are no longer solely based on that one platform and are now providing users with the options to distribute information across the entire online sphere to connect on a broader range of data (Gerlitz & Helmond, 2013 cited in Buscher 2016). Engagement and information distribution are now interlinked. The more available social plugins, the higher the chances of collaboration and usage from its users to shape the digital public sphere. Facebook has also allowed for niche or mini public spheres to develop within its much larger sphere. Environmentalism and climate change are a mini public sphere that will be investigated through this thesis.

Environmentalism has become a “trending” topic in recent years. For example, in 2016, Leonardo DiCaprio became a leading influencer in the climate change and environmentalism sphere. Lea et al. (2016) investigated social media vs traditional media after DiCaprio’s Oscar speech which was very emotive and persuasive. The study found that social media engagement regarding climate change spiked for days after his speech. Facebook and other platforms use hashtags (#) as a way to group conversations and communications, and after DiCaprio’s Oscar speech, the number of hashtags #ClimateChange #GlobalWarming were sweeping Twitter’s platform. Though there was this increase in informational searches and social media

engagement, traditional media forms such as the news had no increase in coverage of climate change issues, potentially suggesting that the traditional public sphere was not providing the same momentum as the digital public sphere. Social media is now also acting as a space for educational knowledge to be discussed with the ability to create strong content to promote argumentation (Andersson & Olson 2014). This evidence was not seen in traditional media such as TV news was highly representational, and awareness driven. Twitter as a public sphere, the 'Twittersphere', allows for people who are highly active to share their opinions and creations while at the same time allowing the less vocal to be still part of the discussion from a more stand back point of view. Nonetheless, limitations come with the openness of this platform such as trolling and unnational dialogue that has the potential to undermine the digital public sphere's ability to function as a public sphere in the way that Habermas had envisaged.

There are many advantages to the digital public sphere and social media. First, as most youths are on social media platforms, it is essential to understand the trends of our future leaders. Andersson and Ohman (2017) provide evidence that young people's social use of the internet was on the increase. It is the platform most used for searching information in the young person's daily lives where they can gain knowledge and provide opinions discussing topical issues (Wojcieszak & Mutz 2009 cited in Andersson & Ohman, 2017). Youth can absorb information that directly affects them, hence suggesting that it is a better tool for enacting change. The PEW research centre conducted a representative survey in the USA and found youth to be very busy on social media and use liking, sharing and posting their thoughts on political and societal issues (Rainie et al., 2012 cited in Vromen, Xenos & Loader, 2015). Social media, a platform for enhancing the digital public sphere, is providing vital insights into the way our future is forming. Secondly, social media reduces friction of space; it is cost-effective, does not have time restraints and contains a wealth of information. Social media allows participation where people do not have to join formally to a group to access information and can express themselves through sharing and distribution to their online network (Vromen, Xenos & Loader, 2015). Wohn et al. (2011) recognised

that social media is the new preferred method of campaigns for organisations to reach mass populations.

There are also disadvantages and limitations that come with the digital public sphere and social media. Boykoff (2011) does recognise that new/social media may tend to allow users only to consume the information that matches their ideologies. Jenkins (2006 cited in Kruse, Norris & Flinchum, 2017) highlighted that social media conversations might lack true objectivity as people mostly read established opinions that are like-minded to their own where the dangers of echo chambers are created, reinforcing their truth. Kruse, Norris and Flinchum (2017) argue that social media does completely allow for freedom of communication exchange as conversations are monitored by friends, family, organisations, and many more. Habermas believes that new media fails to revitalise the public sphere because it fails to allow for interchange between speaker and audience (2006 cited in Kruse, Norris & Flinchum, 2017). Shao and Wang (2016) note that social media as a public sphere is not ideal as it is promoting selective exposure and biased information with the rise of irrational discourse. Papacharissi (2010) suggest that the digital sphere does not change those racial, class, gender inequalities of the offline sphere. Dutton (2007 cited in Iosifidis, 2011) argued that the digital sphere removes the accountability that exists with a physical public sphere. Nevertheless, the digital public sphere is growing to allow more and more to be part of the debates and discussions.

3.2 Blurring of the Public and Private Sphere

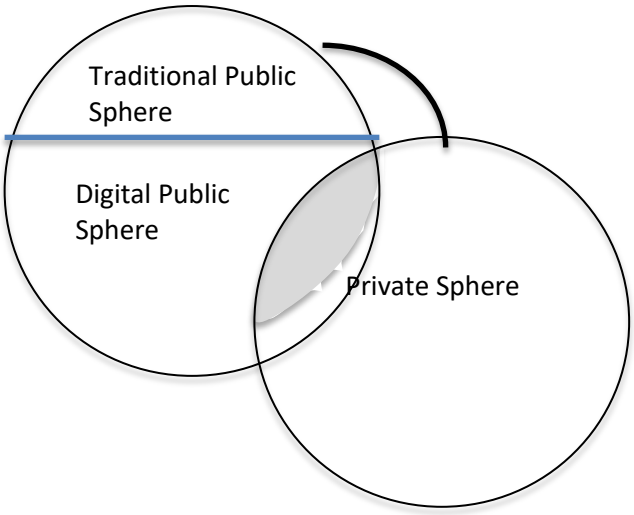


Figure 1 – The Distinguishing of Spheres

Figure 1 provides a visual representation of how the spheres interact based on this investigation. The public sphere contains both the traditional public sphere and the digital public sphere. The private sphere is connected to the digital public sphere via a grey representation and via a line with the traditional public sphere. The grey space between the digital public sphere and private sphere is a result of the operational overlap or 'blurring' of the two spheres. This next section aims to highlight how environmentalism in the digital public sphere acts as an example of the blurring of private and public spheres and the creation of Nature 2.0 working as a mini digital public sphere within a much larger digital public sphere.

With the development of the digital public sphere, the blurring between the public and private spheres has influenced the role of the people in the public sphere. What was once considered exclusively private/domestic topics are now entering into the public sphere of debate and vice versa? According to Habermas, the public sphere encouraged political discussion, where people would come to the local shops and discuss what was happening in society. But in today's digital public sphere, people are communicating from the comforts of their homes and are no longer exclusive to the wealthy, educated. With the increase in people who are part of the discussion comes the increase in topics being discussed. Today's online public sphere has conversations surrounding childcare, cleaning products, lifestyle habits, product reviews and much more. As women stereotypically play a more significant role in the domestic space, this potentially challenges Habermas's ideology of the traditional public sphere. So, what is the difference between the public and private spheres?

To understand the blurring of the two spheres it is essential to define the two spheres. Papcharissi (2010) believes the public sphere aims to work towards the greater public good whereas the private sphere is the personal and domesticated space where self-surrounds actions and consequences. According to Papcharissi (2010), the distinction between private and public spheres is based on culture and historical context. Depending on certain societal norms will dictate the extent of blurring between the

two spheres. Weintraub (1997 cited in Papacharissi 2010) described the public and private spheres as "neither mutually reducible nor wholly unrelated" as there will always be overlaps regarding what is considered part of each sphere. Online communication has allowed people to draw on their personal lives and experiences to link their private and public spheres together (Youngs, 2009). Today, citizens are now actively participating in the processes of open communication and deliberation without the need of an intermediary (Bruns, 2008). With the increase in technology, more people can be involved in the conversations happening in the public sphere. Social media has allowed for a higher number to contribute to the discussion for reasonable political discourse (Kruse, Norris, & Flinchum, 2017). And because of this, more knowledge is being shared between different spheres of life. Loader & Mercea (2011) cited in the study the increasing numbers of citizen users who are actively engaged in political content has resulted in competing for expertise, removing the corporate and political influence and encouraging self-participation and critical discourse. Social media has provided the ability to obtain daily access to political discourse from a public sphere (Shao & Wang, 2016) which in turn allows them to use their newly acquired knowledge in their private sphere. Alternatively, people are bringing personal or private expertise and sharing it on social media platforms that represent the public sphere. As more and more people come to the conversation, there is less distinction dividing the public and private spheres and instead defined by how the individual organises their life and relations.

More so than the earlier manifestations of the mass-mediated public sphere that occurred in nation states, the digital public sphere includes a range of people, from all backgrounds, educations and genders and is a place where people can choose to take part of or not, physical boundaries do not bind it. Citizenship is said to be based on the belonging to a state/country where rights were established (Cammaerts & Audenhove, 2005) but modern citizenship cannot be defined in such simple terms when the digital sphere has opened the space for global citizenship, where boundaries and geographical limitation are a thing of the past. Mouffe (1992) recognised how this global digital world creates the connections formed from an unbounded citizen. The public sphere theory was initially based on open physical space for debate, but in the

digital public sphere, that premise no longer applies. People's identities are now more fluid and interchanging with broad access to information in the online medium. A citizen is no longer bound by the country or state but can interact with people from all around the world to create this global citizen and share in this digital public sphere. The digital public sphere has allowed for more information and discourse to occur and reach the masses of people which is unlike the traditional sphere theory. This next section will examine the blurring between the public and private spheres through the example of the rise of ethical consumerism.

An example of the blurring of lines can be seen in the rising concern for the environment in both the public and private spheres. Ethical consumption has become an increasing interest in understanding the buying behaviours of consumers. Particularly in Western society, sustainability, green buying, moral choices, are all reflective of how the purchaser perceives a company or brand. The level of green ranking that a company possesses influences the decision-making process (Reilly & Hynan, 2014). This phenomenon has now been integrated into our daily lives. What was once thought of as separate entities, are now slowly moulding and blurring into one another (Lewis & Potter, 2010). We are far concerned for where our fruits, meats and other everyday products have been sourced from, how ethically was it done, what was the supply chain process, were the workers paid fairly, do they use chemicals, and the list goes on. The concern for the environment and pro-social choices have taken a once political/public issue into the private sphere and lives of the people (Lewis & Potter, 2010). This demonstrates how citizens and consumers are no longer separate entities but rather the choices of each facet affect the other.

But where are people finding this information? The digital public sphere has increased the access to information, and in turn, more people are making decisions based on the discussions and debates in this green digital public sphere. Yang and Calhoun (2007 cited in Sima 2011) talked about the development of the green public sphere where environmental discourse is at its centre and citizens, ENGO's and others share in the debate of environmental issues by highlighting opinions to influence change. Torgerson (1999 cited in Sima 2011) argued that the green public sphere is a

combination of green discourse and global communication about the environmental movement. The green public sphere is an example of a sphere that is not only public but also involves the private sphere and thus only reinforces the notion that the digital sphere has blurred the two spheres.

3.3 Nature 2.0

Nature 2.0 is a concept that aims to understand the green digital public sphere. Buscher (2016) says that Nature 2.0 is about the sharing, liking and linking of environmental ideas through social media and online communications. Buscher, Koot and Nelson (2016) add that this online forum has created a place for both producing and consuming of the green discourse. They reiterate this idea of prosumption, where production and consumption are happening at the same time and co-creation helps bring the community together. For example, ecosearch.org and ecosia.org are both search engines that when used by the citizen/consumer they subsequently are helping rebuild the rainforest. By using this search engine, the individual is not only involved in the planting of new trees in the rainforest, but they are consuming the product of the search engine. Some social media apps educate people about the importance of conservation and in turn by playing, directly helping the efforts in the real world. There are online communities like care2.com which has over 23.5 million members wanting to make a better world through positive environmental efforts. There are apps where citizens can help in the tracking of cane Toads who are harming the wildlife in Australia and by identifying them, a conservationist can limit the toad's damage (Buscher, 2016). The advances in technology have been instrumental in Nature 2.0 and increasing the communities' engagement.

Nearly 40% of the total environmental damage to this earth is caused by consumer household goods (Grunert & Juhl, 1995). With the increase in the public's investment in pro-environmental behaviour, the anticipation is that purchasing decisions will reflect positive prosocial behaviour. People will want to act for the benefit of the environment. Moser (2015) addressed the question of whether consumers who are actively aware of environmental issues, in turn, buy ethically green products. Results

showed that consumers do care for the environment and they mirror this attitude in their buying behaviour. Consumers can control their damage by choosing environmentally friendly products (Joshi & Rahman, 2017). By selecting to buy environmentally sustainable products, the consumer is offered a chance to reduce their negative impact. Also, people who are engaged in ethical consumerism will be sharing their purchasing behaviour with their links such as family members and friends. These people are vital in understanding what the communication message is and how environmental information is being interpreted as this conversation has the potential for acting as opinion leaders within their communities (Gummerus, Viljanden & Sihlamn, 2015).

Companies that choose to orient themselves in a green/sustainable sphere are more likely to achieve a higher market share with positive in-house activities such as retention and satisfaction (Meguc & Ozanne, 2005 cited in Moser, 2015) than those who choose to ignore the issue. Many organisations, like FairTrade and other campaigners, have played a central role in pushing for this ethical consumption. By using strategies that actively promote sustainability as newsworthy, they can grasp the attention of the public (Barnett et al. 2005 cited in Lewis & Potter, 2010). Connelly and Prothero (2008 cited in Lewis & Potter, 2010) argue that because these campaigns are targeting the consumers through domestic-based operations, such as the reduce, reuse, recycle drive, they turn a political issue into the private and domestic lives of their audience. Other businesses are now having to follow suit and ensure transparency in their business models and incorporate high levels of corporate social responsibility (CSR) to stay competitive. From green manufacturing to social justice, organisations are becoming more adaptable to this demand for a sustainable lifestyle (Reilly & Hynan, 2014). And of course, there are some businesses that are unable to follow or have less of a desire to change and so will greenwash themselves to enhance their image and reputation or will merely increase CSR for the business-related benefits not because they actually care (Reilly & Hynan, 2014 and Mantovani, Magalhães de Andrade & Negrão, 2017). Through understanding a company's level of commitment to the environment in their communication strategies, it has the potential to provide insights into a firm's business strategy (Reilly & Hynan, 2014).

Online activism has been on the rise since the conceptualisation of the digital public sphere. An advantage of digital activism is that it allows anyone to be part of the strive for change regardless of space and time. Oladepo (2016) highlights that this new means of activism is highly dynamic and fluid. Its features include a lack of established protocols, routine anonymity, rapid response rates and mass mobilisation. Online activism has changed the ways of politics and normed practices by creating a platform for global conversation (Buscher, Koot, & Nelson, 2016). Environmentalism is a growing activist topic like climate change, and other human-made problems have started to affect nature. For example, the digital space allowed Jennifer Silver and the #sealfie campaign to thrive. Her research was focused on protecting the seals and used the digital public sphere spark the #sealife campaign, a play on the word"selfie" to "sealfie" allowing her message to spread like wildfire on social media resulting in the challenge of commercialisation of sealing in Canada.

Another example is Robert Fletcher who researched the influence of online video games to overcome the nature ignorance through a game that supports conservation (Buscher, Koot & Nelson, 2016). However, it is essential to recognise that Nature 2.0 can be a dangerous place when people believe that their online activism is enough or equal to the offline realities (Buscher, Koot & Nelson, 2016). Buscher (2016) found that the online activism through crowdsourcing for the elephants in Botswana & Zambia was, but the offline reality was nothing like the success online.

This chapter has addressed the traditional public sphere, the digital public sphere, the blurring of the private and public sphere, and the role of ethical behaviour/ development of Nature 2.0. Through the development of Nature 2.0, online communities have been allowed to share their growing concerns for the environment in the digital public sphere, subsequently developing more ethical attitudes affecting decisions and opinions of both private and civil matters. Organisations have recognised this trend and therefore have started to market their mission statements and ideologies around this new wave of environmentalism. This once political issue is now playing a role in the purchasing decisions of the private sphere and eluding to the

fact the private and public spheres are no longer separate entities but rather both playing a role in the users' experience and actions. The digital public sphere has provided a space for users to share the private experiences about this political issue which was not possible to do in the traditional public sphere.

4 The Research Design

The objective of this investigation is to analyse how New Zealand based organisations' Facebook posts talk about climate change and whether or not their chosen means have stimulated the online communities. This chapter will demonstrate how the research was conducted for this investigation.

During three periods, 3/09/2017 – 17/09/2017, 5/11/2017-28/11/2017, 7/01/2018-20/01/2018, posts were collected and categorised to examine the online communication and engagement had on the selected pages. These time periods were selected to extend the time range of the sampling over differing periods of political and news activity. The first period, 3/09/2017 – 17/09/2017 was prior to the election and before the summer period where there would be a spike in climate related conversations. The second period 5/11/2017-28/11/2017 was during the 2017 NZ elections while the third was during the peak of summer 7/01/2018-20/01/2018.

The research will unpack each of posts for analysis through five different categories: the addressing, the language, content description, content type and reactions. The full data set collected, and the excel sheet that illustrates the breakdown of the posts in their respective codes can be found on the USB included with this thesis. The posts are divided by the date period of collection and then numbered within, directly correlating with the excel sheet.

These pages were selected based on my previous encounter with each of these brands and belief that their content would display an interesting means of communicating climate change. The variety in organisations Facebook pages will look to unpack the implications and messages that Facebook users are encountering. By following the communication methods that these pages use, I hope to seek clarification on how climate change is being addressed in Facebook. With the range of different backgrounds to these organisations, some being activist, some business and so forth, different approaches to communication will be highlighted in this analysis.

R1: How have organisations used Facebook to communicate climate change and environmental issues?

There are over 3 million New Zealanders (see Facebook Ads as of 2018) who are engaging and interacting on Facebook. Facebook has provided opportunities for more people to be part of the conversation, to engage in the dialogue and debate in this digital public sphere issues that once might not have been possible in the traditional public sphere. This interaction that users have with posts is what is considered engagement. There are obvious downfalls to Facebook as a digital public sphere such as its lack of cross over to different platforms but for the sake of this investigation it will be used to demonstrate the digital public sphere.

There are different forms of engagement that different social media platforms use to allow its users to engage and interact with the content. On Facebook, social plugins such as likes, comments and shares all have specific functions that provide space for digital engagement. When a user uses these social plugins, they are considered an "active user" or to be "user engaged". However, a user can also be engaging with the content from a viewership stance. This engagement is harder to measure as there is no physical interaction with the posts or page. Mitchell et al. 's (2013) study highlighted this occurrence in their study which showed that 47% of users were receiving information from Facebook, but only 28% commented and 19% shared the content they saw (cited in Vraga et al., 2015). It should be thus highlighted that people may be seeing and engaging with content, but that does not necessarily mean they are "user engaged" which then becomes hard to measure the extent of true engagement with posts. Due to limitations of this thesis, this investigation will focus on the actual data of the "active user" in the form of quantitative likes, shares and comments.

To understand if a Facebook post is "user engaged" a simple formula is used. In this investigation to find the engagement ratio, I added the total number of likes, shares and comments from the posts collected and then divided it by the number of page likes on their Facebook page and then multiplied that number by 100. According to

Srunch.com (2018), 1-3% engagement ratio is considered to be average engagement with 6% being a highly engaged post.

Thus, prompts the second research question:

R2: Have New Zealand based Facebook pages/posts achieved a significant rate engagement rate of 1-3% or more which represents a stimulated the online community in climate change engagement?

4.1 Facebook – How does it work?

Social media is a growing and thriving phenomenon that encourages user engagement and diverse communication. Facebook, Instagram, Twitter and so forth are free platforms that can reach audiences of unprecedented scope (Askanius & Uldam, 2011). Social media is an effective tool lowering the barriers of social exchange to allow individuals to engage with current societal issues (Hwang & Kim, 2015). It is the main source for young people seeking information and discussing political views to make, exchange and share meanings about topical issues (Andersson & Ohman, 2017). Social media offers a new communication strategy in collaborative engagement of mitigating our effects of climate change. This section will demonstrate how social media, with Facebook as the chosen platform, will guide this investigation.

Social media refers to online communities that are participatory, conversational and fluid. These communities enable members to produce, publish, control, critique, rank and interact with online content. The term can encompass any online community that promotes the individual while also emphasizing an individual's relationship to the community, the rights of the members to collaborate and be heard within a protective space, which welcomes the opinions and contributions of participants (Tuten, 2008 cited in Lipschultz, 2015). Valuable information can be spread like wildfire through social media which in turn allows for brands/ideas to expand. Trending topics allow more people to get on board with the topic and expand the reach of where these

topics spread. Social media reaches more people and is an operational source of online communication (Cheng, Fu & de Vreede, 2017).

Many businesses have turned to social media as a medium of communication to gain brand equity and increase their sales. Evidence in Cheng, Fu & de Vreede (2017) highlights the trust in online communities that can create improved relationships between consumer and brands. Credibility may act as a driver of influence (Lipschultz, 2015) which ultimately can be more effective in reaching an audience. Schivinski and Dabrowski (2016) investigated the way firm and user generated content influence consumer perceptions of brands. They confirmed that user-generated online communications have an increased effect on consumer's perceptions of brands. They found many benefits such as increased brand loyalty and reduction of service costs. Firm created social communication did not influence brand equity, but it does indirectly influence consumer perception on brand attitude.

Before exploring Facebook as the selected platform for this investigation, I will outline other social platforms and their characteristics to highlight why they were not selected. There are different types of social media platforms which have different characteristics for their users. Twitter is a form of microblogging where only 140 characters are used. This platform is highly powered using hashtags and will drive people to external sites. It is a platform used for live updates to reach a large audience. YouTube allows users to create a playlist of video content that they are then able to share with their audience. Instagram gives users the ability to create visual stories with a short description which is then shared across their network of followers. The platform is fully integrated with other social media networks. Engagement through likes and comments and are searched their hashtags. Facebook features allows its users to post content that is personal with a tone of voice of the organization. Official pages are used to make their voice more authentic. There is an emphasis placed on visual content and the use of call to actions. The newsfeeds are used to display ad and promotional contents to reach larger audiences that just those involved in their page. Facebook insights allow you to see the breakdown of how well your posts did and the level of engagement. For this study, Facebook and its features will be examined.

Facebook is one of the most influential communication mediums which does not have the restrictions that traditional media has. Facebook can help connect people and share experiences and ideas with the people in your life (Facebook.com, 2009 cited in Ledbetter, Mazer, DeGroot, Meyer, Mao & Swafford, 2011). Social network sites, like Facebook, allow for users to construct a profile within a bounded system, articulate lists of other users to have a connection with and view the transactions of their connections in the systems (Boyd & Ellison, 2007 cited in Ledbetter, Mazer et al, 2011). Facebook has also opened up a new platform for environmental communication including climate change. Different brands that may not have found a way to communicate their environmental concerns prior to the digital public sphere now have a space that allows these brands to voice their opinions.

Facebook defines user engagement when a user likes, comments or shares the content of another user. However, users do not have to be "user engaged" to be absorbing or engaging with the content online. Vraga et. al (2015) examines the role of 'consumptive' vs 'expressive' means of engaging with social media content. Consumptive users are those who consume the content and may not actually be "user engaged" i.e. Reading the comments or watching the videos. Expressive users are those who are creating the content themselves, which could be due to the high involvement you have with the topic. Both types of users have a different approach to engaging with the information on social media.

There are different social plugs on Facebook that allow its users to engage with the content that is shared on the platform. With these plug ins, Facebook allows its users the ability to communicate with the content and with each other. Liking is the standard form of engagement, where the user can click the button, the thumbs up, to suggest that they enjoyed or "liked" that piece of content. Sharing is another option for users to click a button that allows them to share that piece of content with others, whether that is posting on your page, on another person's page or sending it to them in a direct message. Embedding a link from Facebook also used to engage with its users allowing them to link it back to blogs or websites. Finally, the comment box is

for users to engage in the content on the platform directly and have conversations with one another (see Facebook features on Facebook.com).

Social media also acts as an influencer rather than representor, meaning that users can create influential content that has a massive reach of both non-engaged and engaged users (Williams et. al, 2015). With this ability to spread content at split-second intervals and reach many people, followers and non-engaged users will come across a variety of content on their newsfeed.

4.2 Selecting the Facebook pages

Facebook was the chosen social media platform to investigate in this research design. An estimated 80% of New Zealanders are on Facebook as a social networking site (see Facebook Ads as of 2018). For the basis of this investigation, the platform gave the best range of user ages as it reaches those 13 to 65+. The organisations pages act as online representation and information hubs. This social networking site also provides the most data about the organisation: images, contact details, bio and provides its users with the most diverse means of communication: text posts, image posts, shares, messenger, status updates etc. (Facebook, 2018). Facebook is the leading interactive medium (Skalski, Neuendorf & Cajigas 2017). This section will give context to the selected Facebook pages and reasoning behind why these pages were selected.

The Facebook pages used in this investigation look at a range of different types of New Zealand organisations. From political parties through to small businesses in New Zealand, each of these pages have addressed climate change in some form. The three business pages investigated in this thesis have business models based on reducing human made environmental impacts. The activist organisations selected differed dramatically in size, one having a global following and impact whereas the other was just starting to make ahead way at the start of this investigation. The two news organisations are the largest news companies based in New Zealand and therefore felt it was appropriate to explore as major traditional mediums growing into the digital sphere. And finally, the three political organisations were the largest in New Zealand

at the start of this investigation and play a significant role in the governing of the country. This next section will name and describe each of the pages that will be investigated in this thesis. A link will be provided for readers to see the pages for themselves.

Goodfor store- is a company that promotes zero waste. They encourage their customers to bring their own containers or to buy their re-useable ones in the store. Though a positive initiative, the price of buying non-packaged goods is no cheaper if not more expensive than that of the supermarket. The stores are also located in wealthy Auckland based suburbs which limits their demographic to only those who can afford such means of shopping. This zero-waste store promotes a lifestyle of sustainability which only those in high enough income households can afford to do. Therefore, limiting the true effect of reducing our waste if less than 1% of people can actually take part.

Their social media presence at the time of the investigation was still much in the growth phase.

https://www.facebook.com/goodforstore/

Conscious consumer- is an organisation that encourages users to buy from sustainable businesses through a rewards system. They do not physically sell a product, but they are able to influence those who want to live a more sustainable lifestyle by sharing different outlets that cater to this demand. Conscious consumer is based in Wellington but has reward opportunities in Auckland as well.

Their social media presence is dominated by sharing ways in which we can make easy lifestyle changes to reduce our impact on this earth.

https://www.facebook.com/ConsciousConsumersNZ/

Green Party- is a political party in New Zealand that has a heavy focus on the environmental scene. How they chose to communicate environmental issues on social media and the response they would get for this communication is of high interest in this investigation as part of the collection period of this investigation ran through an election. Their messaging had the ability to spark conversations and actions that might not be present as influential in the other selected organisations.

Their social media presence had a high focus on climate change during their election campaign but also focuses on other areas such as legalisation of marijuana and equity for all.

https://www.facebook.com/nzgreenparty/

Greencane- is a small/medium business that works off of a sustainable business model. It manufactures and sells eco-friendly products such as paper towels, tissues and toilet paper. This business was selected for this study due to its business model that focuses on both businesses and individual consumers.

Their social media presence is not massive in comparison to the size of their organisation nevertheless their content can reach high engagement levels.

https://www.facebook.com/Greencane/

Greenpeace NZ- is a global organisation who has dominated in their activism in protecting this earth. This organisation has a large following and therefore was selected to compare with the smaller activists' organisations.

Their social media presence is highly active. Some might suggest that this is a positive thing, as they are at the forefront of the people's newsfeeds or as a hindrance because people see their content all the time and develop compassion fatigue.

https://www.facebook.com/greenpeace.nz/

Labour Party- is a political party that is currently in power in New Zealand. During their election campaign, climate change was one of the major issues that they aimed to address. This party is of particular interest because even though they talked about climate change interventions, whether they put into action these policies is another thing. Their Facebook page and what they chose to post was therefore of high interest.

Their social media presence represents the notions of the Labour Party and what they see fit for the governing of New Zealand.

https://www.facebook.com/NZLabourParty/

National Party- is a political party in New Zealand that were the leaders until October 2017. This organisation was investigated to see if they were talking about climate change on their page.

Their social media page again represents the notions of the National Party and what they see fit for the governing of New Zealand.

https://www.facebook.com/NZNATS/

Newshub- is one of the largest news organisations in New Zealand. This page was selected due to its characteristics of being a news organisation and its ability to compare with the competing station TV1 News.

Their social media presences are that of a news organisation sharing the stories that are circulating at the time to inform the people. According to Pew Research Centre, Shearer and Gottfried (2017) have identified that over 67% of Americans reported that they get some sort of news from social media (2017).

https://www.facebook.com/NewshubNZ/

1 NEWS- is one of the largest news organisations in New Zealand. As mentioned above, this page would provide key insights into the communications of a news.

https://www.facebook.com/1NEWSNZ/

Trumpforest- is an organisation that is countering the environmental impact of the US President, Donald Trump. Though based in New Zealand, this organisation has gone global. This small sized activist community has used humour to entice users to join the serious cause.

Their social media presence is the basis of the method to spread awareness. As a small activist group trying to act on a global scale, the use of a social network like Facebook to reach the global community fits into their communication strategy.

https://www.facebook.com/trumpforest/

4.3 Collecting the Data

This section aims to explain the reasoning behind the posts that were chosen for the investigation. The research highlights the choices made and the limitations that arose throughout the data collection process.

The posts that were selected had to meet a criterion that I believe would benefit the research. The posts were chosen on the merit that they explicitly talked about climate/environmental related content. Not all posts were viewed as relevant to the discussion at hand, and therefore I decided to the only document those that are related to climate initiatives as these posts would give greater understanding to the investigation. To make the call between those posts that were connected and unrelated, I reasoned that unless the post explicitly defined climate-related issues, such as fracking, climate temperatures, pollution, waste, human over-consumption, in the post, then they were not included in the data. I did not include the massive amounts of weather posts about earthquakes, hurricanes and so forth unless they

specifically talked about climate. Perhaps some posts subtly addressed the issue and were overlooked due to these constraints, however, I felt that it was too time-consuming to have to make inference on posts as a third-party user.

As a third party, I was unable to identify the posts that were involved in paid advertising. Paid advertising is used by Facebook users to gain more reach and engagement. This acts as a downfall to the investigation as the data collected and analysed will not provide a 100% truthful representation of the engagement rates.

The data that was collected was 'coded' into different categories to help analyse the content that came from the posts. The majority of the categories were built on a spectrum, where the post would be one or the other or in between, i.e. citizen, citizen/consumer, consumer.

Addressing: Addressing referred to the who the post was talking to, 'citizen' or 'consumer' or 'citizen/consumer'. A post would fall into the 'citizen' side if it were relating to habits that contribute to climate change, whereas 'consumer' applied a purchasing behaviour directly. However, the research recognised that in today's society the lines between consumer and citizens have blurred and therefore some posts fell into the 'citizen/consumer' category.

Language: The language category referred to if the post used 'individual' or 'inclusive' language. This was defined by the reference to language like "you" which was categorised as 'individual' versus if the post referenced "us" then it was categorised as 'inclusive'. There is an importance on those who feel that they are part of a community and social media has given users a platform for an online community (Rossman & Young, 2015).

Content Description: Content-Description was either informative or a call to action. This category helped distinguish posts that were giving information versus those that were asking their audience to take effect in some form. I believe that this particular category is of interest for further investigation in future studies to whether a call to

action is more persuasive to get the audience to take action against climate change versus just informative content.

Content-Type: Facebook has many forms of contribution from their users. Content type referred to whether the posts were native (own) or whether they were shared from another source. I thought that by highlighting the difference between the nature of the posts would give insight into the type of organisation and their mindset.

Reactions (not including comments): The selected pages had different amounts of "likes and followers", those who have selected the option to view the content from these pages without paid advertising. Due to this difference, I felt it necessary to highlight the engagement ratio to illustrate the active participation of the users. Engagement is defined as the total amount of actions that people have taken on your post (Facebook.com), whether that be likes/emoticons, shares or comments. Some posts would show a perceived low level of engagement, but following their page likes and followers, this might be a high level of commitment.

There were limitations to this data collection method. With the extensive amount of comments on the posts collected and the limited information I can gather as a third-party user (Facebook filters comments and will only show top comments to users who are the third party. If you own the page, Facebook then provides full insights), the decision was made to include likes/emoticons and shares into the engagement ratio and leave out comments. This exclusion of comments limits the actual investigation of the discussion in the digital public sphere. Additionally, I acknowledge that this means of coding is subjective and can be biased based on how the post is read. I could interpret the post as one thing, where my colleague could disagree. Another limitation of the selected coding method is the posts do not provide a "truthful" display of the reaction and engagement ratio due to the static representation of the data. A Facebook post gains engagement over time, therefore if these posts could have higher engagement today than they did when the collected. Though there were limitations that came with this method of data collection, through identifying these issues and

acknowledging the confines of the investigation, the data that is provided aims to answer the research questions.

From this research design, I believed I would be able to highlight themes that arose and make interpretations of the organisation's communication strategies surrounding climate change.

4.4 Types of Analysis

In this investigation, both content and thematic analysis are used as tools to unpack the data from the organisations' Facebook page posts. Through a mixed methods approach, the aim is to illustrate the frequency of the selected codes and understand the themes that develop from the data.

Before understanding the meaning behind the posts, I used content analysis to provide quantitative data to code. Content analysis was used because it is an analysis that includes definition through difference. Content analysis is defined as a "systematic, replicable technique for compressing many words of text into fewer content categories based on explicit rules of coding" (Stemler, 2001). As illustrated in the above section, the posts were coded into different segments to provide meaning on the type of communication methods of each post. By highlighting the number of posts that fit into particular categories, it allowed me to see the frequency of the categories and the difference between the types of posts. If the majority of posts were categorised as shared, it could allude to a community like a structure of communication where the content is spread from source to source to reach the most significant number of viewers, whereas if a majority of posts were owned, then it could be perceived as a more particular mindset.

Content analysis provides the research with a framework in which the data can be analysed. Hsieh & Shannon (2005) identified that there are two different strategies that researchers can use to explore the data. If the data is open-ended, then the defined codes will come through once the data has been collected. On the other hand,

researchers can create predetermined codes, like in this investigation, and the data is then categorised into those codes. I acknowledge that this might generate a hindrance if there was a post that did not fit into a specific predetermined category. However, this was not found in the data collected.

Content analysis was used in this investigation as it allowed large quantities of data to be condensed into fewer content categories (Weber, 1990 in Hsieh & Shannon, 2005). From the 270+ posts that were collected, content analysis first allowed for the data to be put into codes (identified above) that helped to categorise the data. Through this content analysis, the data was identified into the number of posts that fit into their respective categories. This approach filtered the posts to present particular types of where the data provided to be further then analysed in a thematic approach.

The second part of this mixed methods analysis was a thematic analysis. The use of thematic analysis as a qualitative method is key to unpacking the data collected from the posts on the Facebook pages. Thematic analysis is the "method of identifying, analysing and reporting patterns (themes) within data (Braun & Clarke, 2000). McLeod (2011) has described it has the method aimed at uncovering "patterns of meaning in informant accounts of experience". This form of analysis is known for its flexibility and is one of the foundational analysis of qualitative research (Braun & Clarke 2000, Bran & Clarke, 2006). Thematic analysis creates the meaning of the significant ideas that came through the posts.

Thematic analysis was used in this investigation because it provides insights into the data that has been collected. Rubin and Rubin (1995) have identified thematic analysis as a way to "discover" themes and new concepts that have "emerged" from the data (Braun & Clarke, 2006). Through this inductive approach to thematic analysis, I hoped to bring forth the user's ideas and notions about climate change through the topics that have "emerged" from the data. The aim was to find the trends in the posts that will then help make inquisitive conclusions.

Through identifying themes within the data collected, I hoped to unpack the communication of climate change from the selected pages. Themes are a topic that captures something key within the data that is about the investigation (Braun & Clarke, 2006). Pollution, zero waste, deforestation, plastic reduction, increasing temperatures are all themes that one would expect to find in an investigation surrounding climate change. From this, I can see the frequency of the themes to understand the relationships between the concepts and the data (Alhojailan, 2012). If there is a high frequency of a particular theme, then I can make conclusions that this theme relates to their organisation's communication strategy.

I decided to use content and thematic analysis in this investigation as they are the most suited to answer the research questions most effectively. The analyses chosen are analytical processes that are data-driven and require only manual exploration. I acknowledge that a discourse analysis of the conversations that presented themselves on the Facebook post threads would have been of high interest. Discourse analysis is highly contested as many have different takes on the analysis. Dunn & Neumann (2016) define discourse as the way in which representational practices generate meaning. Gill (2000) and Jorgensen & Phillips (2002) referred to discourse as any reference to written, conversations and other means of communication. From language to format, the way in which these organisations use to express ideas surrounding climate change reflects how they view the issue. Discourse contributes to social identities, social relations and the system of knowledge (Jorgensen & Phillips, 2002). This analysis is a way of understanding how language operates in the real world of communication and the connotations that surround communication experiences (Howitt & Cramer, 2011 cited in Hossain 2017). Though collected to the best of my capability, due to limited time and the excessive number of comments, I felt it best to leave it to further investigation.

5. Analysis

This investigation took place over five months, from late 2017 to early 2018. There are 270+ posts collected from 3/09/2017- 17/09/2017, 5/11/2017-28/11/2017, 7/01/2018-20/01/2018 from 10 New Zealand based Facebook pages: businesses, activists, political parties and news. Through a content analysis, these posts were then placed into their respective categories. The data presented in the following tables are a summary of the more extensive data collection (Appendix A). This summary provides a quantitative look into the number of posts each of the categories filled. Thematic analysis is then used through multiple examples to illustrate themes that arose from the data. For further examples, please visit Appendix B. This chapter provides insights into how different New Zealand pages address climate change and will aim to answer the critical research questions through content and thematic analysis.

5.1 Business pages

This section will first look at how businesses in New Zealand have communicated environmental issues like climate change. Three Facebook business pages were part of this investigation, Conscious Consumers, GoodFor and Green Cane. These business organisations are all New Zealand based and have some relation to pro-environmental impact. I will unpack each of these pages from the three different periods to provide insights into the strategies used by these pages to communicate the environmental impacts and the themes that arise from the businesses in New Zealand.

Businesses in New Zealand have started to notice the pro behaviour and environmental trends of their consumers. These new lifestyle habits of New Zealand consumers can be attributed to society's growing concern for the environment as the impacts of climate change become more present in our daily lives. We can see this chain effect occur, where people see others following this trend and 'jump on the bandwagon'. Nevertheless, this movement to "save the planet" has allowed this

investigation to examine how environmental businesses communicate climate change. One might assume that companies should be trying to sell their products and therefore would talk about if not rave about their products to gain the support of consumers. Business models vary from business to business, but the end goal is to drive a contract with their customer. I decided to include firms in the analysis because the majority of people in this country are consumers, purchasing or involving ourselves in the business space. Therefore, the likelihood of coming in contact with a pro-environmental business page is high, and thus it is essential to understand how they communicate climate change.

Table 1 – Results from the data collected from the businesses Facebook pages (# of posts)

	Addressing		Language		Content Descriptions		Content Type		Reactions	Total
Conscious Consumer	Citizen	17	Individualistic	28	Informative	28	Shared	29	1,425	40
	Consumer	4	Inclusive	12	Call to action	2	Own	11		
	Consumer/Citizen	19	Individualistic/ Inclusive	0	Informative/ Call to action	10				
Greencane	Citizen	5	Individualistic	6	Informative	7	Shared	1	1,016	10
	Consumer	1	Inclusive	4	Call to action	3	Own	9		
	Consumer/ Citizen	4	Individualistic/ Inclusive		Informative/ Call to Action	0				
Goodfor Store	Citizen	0	Individual	15	Informative	1	Shared	0	627	19
	Consumer	15	Inclusive	0	Call to action	11	Own	19		
	Citizen/Consumer	4	Individualistic/ Inclusive	4	Informative/call to action	7				

In Table 1, the results from the data collected highlight how the different business pages talked about climate change. Conscious Consumer address the citizen or citizen/consumer a significant amount more than just addressing the consumer. GoodFor store, on the other hand, addresses the consumer which aligns more with the traditional selling strategy of a business. All companies favoured the use of individualistic language. Greencane used both information and calls to action to get their messages across to the online user, but there was a clear difference in the strategy used by Conscious Consumer and GoodFor store, one driven by informational content and the latter by calls to action. These two organisations also differ in the type of content, and Conscious Consumer had a more significant amount of shared content, perhaps eluding to the need for a unified fight against climate change whereas

GoodFor store took a more internal approach with all of their posts being self-generated.

5.1.1 Conscious Consumer

Conscious Consumer demonstrates a mixture of communicative methods. This organisation aims to sell their idea of ethical trading and sustainable buying. The data suggested the organisations' stance was more citizenship centric, drawing on the morals of the individual, rather than pure consumerism. Through a mixture of individualistic and inclusive language, the organisation illustrates a sense of collectivism and individualist duty to the environment. The majority of the content was informative based and shared. I found that Conscious Consumer, as a business, communicates themes of the unified citizens by drawing on moralistic behaviours of the community but also highlighting the work of others to sell their idea of sustainable consumerism.

In the first period of collection, all but one of the posts addressed the citizen and just over half address the consumer, which is an interesting observation as it would be assumed that a business would be attempting to drive the sale of their product through a consumer. Conscious Consumer, however, uses the idea of connecting to the citizen who then will influence the purchase decisions of a consumer. This line between a citizen and consumer is constantly blurring in the digital age and businesses, like Conscious Consumer, are drawing on what we might consider a private sphere matter, in the public sphere domain. As highlighted by Weintraub (1997 cited in Papacharissi, 2010) the public and private sphere are not mutually exclusive, what is considered to be part of one, can also be part of the other. All posts in this section were informative, which meant that the organisation was not asking their audience to do anything but rather make them aware of the issues at hand. And all the posts were shared, perhaps as a means to include others voices in their fight for sustainable consumerism.

Conscious Consumer Post 4: 03/09/2017 – 17/09/2017

Post 4 above, is an example of the use of both an individualistic and community form of language in a message.

"Reduce **your** plastic waste by trying out these six interesting ways to reduce plastic bottles!

It's so easy to feel like the actions **we** make to reduce **our** waste have very little impact on the world around **us.** But **together, our** small changes can make a big difference!"

I believe that by having a call to action to using individual pronouns, can perhaps feel like a command to action, but Conscious Consumer have drawn on the inclusive language of introducing the "we" and "us" to illustrate that our effects on the environment is a group job and that we can do it "together" if we all make these individual changes in our lives.

In the second period, the data mostly fell into the same categories with a strong focus on the citizen's role and their choices as a consumer. All these posts, like that of the previous, used imagery as another form of communication. The use of imagery as a tool is a powerful means of messaging. I do recognise that visual analysis is not a method of analysis that was discussed in my methodology. However, as images are an important feature of the platform, it should be identified how photos attached to these Facebook posts play a role in the overall communication of climate change. Pearce, Özkula, et. al. (2018) research implies the importance of taking images seriously as a means of understanding the messages as an entirety. Visual data provides insights into story telling capacities that should not be overlooked. However, for the remainder of this analysis, I have decided not to fully explore this and rather focus on thematic analysis from the collected posts.

Conscious Consumer Post 7: 05/11/2017 – 28/11/2017

In this example post 7: 05/11/2017 – 28/11/2017, I believe that by using this image of a young woman physically reducing her waste by using a reusable bag when shopping is key to sharing their message about sustainable buying. As highlighted by the study

conducted by Smith and Joffe (2009) there is importance placed on visual imagery to illustrate the threat of climate change and has the potential to personify the issue (cited in Meisner & Takahashi, 2013). Therefore, by having this image used on their post, their audience, without having to even read their copy in their top part of the post, they are seeing their message through the imagery of the women's actions in the photo.

In the third period of the Conscious Consumers analysis, I find that the data was more or less the same again but that the organisation had started to use more owned content meaning that the content is now natively uploaded. It could be suggested that they chose to upload as a strategic content plan, to show their audience they themselves are invested in this issue and not just pushing the influence of others.

Conscious Consumer Post 5: 07/01/2018 – 20/01/2018

Post 5: 07/01/2018-20/01/2018 shows that the content used is that of their own but sharing the experience of a local New Zealander. As a New Zealand based company,

using a local citizen to share their messages is a vital tool that again draws on the citizenship theme that the organisation has used throughout their posts. The post talks about the way in which this family has stopped shopping at the supermarket all together to live a more sustainable lifestyle. This removal of consumerism together for a business page is an interesting tactic that could suggest the page is not interested in the profit business model but rather that the issue they are addressing is more important to their strategic messaging.

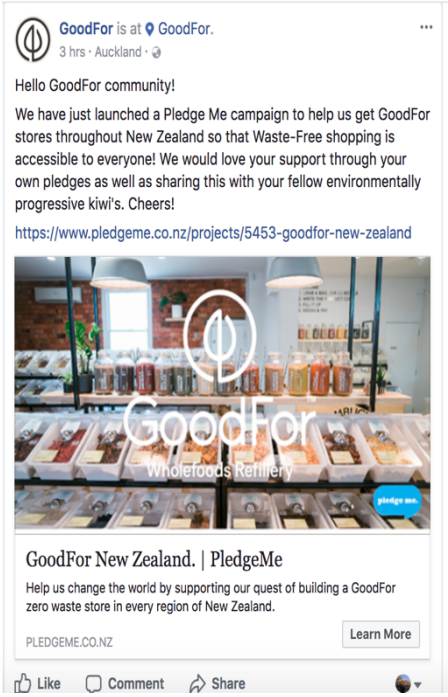
Overall, Conscious Consumer illustrates a strong citizenship theme throughout their messaging of climate change/environment. There is a focus on sharing others' innovations on how to combat traditional materialistic consumerism with a more sustainable lifestyle. The posts directly address individuals through the use of the second person pronoun but also incorporate those individuals into a larger public identity that is defined through its environmental stewardship. There was a total of 40 posts during the three periods that were in some way related to climate change. These posts had an average engagement ratio of 1.26%.

5.1.2 GoodFor

GoodFor is an organisation that encourages zero waste consumption and follows a traditional business model, unlike the Conscious Consumer. GoodFor works on a traditional business model with a focus on targeting the consumer to drive profits. The data collected during the three periods reflected an individualistic approach to communicate with their audience. All content was their own which can restrict the reach of the material that is being shared. From the data collected, I believe that GoodFor, through promoting a waste-free lifestyle, uses a communication method that is still highly profit and consumerism based.

GoodFor Store Post 4: 03/09/2017 – 17/09/2017

In the data, in period one the organisation addressed the consumer through individualistic language to encourage them to buy their products. For example, in post 4: 03/09/2017-17/09/2017 GoodFor use their posts to draw in their consumers to come into the store and buy their products. There is no description of the impact of waste-free purchasing. GoodFor's business works on the basis that their consumers already want to help reduce their waste. Joshi & Rahman (2017) back this claim where they concluded that their environmental and societal concerns influence consumers purchasing decisions. In this period, all the posts were created by the organisation and natively uploaded.



GoodFor Store Post 2: 05/11/2017 – 28/11/2017

The second period started to include the theme of citizenship into how GoodFor addresses their consumers. Nevertheless, I would suggest this as an anomaly as they were using this inclusive language to drive a pledge my campaign for their own business. Perhaps this move in language was used to get people to believe they were included in this movement, but the data presented is not conclusive of such notion. Post 2: 05/11/2017 -28/11/2017 is an example of multiple posts during this period which used such language. However, the use of “help us” and “your fellow environmental kiwis” illustrates a unified bond but by reading the text as a whole, the company is just attempting to drive profits for their own company.

Period three showed similar data to the first period. With only four posts during this period, all who addressed the individual with the focus on selling their products, there was not much involved in actual communication about climate change initiatives.

Even though GoodFor is challenging the norms of purchasing behaviours by encouraging the alternative, pro-environmental waste-free products, their target audience is not the average New Zealander but rather the wealthy that can afford the lifestyle. Though there was a continuous theme of waste-free products, the message did not come without the encouragement to visit their store or buy into the products. Climate change initiatives were not addressed unless they were asking for money during their Pledge Me campaign in the second period. There was no mention of the prices to pay for being waste free.

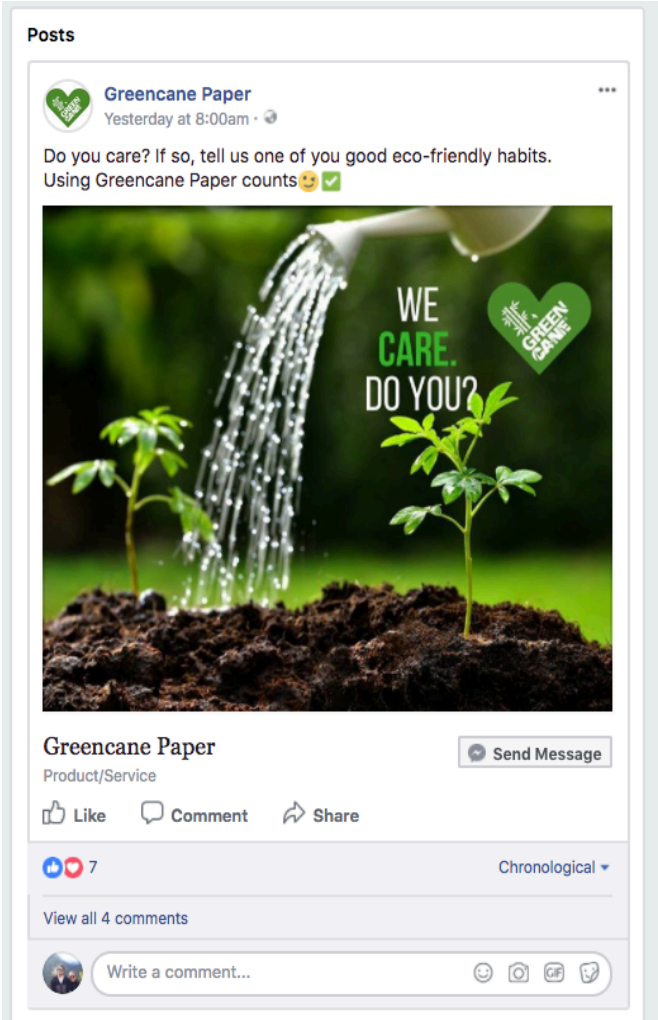
There is a total of 19 posts for GoodFor store over the three periods. The average engagement ratio for GoodFor over the three periods was 3.36%.

5.1.3 Greencane

Greencane is a business in New Zealand that has also branched out overseas. This organisation, producing sustainable household and retail products such as napkins, toilet paper etc., has used its belief in sustainable living to be successful. This business had the least amount of posts during this investigation, and I found that their posts were not like either of Conscious Consumer or GoodFor. Instead, their Facebook page is used to communicate their sustainable and "green happy" philosophy.

In period one, Greencane's posts use individualistic language with the focus on informing the audience. However, they use a mixture of addressing their audience as both consumer and citizen and received a record engagement ratio of 21.5% which means that their audience was highly involved with that piece of content. Period two reflects very similar finding as period one and also had a quite high engagement ratio of 8.8%. As a third party, I cannot say why these engagement ratios are so high, as paid advertising could be a factor, but this communication strategy allows them to spread their message far.

In period three, there are limited posts, but Greencane started to address not only the citizen, like most of the other posts from the previous periods but also the citizen and consumer. This change in addressing could be a means to incorporate their products into the minds of the citizen who will then, in turn, become that consumer. In this period, the organisation also uses a call to actions to draw their audience into their posts.



Greencane Post 1: 07/01/2018 – 20/01/2018

"Do **you** care? If so, tell us one of your good eco-friendly habits. Using Greencane Paper counts."

In the example above, Greencane uses a call to action to involve their audience. Though their call to action is an active inquiry - do YOU care - their following request to share with them what the public of New Zealand is doing to help the environment is a precise, engaging tool. It then encourages the audience to get involved with the

organisation because they want to share their contributions to sustainable living. They also then create that alignment between the user and the brand, both people caring about the same thing, the earth. The posing of a question draws the reader in by directly addressing them. There is an articulation set up between an attitudinal response (caring) with actions (habits) directly through the use of "If so" and then there is an articulation with the use of Greencane products, but this is more implicit (they do not say you should use Greencane products) leaving the reader of the message to make the connection themselves. So, the three simple sentences draw the reader into the communicative exchange through the asking of a question, then establishes a more 'equalised' relationship (asking the reader to share with them) and then there is the declaration of a 'fact' that 'logically' follows from the following two sentences.

Even though Greencane is a business, the main themes that arise from this investigation are sustainable living and care for the environment. The use of inviting images, sometimes of their products, and sometimes of their philosophy is a communication strategy on their Facebook page that suggests the organisation is not solely driving people to buy their products. Perhaps with the rise of climate-related issues that surround our daily lives, people will start to turn to these more sustainable options that do not push for at the consumer to buy into the materialisations but rather the brand itself.

Through this analysis, the data highlights that even though these are all business Facebook pages, they all use different business models and have different themes that arise. Greencane pushes communication about sustainability instead of overemphasising their products whereas the GoodFor business model is based on pro environmentalism, but their communication strategy was to drive sales. Conscious Consumer used a combination of other's content to communicate their message about sustainable purchasing behaviour. In Olausson's (2013 cited in Olausson & Berglez, 2014) exploration, he demonstrated the influence that climate news has on other economic, political and even social factors of the public. This breakdown of the business Facebook posts highlights that with the growing concern and impacts that

climate change is having on our lifestyles, companies are adapting and moving towards addressing this issue in different business models. Nevertheless, all these business Facebook pages were talking about climate-related content but used different themes, language and communication strategies to share this message.

5.2 Activists

In this section I will discuss the New Zealand activist Facebook page and how they communicated climate change issues.

Table 2 – Results from the data collected from the activist Facebook pages (# of posts)

	Addressing		Language		Content Descriptions		Content Type		Reactions	Total
Greenpeace NZ	Consumer	0	Individualistic	35	Informative	39	Shared	53	21,184	79
	Citizen	66	Inclusive	46	Call to action	15	Own	26		
	Consumer/ Citizen	13	Individualistic/ Inclusive		Informative/ Call to action	25				
Trumpforest	Consumer	0	Individual	13	Informative	29	Shared	30	2,094	35
	Citizen	35	Inclusive	22	Call to action	4	Own	5		
	Consumer/ Citizen	0	Individualistic/ Inclusive		Informative/ Call to action	2				

As highlighted in the table above, the activist pages tended to have a significant focus on citizenship. 101 of the posts were addressed to the citizen. This does not come as a surprise as the pages were not selling a product but rather trying to convince the people to make changes to help the environment. There was a mixture of how the citizen was addressed. Both pages were about 50% regarding whether they chose individualistic v inclusive language. Content for these pages was majority shared.

Activists in New Zealand are working towards educating people about the anthropogenic damage on the earth. Climate change is steadily altering the way in which we live our lives, and ice caps are melting at a rapid rate, temperatures are increasingly unstable and unpredictable, food chains are no longer working as animals are slowly dying off. By selecting Facebook as a medium to communicate such issues they are creating an online forum that is a place for both producing and consuming green discourse (Buscher, Koot & Nelson, 2016). Through sharing data, providing research and communicating with the public about these issues, environmental activists are attempting to minimise the damage each of us leaves behind. Different activists have different approaches to creating awareness and driving change. The two pages selected for this investigation have used various methods to gain their audience's attention and involvement but share similar themes to communicate anthropogenic causes on the environment.

5.2.1 Greenpeace NZ

Greenpeace NZ is one of the largest, if not the largest, environmental activist organisation in New Zealand. As a branch of Greenpeace, Greenpeace NZ's Facebook page has been tailored to addressing environmental concerns in New Zealand. Issues such as excess waste, plastic in oceans, increased temperatures, and rising seas levels are all talked about on this page. This branch of Greenpeace has a large following: over 200,000 people like this page although perhaps not all of them are the genuine environmentalist or all based in New Zealand. Nonetheless, this page was selected because of the influence it has on both a national and international level. According to Buscher (2016) Nature 2.0 involves sharing, liking and linking environmental topics

on social media and online communications. There was a total of 79 posts throughout the data collection periods, the most of any of the groups investigated. This is most likely because these activists are particularly interested in talking about the environment and the effects of climate change.

Throughout my investigation, the one themes that stood out most was our overconsumption and production of plastic. Being an island surround by water, a lot of the plastic waste that we produce has unfortunately ended up in the ocean. Animals are at particular risk as these plastics are dangerous and have the potential to be life ending.

Greenpeace NZ Post 22: 3/09/2017- 17/09/2017

Post 22: 3/09/2017-17/09/2017 above addresses the impacts of plastic waste and sheds light on how we can combat it. This post is one of the few that addressed both citizen and consumer and illustrates this blurring of lines between the two spheres.

“Plastic waste is choking our oceans and killing marine life” is a clear example of an activist statement. Trying to illustrate our impact on this earth with powerful language such as “choking” and “killing”.

However, instead of just stating a powerful statement, they then transition into an inclusive statement of “together we’re campaigning”. By using this inclusive style of language, they are assuming that the audience is part of the movement and if not then they should be as ‘everyone else’ is. The expression then moves on to address a question that the public has about not used plastic and providing an informative solution. These three different methods of addressing (citizen/consumer), language choice (general) and content description (informative) are all working together through the language and communicative style of this post to talk about climate change initiatives.

Greenpeace NZ Post 16: 5/11/2017-28/11/2017

Post 16: 5/11/2017-28/11/2017 is an example of a traditional activist message. "Tell Coke to clean up their act, sign the petition". If we take a look at the language being used, the activists are trying to get you to do something, a call to action versus and informative post. The introduce their demands with a strong but semi-friendly statement, the emojis of a turtle and ocean connoting the impact of plastic on our sea life but at the same time 'look cute'. They then ask you to sign the petition which could be seen as less forceful then if they did not include the cute emojis. The hashtags also take away to the 'force' that some might feel from activists by adding clever humour, #choke is instead of #coke and #EndOceansPlastics. If they did not include that last hashtag, then the post's words do not tell you what you want Coke not to do. Like a post that is addressing both citizen and consumer, having a citizenship duty to the

environment and having the consumer choice not to buy plastic, this post cleverly plays on the role of advertisements with its image. Using Coca-Cola's colours and a similarly shaped bottle, they have created a parody that has changed Coke to Choked and used the slogan "Wish you Weren't here" in a font that is appealing. This paradox of what Coca-Cola's brand represents, which is 'being cool' and 'wishing you were there at the party' has now been turned into a satire.

Greenpeace NZ Post 14: 7/01/2018 to 20/01/2018

The most exciting part of the investigation into Greenpeace NZ's Facebook post communications is their constant use of other's content to make their points. Around 70% of their overall posts were shared content, and the majority of them were from news sources. In post 14: 7/01/2018-20/01/2018, Newshub, a news organisation in New Zealand, is one of the sources shared by Greenpeace NZ. In their post, they ask a simple question of:

“What do you think of this?”

This unassuming question puts it on to the user/audience to then think about what they feel about this information being shared. The shared post, however, brings up the title of the article from Newshub, which states:

“New Zealand among most wasteful countries in the developed world- World Bank.”

Without any need to use forceful language in the post itself, the link to Newshub’s article gets users thinking about environmental issues in New Zealand. By also linking a ‘reliable’ source such as a news organisation the post becomes more ‘credible’ and ‘unbiased’ than if it was coming from Greenpeace NZ which is a pro-environmentalist group. With over 53 of the 73 posts being shared content, Greenpeace NZ’s uses others’ content to back their own beliefs. By using shared content, it also allows for the piece of pro-environmental research to have a further spread as this article will now have reached Greenpeace NZ’s audience and Newshub’s audience.

With over 21,000 reactions Greenpeace NZ’s Facebook page is a clear example of how these posts become a public sphere for environmental communication. Yang and Calhoun (2007 cited in Sima, 2011) highlighted that the green public sphere is at the centre of environmental discourse where citizens, ENGO’s others share in highlighting opinions to influence change. All users have the right to comment on the post with their own opinions and concerns about the environmental topic of discourse.

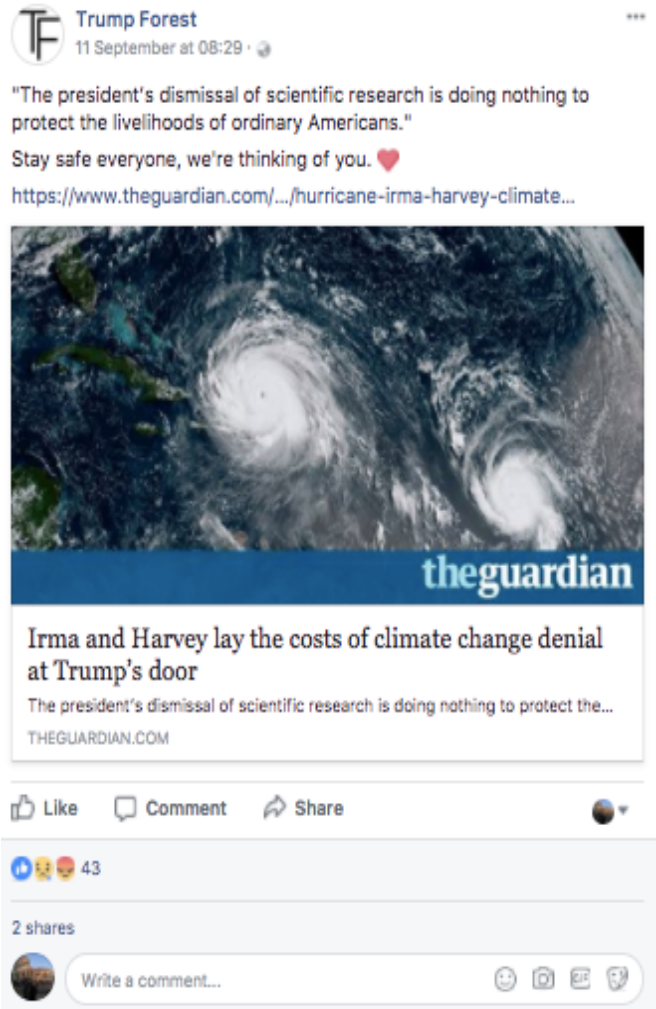
Greenpeace NZ’s use of a direct citizenship approach with the influence of shared content got them an engagement rate of overall 3.6%. They also had a staggering growth in their following throughout this investigation, having gained 11,440 since the start of this investigation. Perhaps this is due to the raising concerns for the environment, and thus people want to be more educated and be involved in the debate, or whether this is purely based on advertising. Nonetheless, more people are

exposed to environmental issues, like climate change, that we are experiencing in New Zealand.

5.2.2 Trumpforest

Trumpforest was set up in 2017 when Donald Trump was voted into the USA Presidency. Three friends from all different parts of the world felt it was their duty to take on this quest to combat the ignorant and anti-climate change president. They decided to create an activist organisation that would challenge Trump's ignorance by planting trees around the world and encouraging others to do the same. They hoped that the pro-environmentalist and climate change activist would counter the poorly informed President of the United States. Trumpforest focuses on the importance of planting trees.

Through their use of inclusive language and direct message to the citizen, the organisation was able to gain the media's attention and engagement on their Facebook page. Like Greenpeace, their strategy to share content rather than posting their own is key to their inclusive methods, and a means to back up their beliefs.



Trumpforest NZ Post 15: 3/09/2017 – 17/09/2017

In the post above, Trumpforest uses both an informative approach with inclusive language. In quotes, they take part in The Guardian article they are posting to illustrate the facts by using the second source to back their argument.

"The president's dismissal of scientific research is doing nothing to protect the livelihood of ordinary Americans."

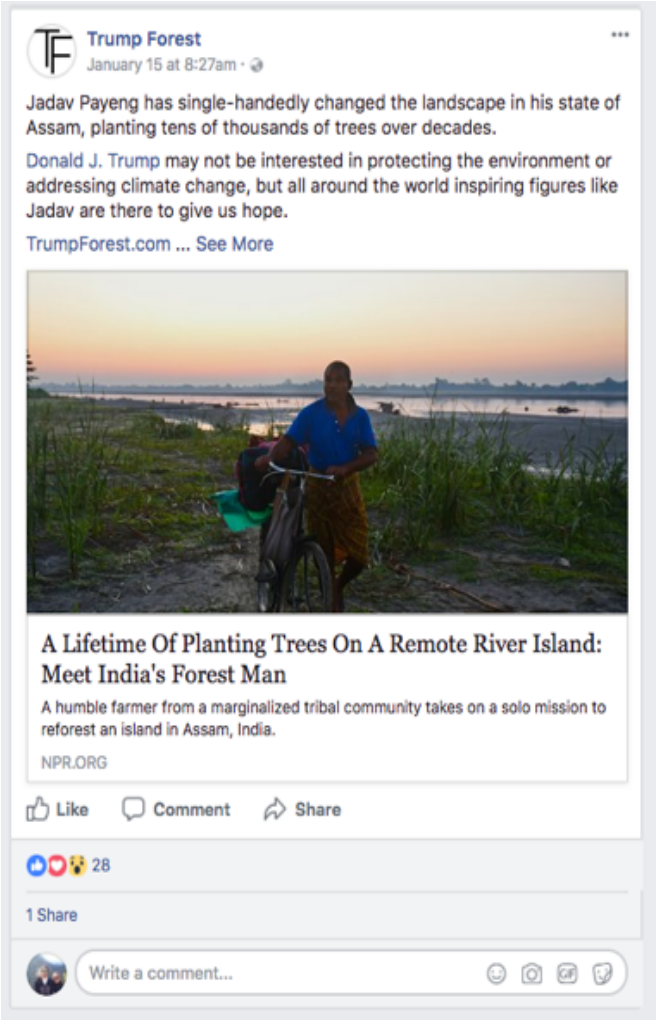
This quote from The Guardian alone plays on the emotions of all Americans as it separates their leader from them. It addresses that the President is not doing anything about facts and is willing to ignore it and ignore the everyday American. By taking the informative approach, merely stating the fact from the article, Trumpforest is taking a

step back and not putting their forceful stance on the matter but letting their second party do the talking for them.

They then add: “Stay safe everyone, we’re thinking of you <3.”

By adding this text at the end of the post, they are aligning themselves as the good guys, the ones who care about you, unlike your president. This technique is bright from the activists as they are not saying anything of opinion but rather using the secondary source to speak for them. Then by adding this caring message at the end, they can only be portrayed as the good guys.

Through the use of inclusive language and celebrating the success of others, Trumpforest uses other people stories to provide a community or even a network of people who all share the same endeavour, to reduce climate change consequences. This technique enables them to bring more people on board to further progress the climate change movement.



Trumpforest Post 8: 7/01/2018 – 20/01/2018

In post 8: 7/01/2018-20/01/2018 Trumpforest shares the story of Jadav Payeng, a man who alone is making a difference through planting trees in his local town. They share a link to NPR.ORG who then go into further details about this man's venture to reduce human impact.

Interestingly, Trumpforest then tags and directly involves Donald Trump into the conversation. Perhaps this tag is potentially a way to get his attention through his social media or to illustrate that this man is just a man, a user of social media like all of us. Though the intention is not clear, they do say:

“Donald J. Trump may not be interested in protecting the environment or addressing climate change, but all around the world inspiring figures like Jadav are there to give us hope.”

Through this inclusive language of “give us hope” it highlights Trumpforest’s tactic to draw the user to feel part of this community. This story of Jadav shows that everyday people, like you and me, can be involved in bringing forth environment justice.

Trumpforest Post 5: 5/11/2017 – 28/11/2017

Post 5: 5/11/2017-28/11/2017 is another example of how Trumpforest uses of inclusive language and celebration of others work.

“We <3 our partners at Ecosia! What could be better than a search engine that plants trees?”

The use of the word ‘partner’ illustrates a unity in itself. Nowhere on their website do they say that Ecosia is an official ‘partner’, but by using this word, they are highlighting that everyone involved in climate change prevention is a partner.

Trumpforest shared this post from Ecosia, a search engine that plants trees when you search things online. Trumpforest would have found this information about Ecosia and then created a post on their page to share the environmental benefits. Buscher, Koot and Nelson (2016) stated that online forums like Facebook, have created a place of both producing and consuming of green discourse. Trumpforest not only “consumed” Ecosia’s content but then “produced” it on their page. This ability to share content has allowed social media to become a public discourse forum. Shirky (2011) adds how social media has given citizens, activists, organisations, and governments alike all share and engaged with information.

Overall, Trumpforest used their humour and inclusive tone to communicate their message about climate change. The organisation only had 5 owned content posts out of their 25 posts. The majority of their content is shared and reflects this inclusive community that want to combat President Trump’s ignorance. They used a lot of emoji’s and casual language which indicates a friendlier nature. The data showed that only 2 of the posts were a direct call to action which was reflected in the type of posts which were sharing of information and thus fell into the informative category. The page is only three years old yet received an overall engagement ratio of 18.6% which illustrates the page is on a steady growth with 4,309 likes on their page after the end of the third investigation.

The two activist page’s that were investigated in this study highlight similar communication tactics to their audiences. Both Greenpeace NZ and Trumpforest used a mixture of individual and community means of addressing the audience however

they both preferred inclusive language. They also used shared content to get their messages across and both used news organisations content to do so. Through using others content to promote their own, the pages were able to back themselves and not be too forceful and direct with their own messaging. Greenpeace NZ as a more significant and potentially more critical page was able to provide more information into alternatives to our human impact whereas Trumpforest focused more on sharing the effects of others to encourage and motivate their audience to take action themselves. Greenpeace NZ also used traditional activist techniques by asking their audience to sign a petition whereas Trumpforest tended to stick to their educational methods of communication. Overall, an assumption can be made that activists in New Zealand use a citizenship approach with a focus on inclusive language and prefer sharing content to back their ideologies.

5.3 Political pages

Each of the parties talked about climate change in different quantities and different ways. This is because each party has their agenda and what they believe is essential and beneficial to New Zealand.

Table 3 – Results from the data collected from the Politics Facebook pages (# of posts)

	Addressing		Dynamic		Content Descriptions		Content Type		Reactions	Total
Green	Citizen	18	Individualistic	3	Informative	13	Shared	2	12,294	21
	Consumer	0	Inclusive	17	Call to action	5	Own	19		
	Consumer/Citizen	3	N/A	1	Informative/call to action	3				
Labour	Citizen	7	Individualistic	2	Informative	4	Shared	0	9,142	8
	Consumer	0	Inclusive	6	Call to action	4	Own	8		
	Consumer/Citizen	1	Individualistic/ Inclusive	0	Informative/call to action	0				
National	Citizen	3	Individual	3	Informative	1	Shared	2	2099	3
	Consumer	0	Inclusive	0	Call to action	1	Own	1		
	Consumer/Citizen	0	Individualistic/ Inclusive	0	N/A	1				

The Green Party was the most focused on climate change communication because that is one of the most critical key policies for them. They addressed the citizen through using inclusive language that was majority informative with the occasional call to action and mixture of the two.

The Labour Party reproduced similar methods of communication but with less than half of the posts. However, Labour's posts were a mixture of the call to action and informative which could indicate a more productive/ encouraging means of enacting change.

The National Party did not recognise climate change as such an important message for their party. The had only a total of 3 posts over the three periods of the investigation. These were all during the first period which was leading up to the election, perhaps used as a tactic to gain climate change supporters. The stand out factor is that two out of the three posts were shared content. Both posts were shared from news organisations. This strategy could have been used as a means of aligning to 'credible sources' or because they did not have messages of their own.

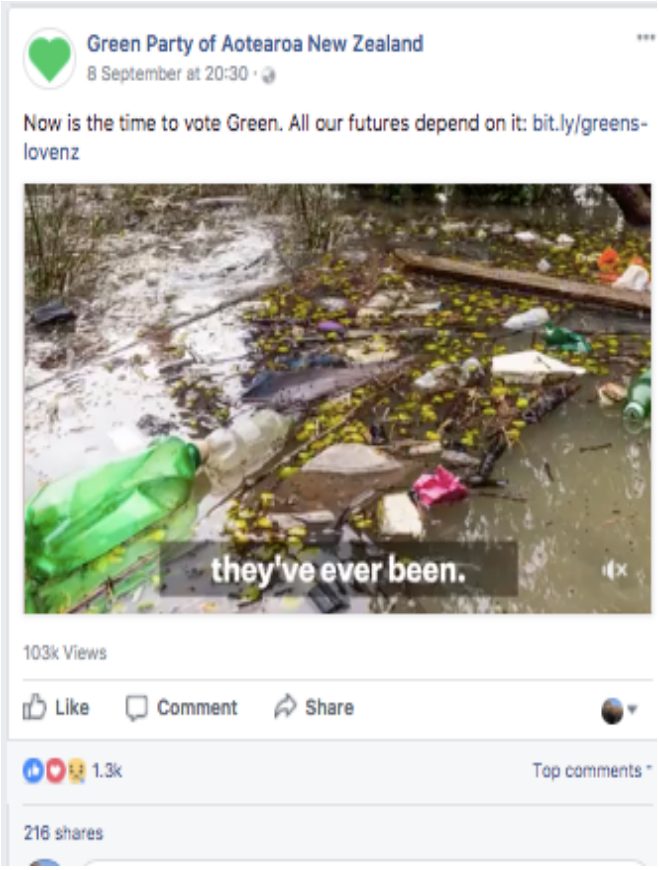
A significant amount of the content produced by the Greens and Labour parties are natively created and uploaded. This reflects how the political parties want to represent themselves to the public, promoting their policies and thoughts rather than allowing another group to take credit or influence their messaging.

The political parties in New Zealand were investigated because of their influence over New Zealand's governance and policies. It should be noted that these parties influenced over the time periods in which this investigation took place. The first period was before the 2017 New Zealand elections, where the parties were highlighting the issues that they thought was most crucial for New Zealand to address. Interestingly, all parties talked about climate change in this period. With the effects of climate change becoming increasingly prevalent in our daily lives, it is a crucial tactical move for political parties to share their concern. However, in the second period, after Labour took to the office, all parties decreased the amount of conversation around climate change. And in the third period, at the peak of summer where more conversations are surrounding rising temperatures, there was not a significant change in the number of posts.

5.3.1 Green Party

The Green Party has been known to be the most vocal party advocating for actions to battle climate change. Overall, they had 21 posts defending for climate-related initiatives which spread across the three periods. From waste reduction to rising temperatures, the Green Party encouraged people to take action within New Zealand to create more sustainable earth. But because this is a political page, their language and means of persuasion were more rooted in governmental policy and advocating for votes. New Zealand responded in late 2017 when the Green Party was elected and subsequently became part of the government with ministers in important environmental portfolios such as climate change.

As highlighted earlier, the reasoning behind the time periods selected was based around the election. The Greens, through the election campaign, highlighted climate change 13 times on their Facebook page, more than double the amount in the other two periods. It could be suggested that this promotion of the problem meant the Green Party was highly involved in the subject of climate change, but it could also be recommended that perceptions of political advantage prompted the promotion.



Green Party Post 5: 03/09/2017 – 17/09/2017

Post 5: 03/09/2017-17/09/2017 from the first period had a straightforward message from the Green Party:

"Now is the time to vote Green. All our futures depend on it."

This post was categorised as a call to action addressing the citizen using community language. Unlike other posts discussed, where the community voice was used as an inclusive invite, this post uses it as a means to point the finger at the audience as it is their responsibility to vote Green because "our" – the whole of New Zealand's – lives depend on it. Perhaps this direct messaging was used as a ploy to evoke guilt. The video attached with this message illustrates polluted waters and a very "un-green" New Zealand which can encourage the audience to feel negative towards the damage we have done to our country and thus push us to vote green.

This tactic was not used as bluntly by other political parties in the different types of pages investigated in this study. Possibly this guilt trip is used because it is a political device to bring people on board who feel the same or feel remorseful for their actions and think by voting a particular way, it will change.

Green Party Post 2: 07/01/2018 – 20/01/2018

The second post from the Green Party I have decided to discuss is post two: 07/01/2018-20/01/2018 from the final period of investigation. In the aftermath of the election, it provides a contrast in communication style.

This post was categorised as addressing both the consumer and citizen because of the topic being discussed: production of New Zealanders' waste. It also fell into the category of informative but also illustrating a call to action.

Unlike the first post, this post's language was not as direct, nor did it have a blatant push for voting as a solution for change. Instead, this post uses a more inclusive language on how "we can make it easier for Kiwi's to reduce their waste". Through language like "we" there is less straight blame, but instead it suggests this is how collectively we can make a change.

The Green Party also uses Ministers to back their statements, because they are a political party and therefore want to highlight the "success" of their people. The Green Party uses this name-dropping method to illustrate their authority and that their people care about New Zealand's climate change impacts.

It's important to note that in this third section of the investigation, there were only three posts total talking about climate change, compared to their 13 posts in the first period when they were asking for the votes of the New Zealand public. This suggests the extent to which climate change communication is not a constant but tied to exigencies of the political cycle.

5.3.2 Labour Party

The Labour Party is currently the governing body of New Zealand since they won the 2017 election. Before the election, Labour voiced their concerns about climate change. Jacinda Ardern, head of the Labour Party, made an explicit declaration of the importance of climate change and promoted messages that if they were to assume power, they would make climate change initiatives a priority. In late 2017, Labour won the election, and there have been slow initiatives to combat climate change. It is unclear whether these initiatives were about their standing declaration.

As highlighted in the Green Party's section, this first post is to highlight the messaging before the election, when the party was searching for votes from the New Zealand public.

Labour Post 3: 03/09/2017 – 17/09/2017

Post 3: 03/09/2017 – 17/09/2017 is an example of a how a political party who is not entirely affiliated to the climate change cause, uses tactical language and messaging to draw in public.

"Here's another way we're going to take on climate change and encourage everyone to do their bit."

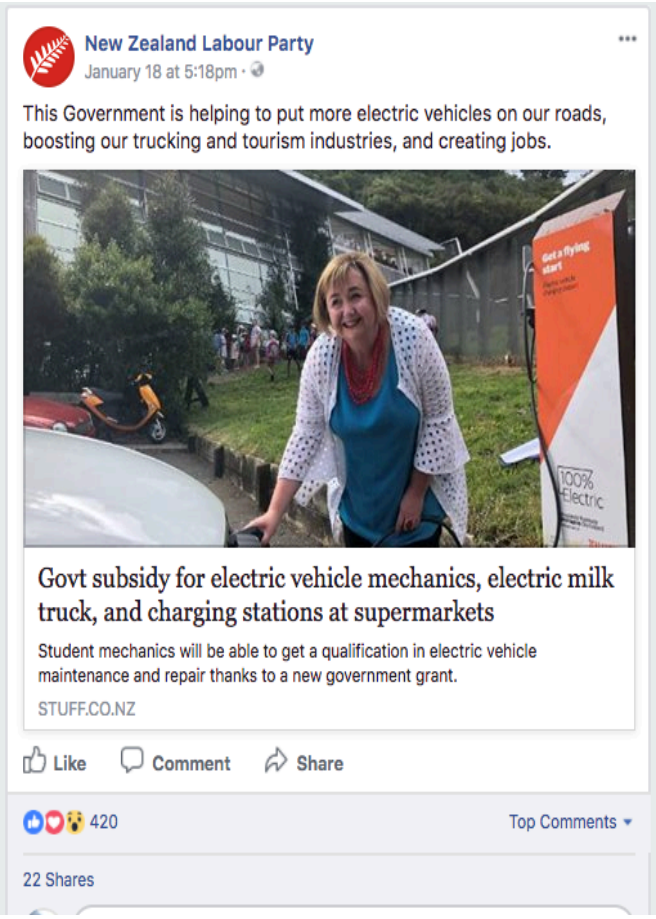
This first sentence of the post suggests that Labour is already doing their work towards the environment and this is just another way they are helping. The message is encouraging everyone to do their bit, suggesting that by voting for them, you are in turn doing your bit for climate change.

The post also uses complex concepts, like "Emissions Trading Scheme," that potentially not a lot of people know about, but this adds to Labour's credibility and that they are going to ensure that the people at the heart of the New Zealand economy, farmers, are going to be rewarded for the hard work to reduce emissions. This communication strategy works to unify the nation, and it is a political method of encouraging the people of New Zealand to vote for the party.

This post was categorised as addressing the citizen using inclusive language but with a call to action message. This message is considered a call to action because they are asking the audience to do something which is to read their climate change policy but also:

"#Letsdothis, all together."

Their campaign slogan, or hashtag for social media purposes, is an inclusive message that is encouraging to join the party in their mission to help New Zealand. There was a total of six posts about climate change directly during this period.



Labour Post 1: 07/01/2018 – 20/01/2018

The second post that will be discussed was selected because it was after the Labour assumed government in 2017.

Post 1: 07/01/2018-20/01/2018 has a different approach to talking about climate change in comparison to the previous post. This post places the new government on the pedestal but then also uses inclusive language to represent the people of New Zealand.

"This Government is helping… on our roads, boosting our trucking and tourism industries…"

This message, unlike the one before, is just informative and not asking the public to do anything differently. It acts as an information source that highlights the benefits of

the Labour government being in power and what they are doing for the public of New Zealand.

There was also only one post in this period which underlines the extent to which addressing the public is primarily linked to the election cycle and the need to gain voter support. Nevertheless, they had an overall total of eight posts during the three periods which is favourable compared to our final political party being investigated.

5.3.3 National Party

The National Party was the least invested party in the climate change conversation. There was a total of three posts that talked about climate change and they were prior to the election.

Labour Post 2: 03/09/2017 – 17/09/2017

Post 2: 03/09/2017-17/09/2017 falls into the categories of addressing the citizen through using individualistic language. This post did not fall into either category of a call to action/informative this is because the text is just a question.

I decided to use this as an example because even though it did not occur often, sometimes posts did not fall into the parameters that were created and therefore became a N/A.

"Why is Labour only targeting regional communities with its proposed Water Tax?"

This post tells the audience nothing about what National hopes to achieve for the climate if they were elected into power. Instead, they accuse the opposition party. This is a political tactic used to avoid them confronting an issue head on but rather pose doubt in their opponents. The post itself is also shared. Thus, it is not even their own messaging, but rather someone else's that they feel aligned.

In some cases, sharing content is an excellent way to increase reach as you can spread the message to multiple followings. However, in this case, it does not seem appropriate as the National Party should be trying to draw people in with tactics based on their policy, not that of other people's thoughts. The post being shared is also sharing an article from Stuff.co.nz about humans versus cows as polluters, which again is not particularly addressing a policy change that National hopes to enact. Nevertheless, from an outsider's perspective, the 668 reactions indicate that people were involved with the post. As a third party, it is not known whether this post was of high engagement due to paid or organic reach.

The political parties illustrated some key tactical communication methods that were used to draw in the audience to benefit them before the election. These communication strategies became even more evident when post-election, the posts decreased, and the language and messaging changed. The Greens came across as the party that wanted to use their passion for the environment to push their election campaign. They followed through with further posts about climate change and their

policies even though from the first to the third period there was a decrease by half. Labour followed a similar suit, has made climate change a vital speaking point throughout their campaign. However, after they took to power, the conversations on Facebook decreased, and the messaging style changed when they did talk about the environment. National was the most reserved when it came to addressing climate change. Their strategy to communicate climate change was to highlight the flaws in the opposition rather than address how they would change policy and make efforts to reduce our anthropogenic effects on the environment. Nevertheless, this investigation into the political parties provided insightful information about how different parties decided to address climate change before and after the election campaign.

5.4 News Organizations

In this section, I will discuss the role news organizations in New Zealand have in communicating climate change to the public through their Facebook pages.

Table 4 – Results from the data collected from the News Facebook pages (# of posts)

	Addressing		Language		Content Descriptions		Content Type		Reactions	Total
TV1 News	Citizen	20	Individualistic	23	Informative	28	shared	2	3,813	28
	Consumer	2	Inclusive	4	Call to Action	0	Own	26		
	Consumer/Citizen	6	Individualistic/ Inclusive	1	Informative/ Call to Action	0				
Newshub	Citizen	22	Individualistic	25	informative	26	shared	1	10,103	27
	Consumer	0	Inclusive	2	Call to action	1	Own	26		
	Consumer/Citizen	5	Individualistic/ Inclusive	0	Informative/ Call to Action	0				

As illustrated in the table above, both news organisations followed similar tactics in communicating climate change to their audiences. 1 News and Newshub majorly addressed the citizen with the occasional consumer/citizen which is highly reflective of a news organisation that is talking to the people rather than to the consumers. Nonetheless, the lines between the consumer and citizen are blurring and therefore could be why there were a total of 13 posts that did not solely address the citizen. Both organisations did, however, focus on addressing the individual rather than using inclusive language. This again highlights the way a news organisation works as their journalistic norms require them to stay impartial in their work and present the facts instead of including their involvement. These journalistic norms can also be found in the content they used. 98% of the content was informative content rather than a call to action. News organisation act as information hubs, providing their audiences with the information for them to then make their own decisions with (Carvalho, 2010).

Today, most young people consume their news via social media (Sveningsson, 2015) and therefore I felt it most important to investigate how news on social media are communicating climate change as this audience will be the future of reform. With the ability for our youth to be more interactive on social media content, it is becoming vital that more political and societal issues are addressed to provide a new public sphere to engage in such topical issues to further educate and promote change.

The majority of all the posts in both news organisation's used individualistic language to inform the public about the issues while using their content. I decided that instead of trying to unpack the categories in the examples below I would focus more on the language used and the communication style of addressing their audiences.

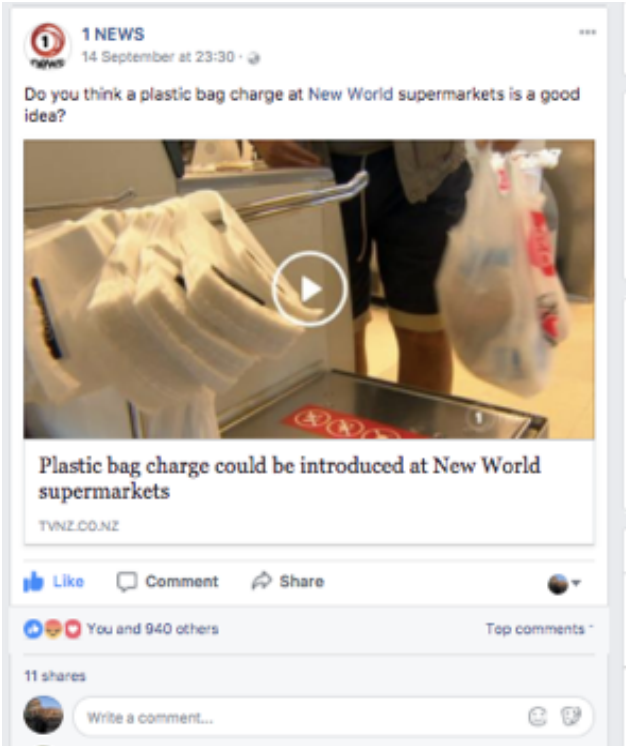
The reason behind using their own content could stem back to their journalistic standards of ensuring they are unbiased and balanced. However, this could also be a result of external influence such as it might look bad on the organisation if they didn not have their own content to share or if they were sharing others then it might seem that they were not good enough of being a news organisation. The industry of media and news has a significant focus on who can get the story first and therefore if they are sharing others content, it might not be the best "image" of the organisation.

The most exciting discovery found in the investigation of news organisations communication of climate change was the growing focus on addressing the citizen and the consumer. With a total of 11 posts from both organisations that had some sort of consumer aspect of addressing their audience, it could be assumed that this provides evidence that the lines between citizen and consumer are continuously blurring.

5.4.1 1 NEWS

1 News the news channel associated with one of the largest TV broadcasters in New Zealand, TVNZ. TVNZ controls over half the free to air channels available to the public in New Zealand. With the news being presented in the morning, mid-day and the evening, this communication medium has significant influence over the education of the public of New Zealand. This page has over 632,549 likes, the largest out of all the pages being investigated in this study. The assumption is that this page should then reach the most amount of people with their content.

Unlike the other pages investigated where there was a significant difference in the types of categories used to communicate climate change, the 1 News was predominately focused on addressing the individual through their own content with the goal to be informative.



1 News Post 5: 03/09/2017 – 17/09/2017

Post 5: 03/09/2017-17/09/2017, 1 News looked at the consumption of plastic bags in our society. The post was categorised as a consumer/citizen post with a focus on the individual and informing the public. The news organisation did not take a stance and instead asked their audience:

"Do you think a plastic bag change at New World supermarkets is a good idea?"

Without directly showing bias to the fact that yes, reduction of our plastic consumption would reduce climate change impacts, they put it on their audience to think about. 1 News is following their journalistic code, as highlighted in the literature review, to remain unbiased and provide the facts. By asking a question though, they are breaking the methods of a news organisation's as they include the public in the debate.

Because this became such an interesting conversation within the New Zealand public, it could be suggested that this is the reason that the organisation decided to bring it forth in the media spotlight. In their investigation, Cottle & Matthews (2013) reported how news programs influence political and societal issues. This once consumerism-based decision is now flowing into a citizen's ethical decision making.

1 News Post 2: 05/11/2017 – 28/11/2017

1 News, though talking about climate change, did not directly use language and messaging to present this concern. For example, in post 2: 05/11/2017-28/11/2017, the post, an opinion piece, references climate change but the post itself is not about climate change but rather the banishment of one of their pacific correspondents.

I did find that in the article's name, a different message is presented:

"Fiji is stepping up where New Zealand has failed Kiribati on climate change."

This message is much more impacting than the post text because it is saying that New Zealand has not done an excellent job in helping a neighbouring country with the impacts of climate change. This message raises a more concerning issue that we are not doing our part to help others with the rising oceans and who knows, being an island, it could be us next. Nonetheless, the post and the article itself, actually do not honestly address climate change as a concerning issue nor does it highlight ways to combat the consequences we are seeing.

I thought this was very interesting because in both the posts examined so far, neither gives the audience a clear positive climate change message but instead gets the words "climate change" in the post without really addressing the issue at hand.

1 News Post 6: 07/01/2018 – 20/01/2018

In the third period of the investigation post 6: 07/01/2018-20/01/2018 illustrated a different approach to the messaging of climate change from 1 News. Through directly addressing the New Zealand public in a more inclusive nature and using other sources to back this claim, 1 News draws in their audience to think twice about the amount of waste we produce.

"New Zealanders generate 3.6kg of waste every day…"

This statement alone creates a bit of a shock to the average Kiwi who might not know how much of an impact their wasteful/overconsumption behaviour is making on the planet. The post continues with:

"According to the World Bank, that's among the highest in the developed world. Associate Environment Minister, Eugenie Sage, says it's time to say good riddance to our bad rubbish."

Through using external expert sources such as the World Bank and Associate Environment Minister to share this message, 1 News is seen as a more expert message provider and reinforces the severe nature of waste in New Zealand. This means of communicating climate change through the voice of others is a way in which news organisations can remain "unbiased". The message ends with:

"What do you think?"

According to Schafer & Schlichting (2014), the media is the primary source of environmental communication for many members of the public. By highlighting the issue and then offering to include them in the conversation, it allows the audience to feel and be involved in the climate change debate.

5.4.2 Newshub

As the other main source of news in New Zealand, Newshub was clearly a source of interest to investigate in this study. Newshub as over 469,352 likes which again reaches a large audience. Initially, I found that the topics used to address climate change was more engaging on Newshub's Facebook page, however when analyzing the data, both pages fell into very similar categories. Similar to 1 News, the majority of Newshubs posts fell into the category of addressing the audience through individualistic language with the goal to inform through the use of their own content. This follows what I had initially anticipated with a news organization's means of communicating to the public.

Newshub Post 6: 03/09/2017 – 17/09/2017

During this investigation, the 2017 New Zealand political elections occurred. Post 6: 03/09/2017-17/09/2017 highlights Labour and their thoughts on climate change. In this particular term, news organisations should act as an impartial source, but at the same time, they must highlight the issues for the public of New Zealand. Newshub uses a quote instead of using their own words in the text:

"For too long, we have set targets and not done what's needed to achieve them."

This post was categorised as using both inclusive and individualistic. The post used language like "we" which is unlike that of a news organisation. Perhaps this is a means of challenging the norms of the journalistic code without having to show their bias indeed because the use of quotes acts as a symbolic barrier that separates the organisations from that of the article or party that the article is talking about.

A lot of the conversations in the comments section, as illustrated, are quite negative but what is interesting is that people are still talking and engaging with this post which is what is encouraged going into the election. Labour is also able to see what conversations are being had from the public of New Zealand and perhaps work them into their tactics to win the election.

Newshub Post 3: 05/11/2017 – 28/11/2017

In most of the data collected, Newshub uses quotes from their articles in their post instead of writing something different. Perhaps this is because they felt that the article speaks for itself and thus the quote acts as a lure to click on the article, or maybe it's a means of getting the facts straight from the 'horse's mouth'. Either way, it is not entirely clear, but this method of communicating climate change issues is also reflected in the type of content they share on their Facebook page.

Newshub tended to draw on more impactful stories to share (in what way are they more impactful?). For example, post 3: 05/11/2017 – 28/11/2017 talks about climate refugees: "We want to get ahead of this before it turns into a real problem."

With the rising sea levels, our neighbouring islands are feeling the impacts of their homes being washed away. This could soon become an issue for New Zealand. Newshub draws on the emotional appeal to entice their audience to read more about the impacts of climate change. Even the use of the words, "climate refugee" places a

heavy responsibility on the people of New Zealand to avoid this refugee status and to hopefully help our neighbours.

Newshub Post 9: 07/01/2018 – 20/01/2018

As highlighted throughout my literature review, the lines between a citizen and consumer are constantly blurring especially in the pro-environmental industry. Our consumer actions now have direct impacts on our lives as citizens. In the example post 9: 07/01/2018-20/01/2018, Newshub addresses this issue when it comes to our waste. The text states:

"Part of the problem I think is people want to do the right thing but there is not a place we can put organic waste."

The text highlights that the citizenship behaviour of most people in New Zealand know their impacts on waste and want to do the correct thing in disposing of organic waste, or their consumption, in an eco-friendlier manner, but there are not the right facilities available to do so. This citizenship debate that correlates directly with their actions as a consumer is a clear example of the blurring of lines between the once independent categories.
The text in the article's headline then addresses the issue in a more forceful tone:

"Lack of organic facilities makes NZ the most wasteful country in the developed world."

This clear pointing of fingers at the poor effort of New Zealand which then grants us the tile of "most wasteful country in the developed world" is an emotional tactic used by the organisation. Without bluntly inserting their opinion, the use of this tile is a dramatic statement that would hopefully entice some New Zealanders to remove this label placed on them.

Even though these news organisations were both presenting the news, each had different information to share with their audiences about climate change. Perhaps this being (being is not a verb – do not use it this way) dependent on their own subconscious bias on the issue or what they thought as relevant news. There was a total of 55 posts that talked about climate change, 28 from 1 News and 27 from Newshub which illustrates quite a balanced conversation from both news organisations. Newshub's approach was more emotionally impactful in their posts, drawing on New Zealanders' decisions and the consequences of our actions on the earth whereas the examples from 1 News tended to present the issue without apparent reference to climate change and then turned the issue back on the audience to then address.

I think that it was essential to address how legacy media has now joined the online community to share their information. This means of communicating follows suit of

traditional mediums, with a tendency to be balanced and unbiased but as highlighted in my literature review, climate change is fact and therefore should not be thought of as a topic that should be "balanced". Nevertheless, this online forum has now allowed the public to engage in a public discourse that was once not possible through traditional media. People are able to challenge the news, engage in dialogue and develop their own thoughts on issues.

5.5 Engagement Ratio – what does it mean?

According to Srunch.com (2018) a 1-3% engagement ratio is considered to be average engagement and a 6% engagement ratio being a highly engaged post. As highlighted in my methodology, to find the engagement ratio I take the total number of reactions and divide it by the total followers then multiple it by 100. There are limitations to an engagement ratio, as the data does not highlight posts that are paid vs. organic in their reach nor does it demonstrate the passive engaged user. Nevertheless, this engagement ratio has the potential to demonstrate whether a post is truly engaging with the online users of the digital public sphere. In table 5 below, I have highlighted the overall average engagement ratios of the pages investigated in this thesis. Six out of the ten pages are considered at least average in their engagement ratio and two of the ten are considered extremely high engagement ratios.

Table 5- Engagement Ratios

Concious Consumer	GoodFor	Greencane	Greenpeace NZ	Trumpforest	National	Labour	Greens	1 NEWS	NewsHub
1.263%	3.370%	10.231%	3.657%	20.31%	0.841%	3.292%	3.708%	0.215%	0.753%

As demonstrated in table 5, Greencane is considered to have the highest overall average engagement ratio of their posts. Thus, suggesting that their content is getting the most attention from the digital audience. Their use of sharing their philosophy for the environment and promoting their brand image over their products has potentially earnt them higher regard in the eyes of the digital public sphere.

The engagement ratio provides analysis for what type of posts are doing better than others. For example, Trumpforest's posts have a 20.31% engagement ratio which is significantly higher than Greenpeace NZ's engagement ratio of 3.657%. Though both are activists' pages, their difference in engagement ratios reflect of how each of the pages addresses climate change. Trumpforest uses an approach that involves inclusive language and the sharing of other's content including that of personalised stories. This strategy adds a personal touch, and because the content is sourced from others, it involves a broader audience. Greenpeace NZ, on the other hand, uses a more traditional model of activism and perhaps due to this strategy, they have received a smaller engagement ratio. The engagement ratio is used to determine whether the public is engaging and interacting with the content versus a post that is just posted with no engagement.

There are limitations to this method of analysis as an engagement ratio as a means of actual engagement. First, the posts, from a third-party standpoint, do not say whether the content received paid vs organic reach. Meaning, if you put money behind a post, it has the potential to generate higher engagement as Facebook will show your post to more people than just the organic following of the page. Second, the engagement ratio only accounts for those who are actively engaged with the content. Many users are passive engaged users and do not use the social plugin's when they encounter content that they are passively participating with. Therefore, the engagement ratio is highly superficial and perhaps is a weak means of determining an answer for the second research question of whether these pages were successful in their content.

5.6 Summary of Findings

This section will provide a discussion of how the results of this investigation have influenced the literature previously offered.

Facebook was used in this investigation to demonstrate the potential development of the systems surrounding a digital public sphere. As a platform that encourages people to engage and participate in online conversations, Facebook allowed not only New Zealand organisations to contribute but allow the public to have their say. As illustrated in this investigation, all ten of the organisations Facebook pages shared environmental messages. Through the use of different strategies, the pages presented content received 63,000+ reactions from users over the three periods. Social plug in's allowed for people to discuss and debate the topics and messages that were shared by the investigated pages. As a universal system for unbounded citizens, the platform allowed the public to create their judgements and reasoning for the discussed issue of climate change. Even though the digital public sphere is without borders, Facebook was able to act as a single space in which the public sphere operates within, allowing all its users to convene and engage in a single platform. Such advantages have approved the digital public sphere to progress from the limitations that the traditional public sphere faces. Facebook demonstrated how the digital public sphere can operate, but it has not replaced the traditional public sphere.

Mass media, who play a significant role in the traditional public sphere, have jumped on the bandwagon and also use Facebook also to communicate their messages. As demonstrated in the analysis section, the news organisations of New Zealand share their stories throughout the day on their Facebook pages. News organisations needed to move into this space to maintain presences and cut through. Facebook has created a new information stream that now allows institutions like the news to be part of both the digital and traditional public spheres.

With this increased use of the digital public sphere, the provision of information has now decreased which can be seen as both positive and negative. It is a positive thing because it has reduced censorship/ authority influence and allowed for more of the public to participate. Biases from a country have reduced the impact of what is shown to the public in the digital sphere. People can find and join in the conversations that stimulate their interest without the authority of governmental power which has been seen in the traditional sphere. Additionally, the public who can engage has increased where a diverse set of people are now contributing in the same space. However, with this positivity that the digital public sphere brings with information sharing, it also lacks the guardianship that the traditional public sphere has. Now anyone can address issues and promote questions that may lack merit or truth. The recent trend in the fake news is an example of how the digital public sphere has allowed anyone to give true or false information and the public to believe it. Businesses are also potentially gaining a commercial advantage through the digital sphere which was not seen previously. For example, in this investigation, the businesses selected addressed climate change in different mannerisms, but their true incentives are vague. A business survives if money is coming through the bank, regardless of the type of business. Without having a watchdog on the content shared, knowing whether their motivation was purely to help the environment is unclear. There is thus less guardianship over the content that is being shared in this space. Even though the supervision of content has decreased due to the characteristics of the digital public sphere, the development of a space dedicated to public environmental communication has sparked a progression for the climate change movement.

The creation of Nature 2.0 has been vital in climate change online communications movement. This investigation illustrates how Facebook has created a mini sphere of Nature 2.0, where pages of all sorts are advocating and addressing the environmental issues facing society. The public can engage with multiple sources all addressing climate change in some form and perhaps reinforcing the message through the different pages within this Nature 2.0. Also, this investigation has provided insights into how Nature 2.0 works through the use of inclusive language and the formation of an online community. Language like “we” and “ours” encourages users to join and be part of a larger community that shares this passion for helping the environment, creating an online community of like-minded users. Facebook has allowed for a niche or mini digital public sphere to be created within the larger digital public sphere of Facebook.

Nature 2.0 as a digital public sphere has created the blur between the private and public spheres. What was once considered a public issue, can now be seen to influence private lives? The climate change movement is an example that this investigation has demonstrated for the blurring of between the two spheres. Understanding the impact that your purchasing decisions have on the planet’s wellbeing is now a major influence in ethical buying. The posts that were examined illustrate how citizens and consumers are now intertwined in many ways. Over 55 posts in this investigation were a combination of citizen and consumer, the two no longer mutually exclusive. For example, decisions on your purchase of an environmentally sustainable shoe (consumer decision) could then impact your livelihood and the planet’s well-being (citizen decision).

There are advantages to the blurring of private and public spheres, but there are also limitations that should be addressed. Nature 2.0 has now allowed people to become more well-rounded decision makers where their personal lives can be influenced by political issues and vice versa. People are now able to understand their impacts on their environment and push for change in legislation to promote a more sustainable earth friendly economy. And while these advantages are great, some disadvantages have arisen due to this blurring. There is now less emphasis on the authority of national news messages and other authorities' powers due to the equality of influence that the digital sphere has created. Issues that are affecting the political actions are now highly based on experience in the private space and weighted different which perhaps was not the case previously. Additionally, conflicting messages can result in confusion and unproductive debates. For example, in this investigation, all of the organisations examined talked about climate change and the environment. However, all of these pages have different audiences and different communications strategies but are all part of this Nature 2.0. Due to the lack of separation between spheres, people are no longer able to distinguish things that does not relate. If a post is solely promoting a product that has no waste aspects, it could be seen as contributing to the climate change and waste free movement even though the company may not have intended that, and motivation lay a purely profit driven, consumerism space. The balance between the successful blurring of spheres and limitations that have also arisen is key in understanding the ways of the digital public sphere.

5.6.1 Final Thoughts

This investigation has prompted a discussion into the changes that the digital public sphere has created to the climate change movement and to communication strategies for different groups of users. Blurring between the private and public sphere has presented advantages and challenges to the communication of issues such as the environment. Once seen as a political issue, the ethical purchasing behaviour in favour of the environment is now trending as more and more are exposed to the climate change conversations in the digital world. The development of Nature 2.0 has created a mini sphere within Facebook's digital sphere, within the online network of the

internet. Allowing for climate change communication from all different types of organisations, the mini-sphere has increased the communications about climate change by forming an online community that shares a common interest. Unfortunately, with the increase in people accessing the digital space, the increase in untruthful and “fake” news rises. Unlike the traditional mass mediate public sphere, where the news and journalists acted as guardians of the information distributed into the traditional public sphere, the digital public sphere allows for anyone to contribute information. Users are falling into traps as they are unable to distinguish the differences between what is the proper information and what is potential “click bait”. Nonetheless, the digital public sphere has allowed for more to take part in the conversation, moving from a traditional one to many to a many to many system. A system that does not place limitations on you based on race, gender or age, people (over 13) are now able to react and express their own thoughts and opinions to issues that are shared. The news has also entered into the digital space, through both sharing online their stories and opening the platform for discussion but also using social media in their traditional public sphere has a way to integrate both spheres of communication. Facebook is a great example of how a digital public sphere has opened the doors to so many through social plug in’s. The digital public sphere has both created communication opportunities and limitations for the climate movement unlike before.

6. Conclusion

Climate change is a growing concern for many people in New Zealand and globally. From melting ice caps, excessive waste, animal extinction there are many anthropogenic effects causing climate change to occur. And the rate that we are educating, informing and creating change is not nearly as effective as environmentalist would hope. Being an island, surrounded by water, New Zealand will be one of the first, first world countries to feel the devastation of climate change. Our neighbours are already finding seas levels rising fast and homes/villages being washed away.

Social media has created a digital world where communication has become easier to access and participate in than prior mediums. Traditional media uses a one to many strategies, that is highly informative based rather than promoting engagement. Social media on the other hand uses a many to many schemes, allowing everyone in this forum to participate and contribute to the conversation. With increase in technology, more and more people are gaining access to the internet and then the ability to join social media sites. Currently there are more than one billion people on Facebook ("Facebook Newsroom", n.d) alone. Social media sites can be accessed through computers, phones, tablets as long as you have internet. Unlike traditional media, they are not bound by time or space, allowing the transformation of a global digital public sphere.

This chapter will summarise this investigation into the different ways New Zealand organization Facebook pages communicate climate change. I will first outline the ways in which previous literature has informed and guided the basis of my thesis. Through identifying the role of traditional media and the traditional public sphere, the literature directed my research into the digital public sphere and the development of Nature 2.0. I will then go on to discuss how I decided to go forth with my investigation into how New Zealand organization Facebook pages addressed climate change. The following section will summarise the findings of my research, highlighting key areas of

interest of the extrapolated data. Acknowledgement of the significance of this research, limitations and further areas of potential research will be addressed to guide future exploration.

There are many gaps in the ways in which traditional media has addressed climate change that has ultimately hindered the progression of climate change action. First, as demonstrated in the selected journalistic norms outlined in chapter 2, some are outdated and have not progressed with the times, potentially contradicting the purpose of them in the first place. For example, climate change is not something that has "two sides" and fits into the standard of "balanced news". By providing a two-sided argument, journalists are creating doubt and uncertainty that does not reflect the facts. Second, news values are impeding the amount of climate change communication that is being addressed to the public. Climate change is not considered newsworthy because of the disposition of nature. Unless there is a natural disaster, when the damage is already done, climate change and anthropogenic impacts are not making the headlines. Third, how the media chooses to frame climate change will in turn affect how the public then understands this information and whether or not they then take action to help the earth. And finally, the language used by the media has created misinterpretations and increased room for uncertainty. It is the responsibility of the journalist to unpack the scientific data and relay this information back to the public. But if this language is unclear then misunderstandings will occur, and people will tune out of the subject entirely.

That is not to say that there has not been a progression in climate change communication in legacy media. Examples include The Independent UK who have a dedicated section to the environment under their News header (https://www.independent.co.uk/environment) or a local outlet Newsroom who also have a section on their homepage for environmental communications (https://www.newsroom.co.nz/@environment). Though I have addressed the issues that I see have arisen due to lack of development of traditional media, I do acknowledge that this is a generalisation and that there are some media sources that

are paving the way to highlight more and more environmental issues to their readership.

From my analysis of legacy media comes my interpretation of the traditional public sphere. The traditional public sphere was identified by Habermas; his was based the idea that through the public sphere debate, discussion and democracy would occur. The public sphere allows the public to develop their own ideas and opinions regarding the governance and trends within society. Habermas argued that this public sphere was influenced by history of the people and the time/space. He believed that public spheres were not exclusive and would overlap with one another. As acknowledged in their literature review, this thesis highlights others who have both criticised and expanded on Habermas's initial definition (DeLuca & Peeples, 2002, Eder 2006, Craig 2004, Youngs 2009 etc.). Through understanding the standards of which the traditional public sphere operates within, the research informed my progression into the investigation of the digital public sphere.

With the increase in technology and social media came the development of the digital public sphere. Facebook as a digital public sphere was explored in this investigation which demonstrated some key differences when compared to the traditional public sphere. The digital public sphere allows users to be both producers and consumers. Users are also able to engage with one another without the need for an intermediary, like that of the mass mediated public sphere. Many researchers have identified key advantages of social media as a digital public sphere. Andersson and Ohman (2017) and Rainie et al, (2012) identified the wave of youth's activity on social media and how this new digital sphere will encourage their conversations and impact their decision making. Vromen, Xenos & Loader (2015) highlighted that social media has allowed for more people to informally take part in the public sphere with many options for engaging with content. Plug in's such as likes, comments and shares enable communication spread across the platform and cross platforms. Through these plug in's people are able to share their experiences, viewpoints and advice on a range of issues that might not have been addressed in a public sphere space. Issues like the

environment, once seen as a public/ political issue, are now influencing the private sphere decision making and opinions.

This blurring between the public and private sphere has developed as an outcome of the digital public sphere. Subjects that were once topics considered to be part of the private sphere are now encroaching into the public sphere, and vis versa. Online communication has provided the people a space to introduce their personal lives and experiences and in turn bringing the private and public spheres together (Youngs, 2009). The new parameters set around social media networks has allowed for this blurring of public and private sphere.

An example of the blurring between private and public sphere is the introduction of Nature 2.0 and ethical consumerism. Alongside the increase in the digital public sphere, there has also been an increase in the ethical concern. Users are now absorbing information in this digital public sphere about environmental effects and methods on how to reduce our man-made impacts. This once political, public issue now affecting purchasing behaviour in the private sphere. Interestingly, throughout this investigation, the New Zealand organizations Facebook pages emphasized this occurrence. Both businesses and political parties used environmental concerns, like climate change, to draw their followers in and increase engagement with their brands. Nature 2.0 also allowed for online activism to rise and mass outreach to spread digitally.

Through understanding research done in the addressed areas, I was able to make an informed decision on my research questions and methods to approach my research. My first research question was the focus of this investigation: how have New Zealand organisations' used Facebook to communicate climate change? Through using a thematic analysis, I broke down the posts that were collected into a coding system that would help identify themes and trends in each of the Facebook pages. My investigation proved that not only did different categories of New Zealand organizations Facebook pages address climate change communication differently but the pages/organizations within those categories used diverse techniques to talk about

climate change. My second research question attempted to address a much harder question: Have New Zealand based Facebook pages/posts been successful (receiving an engagement rate of 1-3% or higher) at stimulating the online community in climate change online engagement? Facebook advertising shows us that there are over 3 million New Zealanders who are engaging and interacting on Facebook. Engagement with the posts highlight trends and themes from the posts. Users can be both "active" and "passive" engagers. This study focused on the active users as it was a more tangible source of data.

Over the periods from 3/09/2017 – 17/09/2017, 5/11/2017-28/11/2017, 7/01/2018-20/01/2018, ten different New Zealand organisations Facebook pages that fit into the categories of business, activists, news or political parties were investigated. These time periods were used as a means to generate a consistent view of the pages investigated. The first period was prior to the 2017 elections when climate change was a topical conversation for many, the second was right after the election heading into summer and the third was at the peak of summer time when climate change would be affecting us all in physical heat spikes. The posts were then collected and categorised to fit a coding system that would allow me to perform a thematic analysis to then understand how these different New Zealand organisations Facebook pages addressed climate change. The coding system that I developed allowed different themes to be identified how the audience was being addressed, either as a citizen or a consumer (or both), what type of language was being used, individualistic or inclusive (or both), what was the content description, informative or call to action (or both), what type of content was being posted, natively created (own) or shared from another source.

The Facebook pages that were selected provided examples of different types of organizations in New Zealand that all addressed climate change in some way or form. This next section will provide a summary of the findings found.

The businesses investigated in this study were GoodFor, Greencane and Conscious Consumer. There was a total of 69 posts were collected in this period. Each of these

Facebook pages, though all businesses involved in environmentalism, differed in their tactical means of communicating climate change related issues. GoodFor store had a larger focus on addressing the consumer with a call to action message than the other two businesses. This example falling directly into the stereotypical business model of a buy now strategy whereas Greencane had limited posts but addressed a more citizen or citizen/consumer with a high engagement ratio. Conscious Consumer's strategy was based on sharing others content on how to reduce our impacts of climate change rather than pushing people to buy into their business. Businesses are able to see the growing environmental concern and offer options that cater to this pro environmentalism demand.

The political parties, Labour, National and Greens, were leading contenders in the 2018 election and have a large influence over the governmental policies of New Zealand. During the three periods, all three addressed climate change in some method however, they all tackled the issue differently. Greens, were the most active of the three and used tactics through call to actions and inclusive language. National only posted once and it was prior to the election. They did not seem to think climate change was worth addressing on their Facebook page and their single post only criticized that of the Labour Party's efforts. Labour, the winners of the 2018 election, used climate change mitigation as a key message throughout their campaign, addressing the citizen through inclusive language. However, after the election, they posted a total of two posts which felt as if the issue became less of a priority.

TV1 News and Newshub are the two largest news organizations in New Zealand. Both pages have over 632,500 and 469,000 likes on the Facebook pages respectively which implies they have a large audience receiving their content through this social media platform. Interestingly, traditional media sources, like TV news, are now making their way onto social media platforms. The transition from being a one to many to a many to many medium has allowed their audience to become part of this digital public sphere and have involvement with the content being provided instead of just being told through the screen with no opportunity for feedback and engagement. However, language used by the news organizations still reflect that of traditional media with

majority of posts using individualistic language to inform the public about the newsworthy issues. The choice for content to be natively uploaded rather than shared could be a reflection of trying to meet more traditional journalistic standards of ensuring balanced and unbiased viewpoints. As highlighted in the analysis, probably the most interesting discovery was the how news organizations have addressed not only the citizen but the consumer as well. This blurring of lines between the public and private spheres is forever growing and news organizations to have addressed this in their published content. Overall, the coverage for climate change was pretty even between the two, 28 from TV1 News and 27 from Newshub which highlights that both organizations have recognized that need to address climate related content.

Greenpeace NZ and Trumpforest were the two activist's pages investigated in this study. There were a lot of 114 posts that were directed at the climate change cause. The majority of these posts were directed at the citizen using both informative and call to action styles. Both of these organizations used majority shared content to communicate their messages about climate change, extending their climate related message across multiple audiences. Greenpeace NZ has a significantly larger audience than Trumpforest and therefore their messages had higher reactions and engagement. Trumpforest used tactics of highlighting other people's pro environmental stories to demonstrate a person to person connection with limited to no budget required. Greenpeace NZ's use of video content and high-quality images reflects their capabilities as a large environmental activist organization. Both have used their Facebook pages to create an environmental public sphere of discussion for their audiences. With over 23,000 reactions, the activist pages demonstrate how the public has the ability to engage with the content provided in this online world of Nature 2.0.

From political parties through to small businesses in New Zealand, each of these pages have addressed climate change in some form. The three business pages investigated in this thesis have business models based on reducing human made environmental impacts. The activist organisations selected differed dramatically in size, one having a global following and impact whereas the other was just starting to make ahead way

at the start of this investigation. The two news organisations are the largest news companies based in New Zealand and therefore felt appropriate to explore as major traditional mediums growing into the digital sphere. And final the three political organisations were the largest in New Zealand at the start of this investigation and play a significant role in the governing of the country.

Engaging in discursive debates and learning from other's experiences and ideas can help share the knowledge of climate change solutions. It also allows for policy makers see the concerns of the public and what solutions might have the most impact. The digital public sphere has opened up an online world of insights and data that we can all benefit and engage with. This investigation has led to multiple conclusions.

- First, the digital public sphere has provided new means of communication and information exchange. The online world is the way of the future, as even traditional media such as the News have a large presence on social media.

- Second, social media has blurred the lines between the private sphere and public sphere. Online communication has allowed people to draw on their personal experiences in their private sphere to contribute into the public sphere of online discourse (Youngs, 2009).

- Third, the investigated Facebook pages of New Zealand organizations, though organized by type, all address climate change differently. Climate change is a "hot topic" and the data illustrates that people are being interested in helping the environment.

6.1 Significance of Research

Organizations may vary in their objectives but there is a common trend that activists, businesses, news organizations and political parties are all addressing climate change in some way or another in New Zealand. Recognizing that different types of

organizations are all addressing this singular issue highlights that the public and people of New Zealand are rating climate change as something that needs to be tackled. Across all ten pages there were 60,000+ reactions of people engaging with the content. This investigation is a HOT topic as it is a trending social media issue, but temperatures are rising, and we need to take action now.

6.2 Limitations

There are many limitations I have found through this thesis. I hope by addressing a few of them that future research can find methods to combat or address solutions to them to provide more in depth and concrete data.

Social media's algorithms are based on what content the user has already engaged with and therefore has the tendency to allow us to only receive content that we are associated with or want to see. Boykoff (2011) recognizes this in his/her investigation and state that only social media can force people into a funnel of only consuming information that matches their ideologies. In addition, Kruse, Norris and Flinchum (2017) argue that social media communications are not necessary "freedom of communication" as there are other users monitoring and pushing back on your comments. In this investigation, it is hard to know if the content shared by these organizations were being received by a larger audience than just their followers, who are already engaged with the page. It also does not highlight if there is any content being hidden as only the business admins of the page will know. The mechanics of social media hinders users understanding fully the extent of the online digital public sphere.

There are potentially more effective methods of portraying climate change through both traditional and social media. Traditional media falls into the trap of meeting outdated journalistic standards such as balancing all stories. Climate change is not something that should have two sides. The scientific facts have highlighted the anthropogenic effects and therefore the news has a duty to report clear and factual

information, not attempt to find an alternative voice. Social media also has its down falls as mentioned earlier, there is potential to drive people into a funnel continuously reaching the people already engaged and not spreading the communication of climate change. Unfortunately, this investigation only looked at Facebook as a social media platform for climate change communication. If Instagram was also investigated, we could see if hashtags were used as a means of spreading awareness and driving more "non- audience" to climate related content.

Another limitation is that climate change effects are so broad. What one might think is impacting the environment and considered a climate change message another might not. Therefore, by only having one researcher investigate the content of these organizations Facebook posts, my definition of climate change is engrained in this content. Potentially checking with multiple sources or having multiple researchers on this project would have opened up further conversations about climate change messaging.

6.3 Further Areas for Investigation

Social media is constantly evolving. New communication channels are opening up allowing more and more people to join this digital public sphere. Understanding how and why people are talking about issues like climate change on in this online world is vital in finding new solutions to create change. We have already started to see the impacts of this digital public sphere with the social change movements such as #MeToo & #BlackLivesMatter. I recommend further unpacking and understanding the benefits the digital public sphere will provide insights into what it has to offer and how online communities and conversations translate to physical actions.

Fake news in the digital space is another area that I recommend as another area of further investigation. Based on the credibility of these pages, the content provided seemed to be legitimate. But that is not the case for all social media platforms. Once a piece of fake news content is out there, people are quick to absorb it and take it into

their private spheres. Therefore, recommendations to for further research into how to identify fake news will help combat this issue and provide the digital public sphere with a range of sources at the best credibility.

And finally, an investigation into the actual conversations on the comment threads would prove vital insights into what the topics and themes arise for climate related posts. Unfortunately, due to time this was not carried out in this thesis however through unpacking the discourse of the New Zealand public in the digital public sphere would allow business, climate activists, policy makers and many more to understand what drives are most important for New Zealand and how can we make these changes for our country.

6.4 The HOT topic

As highlighted throughout this thesis, climate change is a "hot topic" and many New Zealanders are starting to want to learn more and take action to combat our anthropogenic effects. The digital public sphere has changed the dynamics of communication. The once one to many direct messages of traditional media is no longer applicable to the many to many model of new media. People are no longer just listening, they are participating in the conversations of the public sphere. Climate change consequences are already impacting our earth and our youth are going to feel even more damage. And so, to understand that our youth are the ones in the digital public sphere, sharing, creating and absorbing the information on platforms like Facebook, it only makes sense to investigate how climate change is communicated on this platform. Nonetheless, there are potential limitations that have arisen through this investigation which will be addressed as social media is a fluid platform with algorithms and other factors that will influence the content that New Zealanders will see. With advancements in technology, the next "new medium of communication" will not be far away. Researchers need to identify these new trends and increasingly investigate how these new communication models will affect how we respond to climate change.

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