The Competition for Farmer Sentiment

Kellogg Rural Leadership Programme

Course 49, 2023

Duane Redward

I wish to thank the Kellogg Programme Investing Partners for their continued support.

Strategic Partners

Programme Partners

Service Partners

Disclaimer

In submitting this report, the Kellogg Scholar has agreed to the publication of this material in its submitted form.

This report is a product of the learning journey taken by participants during the Kellogg Rural Leadership Programme, with the purpose of incorporating and developing tools and skills around research, critical analysis, network generation, synthesis and applying recommendations to a topic of their choice. The report also provides the background for a presentation made to colleagues and industry on the topic in the final phase of the Programme.

Scholars are encouraged to present their report findings in a style and structure that ensures accessibility and uptake by their target audience.

This publication has been produced by the scholar in good faith on the basis of information available at the date of publication. On occasions, data, information, and sources may be hidden or protected to ensure confidentially and that individuals and organisations cannot be identified.

Readers are responsible for assessing the relevance and accuracy of the content of this publication & the Programme or the scholar cannot be liable for any costs incurred or arising by reason of any person using or relying solely on the information in this publication.

Scholar contact details may be obtained through the New Zealand Rural Leadership Trust for media, speaking and research purposes.

Table of Contents

Executive Summary

Sheep and beef farmer sentiment is profoundly negative, impacting how farmers view the world around them, how they respond to change and their mental health. The decline in farmer sentiment has coincided with a perceived increase in the competition for sentiment from industry representatives, lobby groups and advocates and has important ramifications for future industry cohesion.

This research project seeks to explore if industry leaders, representatives and lobby groups are further reinforcing and exacerbating negative sentiment by the way they are communicating with farmers and the potential future consequences of their approach.

This project first researched trends in farmer sentiment including the underlying drivers of sentiment, then sought to understand how and why industry leaders are communicating with farmers, including the use of social media. Finally, the project looks at future consequences arising from how industry organisations are competing for farmer sentiment and makes recommendations for industry leaders to consider when communicating with and attempting to influence farmers.

The methodology comprises a literature review; investigative interviews to uncover and discuss research on this topic; 16 semi-structured interviews with industry leaders, industry organisations and rural media; and an analysis of media releases and social media posts from industry organisations to understand the focus, content and engagement of their communications.

Key findings

Negative farmer sentiment is manifesting as decreased trust in government and industry representatives, increased fear and anxiety, and uncertainty for the future. Farmers feel threatened and consider they are not valued, understood, or listened to.

While industry organisations are not consciously competing, part of their approach is to use media and social media to underscore to farmers that they are being heard and supported, ensuring relevancy, attribution and ongoing financial support. This is resulting in the use of emotional language, topics and targeted campaigns that permeate fear and anxiety among farmers.

The methods and media channels used by industry organisations to influence farmers' perceptions are conceivably exacerbating negative sentiment and distrust of these industry organisations, risking becoming counterproductive to their original objectives.

Moreover, this strategy could result in damaging consequences for the farming sector such as polarisation, cohesiveness, perception and social licence to operate.

Industry organisations are using social media platforms to connect to farmers, however, these platforms are designed to promote high levels of engagement, often through reinforcing divisiveness and polarisation. By using social media as an effective method to reach widespread audiences and contributing to messages of fear, uncertainty and anxiety for the future, industry organisations may unwittingly be creating an environment where disinformation and polarisation thrive.

Recommendations

Recommendations for industry leaders and organisations to consider when communicating with farmers to prevent further exacerbating negative sentiment and potential unintended consequences include:

- Consider the potential impact of communication on farmer sentiment.
- Model best behaviour.
- Create a safe space for industry discussion and debate.
- Develop communication strategies that bring farmers on the journey.
- Raise industry awareness of the presence and impact of mis- and disinformation.

Acknowledgements

I wish to thank the team at the New Zealand Rural Leadership Trust. Annie, Lisa, Scott, Patrick and Chris for crafting an amazing, life-changing experience on the Kellogg Rural Leadership Programme, enabling me to lift my sights to the horizon. Particular thanks to Patrick Aldwell for his support and guidance on this research report.

I am grateful to Scott Pollard and New Zealand Carbon Farming for encouraging and supporting my leadership journey. Thanks to Scott and Gerard Blank for providing a sounding board as I worked through this project and for reviewing the final product.

To everyone I interviewed thank you for your time, input, wisdom and enlightening conversations.

I feel privileged to be part of an incredibly talented and diverse cohort and I would like to thank the K49 cohort for making this experience memorable, enjoyable and challenging. I look forward to the fruition of our connections as we continue to collaborate and support each other in the future.

Lastly thanks to my wife Jane and our family for supporting me and for your patience and understanding while this project took on a life of its own and thanks to Jane Redward Photography for the cover image.

1 Introduction

Sentiment is defined as a thought, opinion, or idea based on a feeling about a situation, or a way of thinking about something (Online Cambridge Dictionary). Sentiment is related to views and attitudes which are based on emotion and is often expressed in relation to the overall tone being positive, negative or neutral.

Current sheep and beef farmer sentiment is negative (Rabobank, 2023, Federated Farmers 2023, B+LNZ, 2023), impacting how farmers view the world around them, how they respond to change and their mental health. The growing negativity in farmer sentiment has coincided with a perceived increase in the competition for awareness and engagement from industry representatives, lobby groups and advocates. This increased competition for influence over farmer sentiment appears to be characterised by catastrophising and emotive-based messages that have the potential to further deepen negative sentiment and lead to a fractured industry.

This research project seeks to explore if industry leaders, representatives and lobby groups are further reinforcing and exacerbating negative sentiment by the way they are communicating with farmers and what are the potential future consequences of this approach.

2 Objectives and Project Scope

To understand the impact of competition for sentiment on sheep and beef farmers, this project aims to first research trends in farmer sentiment and how that is influenced including understanding the primary underlying drivers that influence farmers' attitudes. Then the research seeks to understand how industry leaders are communicating with farmers, including the use of social media, and considers the impact of this on farmer sentiment. Finally, the project seeks to understand the potential future consequences of the competition for farmer sentiment and make recommendations for industry leaders to consider when communicating with and attempting to influence farmers.

Areas for research include:

- Trends in farmer sentiment.
- What influences farmer sentiment?
- What impact do trust, misinformation and social media have?
- Who is competing for famer sentiment and how?
- What are the potential impacts of the competition for farmer sentiment?

The primary focus is on farmer sentiment within the sheep and beef industry.

Competition for sentiment refers to competition between levy-funded organisations including Beef and Lamb NZ (B+LNZ), and farmer lobby groups including Federated Farmers and Groundswell NZ. Throughout this report, these groups will collectively be referred to as 'industry organisations'.

3 Methodology

Four main approaches are used to address the research questions:

1) Literature review to:
   a) Identify trends in farmer sentiment in New Zealand, the reason for these trends, how sentiment is influenced, the role of social media and misinformation, whom farmers trust and influential information sources and global trends in trust.

   b) Investigate similar research focused on competition for farmer sentiment in terms of who is competing, how and why, and what are the potential consequences of this competition.

2) Investigative interviews based on the Delphi technique were conducted to undercover and discuss research completed on the competition for farmer sentiment in New Zealand and the impact of communication from industry organisations on farmer sentiment. These interviews were held with two experienced social scientists, a media communications advisor and academic observing trends in social media networks and misinformation and helping shape the literature review and the focus of the semi-structured interviews.

3) Semi-structured interviews with industry leaders, industry organisations and representatives and rural media to understand the competition for sentiment from the perspective of industry organisations, views of leaders independent of industry organisations and the media as being a conduit for those trying to influence sentiment. Sixteen interviews were completed in total of which four were with media representatives, seven with industry leaders, and five with representatives from Federated Farmers and B+LNZ including employees and farmer representatives and directors.

   The data from these interviews were analysed using latent thematic analysis following the theoretical or deductive process discussed by Braun and Clark (2006) focusing on:

   - Trends in farmer sentiment.
   - The underlying reasons for farmer sentiment.
   - Trust and information.
   - Competition for sentiment.
   - The role of industry organisations.
   - Potential consequences of this competition.

   The process of identifying themes was by reading the interview transcripts, separating the transcripts into the key topics above using colour coding and analysing the themes from the interviews as sorted by the key topics. Where the interviews resulted in rich data, like descriptors of farmer sentiment, the keywords were extracted from each interview and combined to form a word cloud or key themes were grouped and presented as thematic mind maps.

   This approach is developed from the phases suggested by Braun and Clarke (2006) to develop arguments that go beyond a description of the data to what is the meaning behind the data.

4) Media Scan of media releases from industry organisations and social media posts to help understand the focus and content of communications from industry organisations and engagement over social media.

   The semi-structured interviews showed that the main organisations working to influence sentiment amongst sheep and beef farmers were B+LNZ, Federated Farmers and Groundswell.

   Therefore, the media scan focused on media releases over two months from March to April 2023 from B+LNZ and Federated Farmers. B+LNZ media releases were sourced from their website while the Federated Farmers media releases were sourced from their monthly newspaper, Feds News. The Groundswell website only has four media releases over this period and the organisation appears to communicate via social media instead of through formal media releases.

   The media releases were grouped into negative, positive or neutral based on the primary topic of the media release. Media releases were considered negative if they focused on external risks to farm businesses such as government regulations, climate change policy or blanket forestry planting.

   Then a similar approach was used for Facebook posts by these groups, including Groundswell and the Kiwis Backing Farmers campaign, adding in engagement as shown by reaction (likes etc), and the number of comments.

4 Literature Review

The purpose of this literature review was to investigate other research completed in New Zealand on who is trying to influence farmer sentiment, emotions and opinions, how these parties were trying to exert influence and what are the potential consequences.

In addition, the literature review sought to understand the wider context of farmer sentiment and how this is influenced. Therefore, the literature review covers trends in farmer sentiment, how sentiment is formed, the use and impact of social media and misinformation, whom farmers trust, global trends in trust and where farmers seek information to form their opinions. Considering each of these topics could be a research project in itself and due to time constraints, the review aims to look at key high-level trends from recent research and is not intended to be an exhaustive review of all the work completed in these topic areas.

4.1 Farmer Sentiment

Farmer confidence is related to sentiment in that low levels of farmer confidence tend to indicate negative sentiment. Farmer confidence surveys, therefore, provide useful indicators of both current farmer sentiment and its underlying drivers. Recent farmer confidence surveys all show very low levels of confidence, reflecting an overall negative farmer sentiment (Rabobank, 2023, Federated Farmers 2023, B+LNZ, 2023).

1 in 20 farmers hold an optimistic view of the future

The Federated Farmers Farm Confidence survey shows that farmer confidence is the lowest since the survey began in 2009 (Federated Farmers, 2023). Similarly, B+LNZ shows confidence at a record low of 15% with low levels of confidence held by 49% of participants (Beef and Lamb NZ, 2022). The Rabobank quarterly confidence survey shows that farmer confidence reached record lows in late 2022 and has now crept up from these levels for the first quarter of 2023. However, that confidence is still very negative, with only 1 in 20 farmers holding an optimistic view for the future (Rabobank NZ, 2023).

The Rabobank, Federated Farmers and B+LNZ surveys all show that confidence has been decreasing since 2017, coinciding with the change in Government.

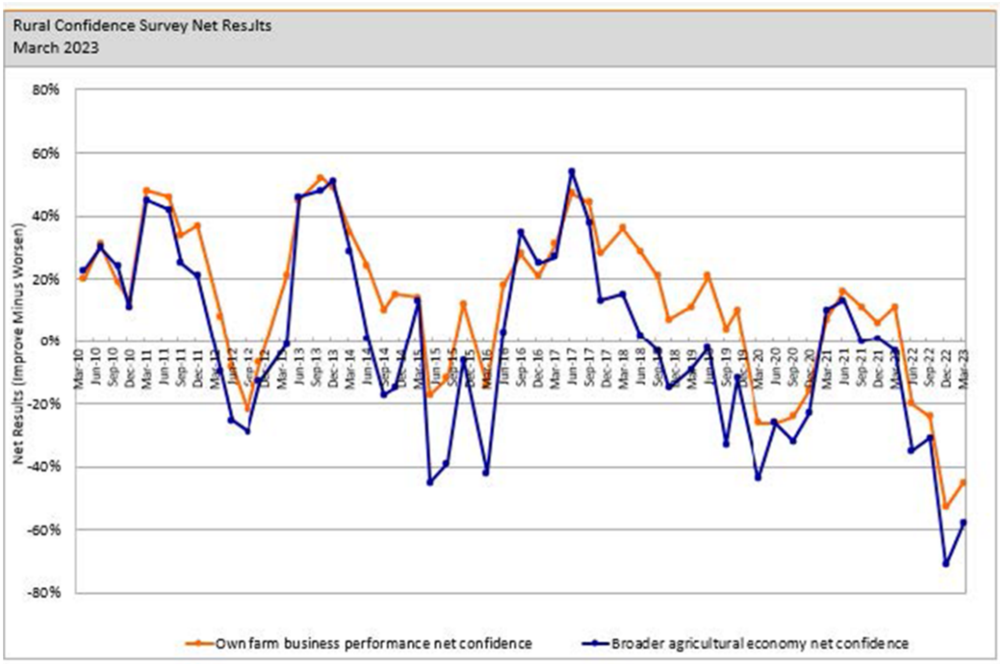

Figure 1: Rabobank quarterly farmer confidence survey (Rabobank NZ, 2023)

The reasons for low confidence are related to government policy and financial factors. Federated Farmers found that the greatest concerns for farmers were climate change policy and the ETS, debt and interest costs, regulation and compliance costs, and input costs (Federated Farmers, 2023). Rabobank found the major concerns to be rising input costs and government policy (Rabobank NZ, 2023), while B+LNZ attributes low farmer confidence to government regulations and decision-making (Beef and Lamb NZ, 2022). Interestingly, despite significant levels of public commentary, only 6% of farmers were concerned about blanket forestry conversion (Federated Farmers, 2023).

Federated Farmers found that expectations of decreased profitability for meat and wool farmers worsened from 57.3% of farmers expecting profitability to deteriorate over the next 12 months in July 2022 to 68.8% in January 2023 (Federated Farmers, 2023) indicating a significant shift in expectations of farm profitability.

Given that farmer sentiment has a bearing on how they feel about the world around them, and increasingly how they perceive the attitude of the rest of the world to them, farmer confidence and sentiment can be associated with impacts on farmer mental health. Common factors identified as negatively impacting farmers' mental health are worrying about finances and work. This includes new government regulations and compliance, bureaucracy and the amount of paperwork required (Goffin, 2014). In addition, isolation (including geographical, social and cultural isolation) has been identified as impacting farmers' mental health. Self-imposed isolation stemming from stoical attitudes that reflect an ingrained sense of self-reliance also has an impact on farmers' mental health (Goffin, 2014).

Federated Farmers found that 70.3% of respondents consider that mental health and well-being were being affected by economic conditions, weather, policy issues or other forms of pressure. Similarly, in the 2021 Rural Decision Makers survey 85% of farmers, foresters and growers felt under stress. The primary source of stress was regulatory pressure, reported by 47% of sheep and beef farmers. In addition, those who are stressed were less optimistic about the future of their operations with sheep and beef sector optimism at 5.7 out of 10 (Stahlman-Brown, 2021).

Another common trend in farmer sentiment is dissatisfaction and mistrust in industry organisations. The B+LNZ 2002 annual report shows that dissatisfaction with the levy organisation has increased significantly, which BLNZ attributes to broader industry confidence and concerns about advocacy areas (Beef and Lamb NZ, 2022).

In addition, farmers are feeling pressure about their social license and consider that their stewardship of the land is not being recognised (UMR Research, 2017). Once considered a noble profession, farmers now feel they are under the microscope and those doing the scrutinising only have half the facts (Sowman, 2019). Campbell (2021a) states that the Groundswell protests repeat the usual platitudes of a pernicious rural vs urban divide in New Zealand and a need for urbanites to 'learn and accept what rural folk do'.

Values, norms, attitudes, beliefs, perceptions of social pressure, and beliefs about behavioural control, together with self-identity, cultural identity and self-categorisation have an important influence on behaviour and decision-making (Small, Brown, & Montes de Oca Munguia, 2015).

4.2 How Sentiment is Influenced

As key decision-makers in their operation, farmers are likely to follow typical behaviour concerning establishing firm beliefs and opinions. Once an opinion is held, farmers are unlikely to change their initial standpoint, showing the fundamental importance of early fact-based information being provided to farmers. Russo, Carlsen, & Meloy (2006) show that once a preference is installed as a leading option then the decision-maker distorts new information to support the already leading option even if that option is inferior and that if decision-makers are unaware of this bias, it is likely to persist.

Views and opinions are often based on personal experience but when people don't have personal experiences, the media become relevant sources of information and opinion (Bayne, Edwards, & Payn, 2019).

Several studies have been conducted looking at how farmer perceptions impact responses to environmental issues including climate change adaption, regenerative agriculture and land use change (Gosnell, Gill & Voyer, 2019, Brown, Daigneault, & Dawson, 2019, Docehring, Longnecker, Cole, Young, & Robb, 2022, Brown & Roper, 2017). However, there is a paucity of research into how farmer opinions and values are formed and influenced, with agricultural social science research receiving little funding in New Zealand (personal comment Professor Hugh Campbell, April 2023).

Media channels have a crucial role in influencing sentiment by providing information that informs views and opinions. Bayne, Edwards, & Payn, (2019) discuss the role that the media can have in influencing perceptions, showing the impact of media reporting of New Zealand storm events on the public perception of forestry.

Therefore, industry organisations need to have strong relationships with the media, with those who are successful in getting their messages into the media enjoying what is called standing. They are often able to influence the framing of issues according to their values and preferences. However, when sectors don't have a clear and strong voice this results in others providing comments that can be skewed (Bayne, Edwards, & Payn, 2019).

While media has an impact on farmer sentiment, public trust in the media is decreasing indicating that the sector may have decreased or more fragmented influence in the future. The AUT Trust in News report for 2023 found that general trust in the media declined from 53% in 2020 to 42% in 2023 with 69% of participants avoiding the news often, sometimes or occasionally because they find it depressing, negative and increases their anxiety (AUT Research Centre for Journalism, Media & Democracy, 2023).

4.3 Trust

Trust has an important link to sentiment due to the impact on views and opinions of information gained from trusted sources. Individuals and organisations who seek to influence sentiment gain more traction if they are perceived to be trustworthy. The credibility of a message sender in the eyes of the receiver enhances the reception and believability of the message (Small, Brown, & Montes de Oca Munguia, 2015).

Gluckman, et al. (2021) state that vertical and horizontal trust are both essential for a cohesive democratic society. Vertical trust is between the organisations and institutions that perform various governing functions and those who are governed, while horizontal trust covers groups and individuals with differing histories, identities, values and worldviews, who need to trust each other sufficiently to cooperate.

A New Zealand Herald poll in 2022 found that New Zealanders consider the media, government and big business to be the most untrustworthy institutions of those sampled (Gabel, 2022). Acumen (2022) found that New Zealanders are particularly mistrustful of social media and are concerned about fake news.

In a survey of 128 participants about perceptions of trust in the natural resources sector, Edwards, et al. (2019) found respondents distrusted actors cited in the media more than the media outlet or platform itself and that honesty is the top influencer of trustworthiness, followed by transparency and openness.

Characteristics of trustworthiness include predictability, transparency and openness, communication, consistency and reliability. Further factors that made people untrustworthy included poor communication, unpredictable past experiences, a lack of transparency, inconsistency and hypocrisy (Edwards, et al., 2019).

Trust in the primary sector institutions is built through relationships with individuals that are the public face of those institutions, while decreasing trust in the sector is attributed to information and communication, including misinformation together with a perceived shift in values to money and self-interest (Edwards, et al., 2019).

Small, Brown, & Montes de Oca Munguia, (2015) found that veterinarians are the most trusted source of information for New Zealand farmers, followed by other farmers/farmer forums, scientists, financial advisors, and organisations that represent primary industries. Government at all levels was the least trusted.

4.4 Farmer Information

In the modern era, farmers need to rely on various sources of information to make decisions. However, the quantity of information can be overwhelming and farmers have limited time to source it. Therefore they rely on their immediate networks and rural publications that are delivered via the mail.

Small, Brown, & Montes de Oca Munguia, (2015) found that social and professional networks in New Zealand agriculture are small, often limited to five or fewer operators showing reliance on trusted advisors and fellow farmers.

Rural newspapers and magazines are the predominant source of information for farmers, however, information sources are changing with farmers becoming increasingly digitally aware with the internet being a common information source. In addition, industry events, organisations and rural professionals are becoming increasingly important as farmers are less active in their search for information (The Nielsen Company, 2019).

In a survey of key information sources relating to land management practices The Nielsen Company, (2019) found that the top three sources of information were the Internet, industry events and field days, and rural professionals at 56%, 55%, and 52% respectively. Family, friends and neighbours, and industry associations were slightly lower at 46% and 45% while MPI and local government were the lowest at 24% and 4%. Rural new papers were not included in this survey despite being mentioned in the report as the predominant source of information for farmers.

4.5 Social Media, Mis- and Disinformation

Social media such as Twitter and Facebook are new communication tools for rural communities and has enabled the creation of rural social networks. Increased use by farmers of 'mobile' digital devices and better rural access to broadband services has been enhanced so that social media is being used to support farming decisions (Phillips, Klerkx, & Marie, 2018).

In 2023, 59% of New Zealanders sourced news from Facebook compared to 65% from TVNZ and 19% from printed newspapers (AUT Research Centre for Journalism, Media & Democracy, 2023). However, there is a shortage of studies on the use of social media by farmers including the role in information sharing amongst farmers (Phillips, Klerkx, & Marie, 2018).

Recent studies on social media use amongst New Zealand farmers have focused on the potential benefits of social media on farmer isolation, exchange of information and for product sales (Brand, 2017, Stanley, 2013, Millar, 2015). However, this research was completed before current knowledge on the nature of the algorithms and the increase in mis- and disinformation.

"Polarizing divisive content is to Facebook as nicotine is to cigarette makers"

Due to the engagement model of social media, where advertising revenue is linked to increased engagement, and since division and polarising content drive engagement then social media algorithms are in part designed to respond to and promote divisive content. Polarising divisive content is to Facebook as nicotine is to cigarette makers: a component of their product that their internal research shows is harmful, but which they choose to increase, rather than decrease because its addictiveness is so profitable (Horwitz & Seetharaman, 2020).

Research into the impact of social media shows that fake news spreads six times faster than factual information, because it grabs our attention, has a higher emotional content and contains unexpected information (Vosoughi, Roy, & Aral, 2018). In addition, anger is the emotion that travels the fastest and farthest on social media, resulting in those that post angry messages having the greatest influence (Fan, Zhao, & Xu, 2014).

Effective social media content from an engagement perspective is focused on emotions and emotional triggers. This focus on emotional and divisive content, therefore, has a significant impact on sentiment, with research showing the presence of moral-emotional language increases diffusion by 20% (Brady, Wills, & Bavel, 2017).

Misinformation is false information that was not created with the intent to harm, while disinformation is false information that was created with the intent to harm a person, community or organisation (The Disinformation Project, 2021).

Figure 2 Disinformation vs Misinformation sourced from the Disinformation Project.

Dis- and misinformation creates strong emotional or 'affective' responses to that false information, which is fuelled by existing beliefs and biases. Content that 'feels true' and evokes a strong response is perceived as more believable, making it difficult to counter, with most information coming from a small number of sources (Daubs, 2022).

Countering mis- and disinformation can be difficult because of the political economy of online platforms that profit from user engagement, and the speed and scale at which digital information can be replicated and shared. Presenting people with information that conflicts with their worldview can reinforce their belief in false information through motivated reasoning (Daubs, 2022).

There has been little, or no research completed into dis- and misinformation in the farming sector. However, many farming communities have social conditions that could result in them being subject to entertaining these ideas. Hannah (2022a) found that an increased sense of isolation, increased sense of fear and uncertainty, increased anxiety for the future, and decreased control all contribute to an individual's propensity to firstly entertain and then believe and advocate for conspiratorial ideas. Common topics for disinformation include distrust in government, nationalism and anti-intellectualism (Daubs 2022).

Once individuals believe in conspiratorial ideas, this can lead them to be more susceptible to engagement by harmful actors or beliefs, such as foreign-influenced, alternative right organisations on social media. Hattotuwa, Hannah, & Taylor, (2023) discuss the concept of community bridging in New Zealand where one set of ideas is bridged into a community that doesn't yet hold those ideas and show has this has occurred in New Zealand in the rise of online and increasingly general transphobia.

4.6 Global Trends

Globally there has been an increase in emotional-based communication characterised as the post-truth era which is defined as relating to a situation in which people are more likely to accept an argument based on their emotions and beliefs, rather than one based on facts (Cambridge Dictionary, 2023b). Edwards, et al, (2018) describe the post-truth era as characterised by populist appeals to emotion and the proliferation of disinformation and misinformation.

The post-truth concept gained traction internationally after the 2016 United States Election and the Brexit referendum and in New Zealand after the occupation of Parliament grounds in 2022. Hannah (2022a) considers that since the Parliament occupation, pockets of Aotearoa have formed their own social networks centred within narratives of exclusion, division, polarisation, and hate.

Declining trust is a global phenomenon often attributed to the post-truth era. Globally, trust has declined concerning the media, government and non-governmental organisations (Edelman, 2020) with recent research suggesting that the world is moving from a crisis of institutional trust to a crisis of interpersonal trust, with distrust in the media and societal fears as top drivers in polarization (Edelman, 2023).

A lack of faith in societal institutions triggered by economic anxiety, disinformation, mass-class divide and a failure of leaders has brought us to where we are today – deeply and dangerously polarized (Edelman, 2023). This has been exacerbated by social media which Edelman (2023) considers has created an epidemic of fake news that is now undermining democratic institutions. The public is increasingly opinionated, reverting to thought bubbles that reinforce presumption and bias.

Edwards, et al, (2019) considered that the post-truth era significantly damages the foundations of trust, although this research found that the way trust is earned has not changed in the post-trust era and that individual and institutional trust is built through engagement and relationships involving face to face contact. However, this research did not consider the impact of the post-truth era on distrust.

4.7 Competition for Sentiment

Many organisations and individuals attempt to compete for and influence sentiment for a variety of reasons, such as promoting sales, monetising engagement or building online influence. This literature review focuses on industry organisations' competition for farmer sentiment and the underlying reasons for influencing sentiment.

Industry organisations are competing for farmer sentiment to gain recognition for their work and win trust and legitimacy amongst farmers. In the post-truth society, political and social actors compete to win trust, legitimacy, and efficacy (Edwards, et al., 2019).

Weir (2022) found that the agriculture sector could be seen to be working the news cycle to create headlines, relevance and, for some, to maintain financial support through membership. Added to this is the degree of industry fragmentation that creates organisations which crave attribution (Weir, 2022). Although this research doesn't investigate how industry organisations are attempting to achieve this attribution or the consequences of this.

Perceptions of farmers' social licence to operate are changing and industry organisations, in attempting to preserve this social licence, compete with these threats by using use themes that reinforce negative farmer sentiment. Farmers' structures, systems and beliefs of land holding, production methods, value chains and everyday farming routines have been brought into question (Sowman, 2019). Discussions on social license often lead to highly charged emotions, with community activists and governments alike using evocative language to support their particular values and objectives (Edwards, et al., 2019).

Eade (2022) proposes that farmers have lost their political weight. When in doubt they protest or fight through advocacy because farmers do not currently have the right mix of tools needed to drive change in a modern world. Campbell (2021b) states that the Groundswell farmer protests were the last sighs from what used to be the most powerful and unified cultural and political force in New Zealand's history.

How organisations communicate with the farming industry impacts farmer sentiment. Shifts in people's thinking are driven by scientifically developed and tested narrative strategies (The Workshop, 2021). However, common communication strategies include both emotional and rational appeals, with strategy and symbolism working together to influence public opinion and social outcomes (Edwards, et al., 2019).

The three main organisations working to influence farmer perception are BLNZ, Federated Farmers and Groundswell.

B+LNZ is a commodity levy-funded organisation which as part of its priorities has a focus on "championing the sector". Through this, the organisation seeks to build respect and support amongst New Zealanders and advocate for government policies. Expenditure on this issue is budgeted to increase from \$6.0 million in 2022 to \$6.9 million in 2023, comprising 20% of B+LNZs' total expenditure. Within this strategic pillar is communication to keep farmers informed and "telling the farmer story" which cost \$1.65 million in 2022. Between 2017 and 2020 communication was not included as a separate budget line but was included under government and public insight and engagement which focussed on policy advocacy. B+LNZ's investment in government and public insight and engagement increased from \$1.2 million in 2017 to \$3.4 million in 2020.

Federated Farmers is a membership organisation which lobbies and advocates on behalf of farmers as well as providing legal advice and contracts to farmers. The organisation promotes itself as New Zealand's leading independent rural advocacy organisation (Weir, 2022). Policy is membership driven and Federated Farmers source their income from a subscription-based model.

Groundswell NZ (Groundswell) was founded in 2020, arising from frustrations over "unworkable regulations", organising two nationwide protests in July 2021 and November 2021. Groundswell promotes itself as a grassroots volunteer-driven advocacy group seeking a halt to, and rewrite of, unworkable regulations which unfairly impact farmers and rural communities (Groundswell NZ, 2023)

The investigative interviews revealed that no prior research has been completed on the competition for sentiment of New Zealand farmers, or the impact of industry organisations on farmer sentiment.

5 Analysis

This section analyses and discusses the key findings and trends from semi-structured interviews with industry leaders, industry organisations and the media, together with a scan of media releases and social media posts from industry organisations.

Thematic analysis of the semi-structured interviews is discussed in the methodology. From this analysis, a mind map was developed sorting the interview insights into six key themes.

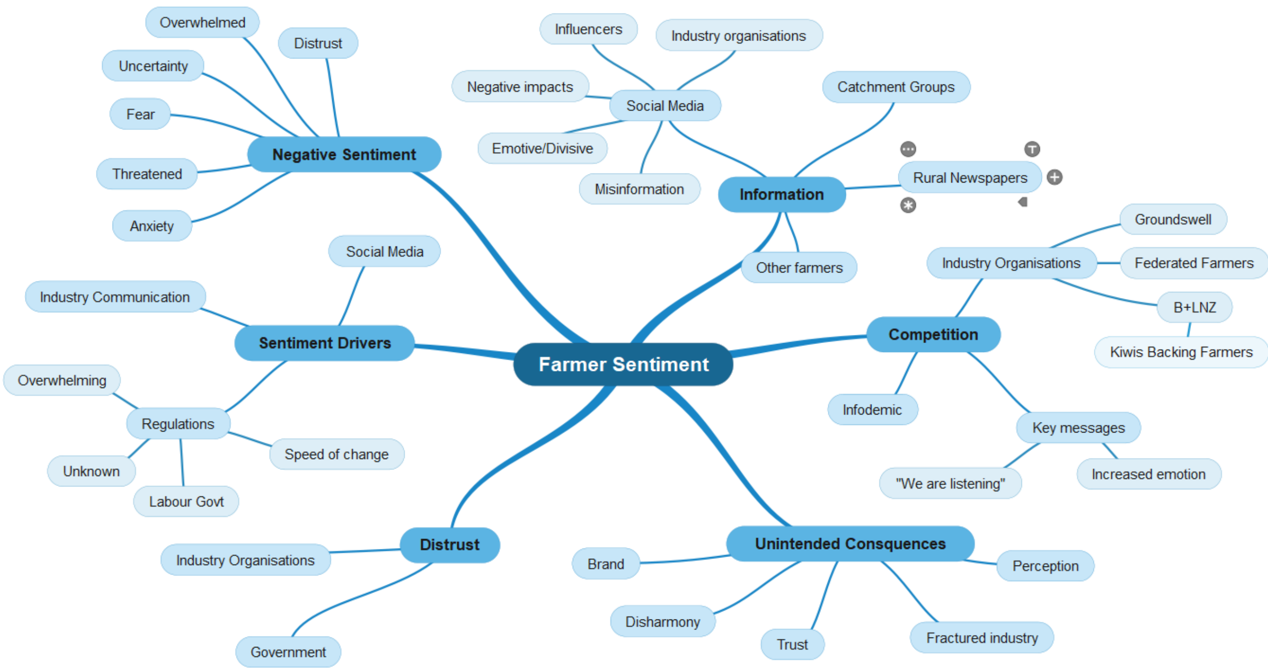

Figure 3: Thematic map of key themes from analysis of interviews

5.1 Farmer Sentiment

The interviewees were asked to describe current farmer sentiment and trends in farmers' views and opinions. The keywords describing sentiment were extracted from the interview transcriptions to build a word cloud showing the key themes of farmer sentiment.

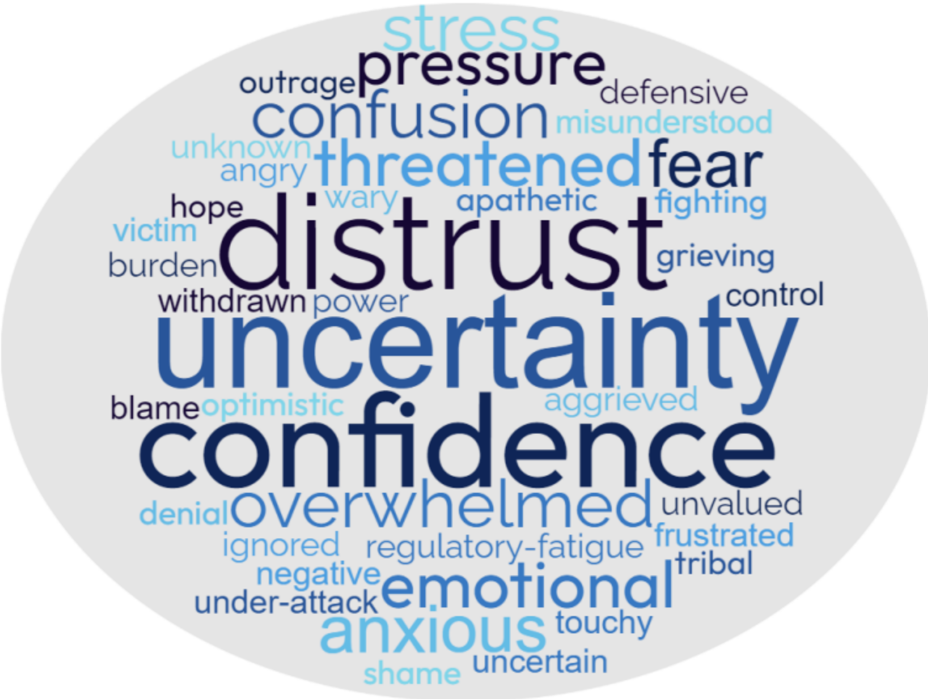

Figure 4: Word cloud showing keywords from interviews describing farmer sentiment. Note "confidence" relates to the low level of confidence amongst farmers, opposed to high confidence

The interviewees considered that current farmer sentiment is profoundly negative with little optimism. Farmers are lacking confidence, feel overwhelmed and increasingly uncertain of their future and feel their way of life is threatened. This uncertainty is leading to fear, anxiety and stress.

"Farmer sentiment is at rock bottom"

As a result, mistrust has grown about industry organisations, government across all levels and public perception. This negative sentiment has become more visible and forthright over the last 2-3 years.

Farmers generally do not feel valued by the public or government regarding their importance to the economy and as guardians of the environment, and their social license to operate is under pressure.

All the participants considered that many farmers did not feel that they were being listened to by their industry groups or government and that industry organisations are not acting in farmers' best interests. Some consider that industry organisations have become too close to the government. These feelings have further intensified since the He Waka Eke Noa (HWEN) process. They agreed that farmers want to feel they have been heard and valued. One participant did note that some confuse disagreement with not being listened to.

The common view from interviewees was that the number and tone of remits at the BLNZ Annual General Meeting (AGM) together with South Island Beef and Lamb director elections and satisfaction survey results in the B+LNZ's annual report provide further evidence that farmers consider they are not being listened to.

"We are conflating not being listened to with agreement"

Several interviewees mentioned that confidence had been decreasing in recent times despite favourable economic conditions. They observed that, in the past, farmer confidence was aligned with economic and climatic factors but that this link had become decoupled in the last one to two years.

There is concern that farmer confidence could deteriorate further due to a decline in profitability arising from lower commodity prices, increased farm working costs and significantly higher debt servicing costs. Several mentioned that if current trends continue farmer sentiment could be "very ugly".

Several interviews mentioned the loss of political power, the loss of property rights and even entitlement in the farming sector. This is resulting in farmers feeling that their way of life is under threat.

5.2 Drivers of Sentiment

The interviewees were asked what the underlying reasons for current farmer sentiment were. Most of the participants considered that it was the unknown aspect of future regulations that was having the greatest impact on farmer sentiment. This is considered by some to be due to a majority Labour Government pushing their agenda while they had the political capital.

Some considered that the actual impact of regulations might not be as significant as what farmers are fearing but the uncertainty associated with potential future regulations was resulting in farmers and industry organisations ruminating and catastrophising.

None of the interviewees stated that the competition for sentiment from industry organisations had impacted current farmer sentiment or that industry organisations were purposely trying to influence farmer sentiment.

However, communication from industry organisations and leaders was considered to have an impact on farmer sentiment. This was centred on four areas:

1) Farmers are not being made aware of global trends such as consumer preferences and demand for climate-neutral products. Instead, they are being told that the government and the public are trying to "get you".
2) A failure to engage with farmers and take them on the journey.
3) An information vacuum during critical times.
4) Defensive and emotive-based communication to let farmers know they are being heard.

Many used HWEN as an example of poor communication from industry organisations. By not gaining agreement with farmers early on why this was necessary, it was felt that an information vacuum was created during the HWEN process, which led to mistrust and was filled with fear by groups with an alternative agenda, together with a rushed consultation process during Covid lockdowns.

Following strong farmer feedback on HWEN, industry organisations have changed their communication to let farmers know they have been heard and that they have their backs. This recent communication has been emotive-based and some interview participants considered the industry to be fuelling angst to drive outcomes and to be lobbying with fear.

There was a consensus that sentiment had changed rapidly since the Covid lockdowns, possibly due to less face-to-face engagement and more time on social media. Many felt that the use of social media has increased negative sentiment by amplifying emotional and divisive messages, together with bias confirmation.

5.3 Trust and Information

The interviews indicated that farmers were struggling with information overload and fractured messages. Farmers source most of their information from rural newspapers and placed their trust in neighbours and other farmers to provide them with accurate information. In addition, many participants mentioned catchment groups as useful forum to provide information to farmers.

There is a growing level of mistrust amongst farmers, particularly about government and industry organisations.

> *"Farmers don't trust anything from Wellington or complexity"*

The interviews suggested that farmers are poor at critically assessing information, evaluating the source of the information and identifying mis- and disinformation in both printed news and social media platforms. However, it was considered that this is no different from the general public.

> *"We mistake criticising with critical analysis"*

Most interviewees considered that social media use is increasing amongst farmers, industry organisations and lobby groups. While there was agreement that social media can be useful as a tool to spread messages, inform and in some instances provide social connection, there was widespread concern regarding the negative impacts.

Concerns included providing a platform for the uninformed, promoting divisive and enraged content, personal attacks, creating information echo chambers and giving the vocal minority the appearance of representing the wider industry. Most consider that social media is not a safe or productive space to debate industry issues and were concerned at the increase in mis- and disinformation via social media.

> *"Social media allows messages that are not factually correct to be communicated effectively"*

Industry organisations considered social media to be an effective method of reaching a geographically spread audience and are planning on increasing their social media presence further.

5.4 The Competition for Farmer Sentiment

The main groups considered to be competing for farmer sentiment are B+LNZ, Federated Farmers, Groundswell, and the Government, including opposition parties.

The interviews indicate that the industry organisations and lobby groups are not consciously competing for farmer sentiment but instead are attempting to differentiate their messages amongst the vast quantity of information being presented to farmers while informing farmers they are being listened to and supported.

Interviews with representatives from industry organisations indicated that these organisations considered their communication with farmers to be fact-based, neutral (not overly negative), and focused on influencing sentiment. There was an acknowledgement that there is an increase in emotive-based communication, although this was often considered to be from "other" organisations. Industry organisations do not appear to be actively considering the impact of their communication on farmer sentiment.

Industry organisations are acutely aware they farmers feel like they are not being heard or supported by their representatives. This message has been amplified by lobby groups such as Groundswell.

In response to these concerns, industry organisations are using more emotive communications in a "hearts and minds campaign" to let farmers know they are being heard and supported, like the below quote from Federated Farmers president Andrew Hoggard (Pearse & Neilson, 2022).

Emissions pricing will "rip the guts out of small-town New Zealand"

It was considered that the increased use of social media by industry organisations, lobbying groups and farmers is changing the way the industry communicates. This results in more emotive-based communication at the expense of facts, which further acerbates feelings of mistrust.

Some interviewees considered that the use of social media in farming was creating popular influencers building egos based on likes as opposed to fact-based, constructive conversations. The more divisive and emotive the message, the more engagement and likes, therefore encouraging more divisive, emotionally charged content.

The "Kiwis Backing Farmers" campaign was considered an example of defensive messaging portraying farmers as victims, using emotional triggers to inform farmers that they were being heard. From B+LNZs perspective, this campaign was a method from their toolbox to inform politicians of the impact of unworkable regulations while giving farmers a voice.

While representatives from industry organisations considered most of their messages to be fact-based and not emotionally charged, other industry leaders and media interviewees had observed an increase in emotive and catastrophising communications. One long-term media participant stated they "couldn't remember a time when the language of press releases was so strong".

"Craving for status within our tribe defines who we become"

Some industry leaders and media participants questioned the motivation of leaders within industry organisations in terms of trying to stay popular versus leading the industry through difficult changes. They considered that both B+LNZ and Federated farmers were concerned about losing relevancy and votes/subscriptions, which provided motivation to produce stronger communications.

5.5 The Role of Industry Organisations

Some interviewees discussed the challenge of leading the industry through tough but necessary change (as required by markets, societal expectations etc) which farmers may find threatening but at the same time having empathetic conversations and ensuring that farmers are being listened to and valued.

Many consider that industry organisations need to take a role in creating safe places for the industry to discuss and debate issues. They felt social media is not necessarily the appropriate platform for this task, and the leaders need to better model constructive behaviours and call out misinformation.

"We accept what we walk past' – misinformation

Several considered that to update farmers on upcoming changes, the industry needs to move from communication based on emotional triggers and catastrophising to sending clear signals on megatrends. The industry needs to connect with farmers in face-to-face forums, engage early to gain agreement on the why and maintain constant communication and consultation to ensure farmers and the industry organisations are on the journey together.

"How can we disagree agreeably"

"We need to bring collegiality back into our conversations"

5.6 Unintended Consequences

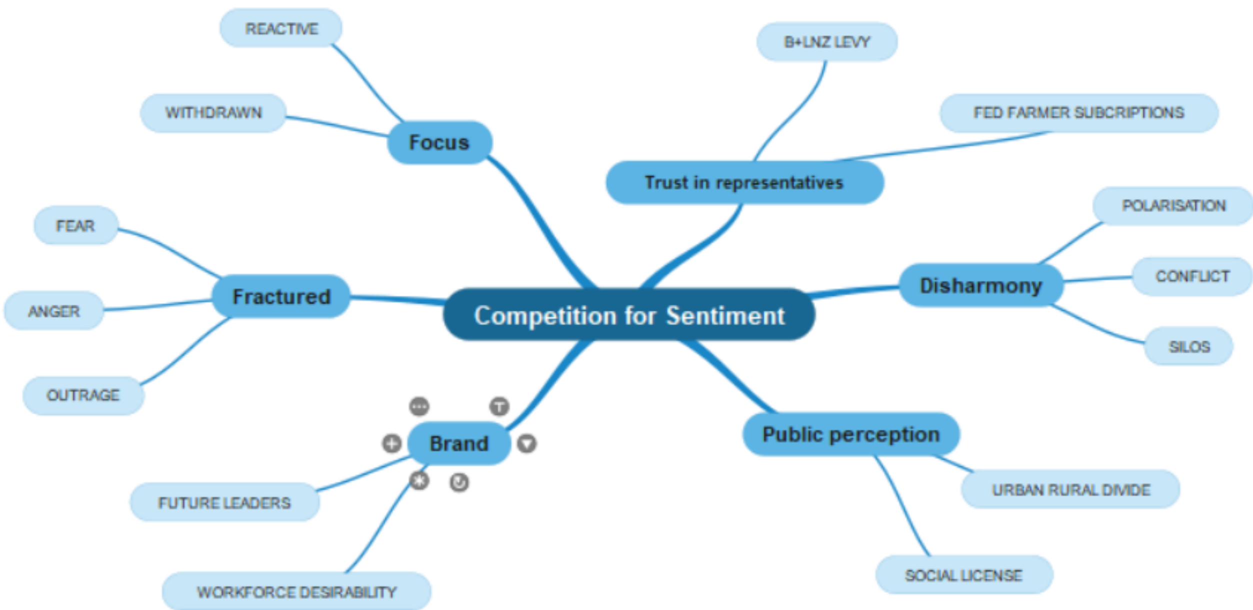

Figure 5: Mind map of the unintended consequences of competition for farmer sentiment

The participants were all concerned by the current state of farmer sentiment and the potential for sentiment to deteriorate further. However, there was a common view that once pending regulations are implemented, they may not be as dire as predicted and that farmers will adjust and get on with farming.

"This too will pass"

The primary concerns were that the competition for farmer sentiment using more emotive language and reinforcing farmers' fears will result in increased levels of mistrust, division and outrage, causing the industry to lose cohesion and fracture. As a result, there were concerns this could lead to B+LNZ losing its levy vote and decreased Federated Farmer subscriptions.

Other potential consequences include:

- Loss of social license to operate.
- Increased conflict within the industry.
- A siloed approach between primary sectors.
- Impact on the sector's brand.
- Seen as less desirable for young people considering entering the industry.
- Antagonism impacting public perception of farmers (urban: rural divide).
- Sector energy directed to fighting and pushing back as opposed to focussing on solutions.
- Narrowing of mindsets.
- Future leaders are reluctant to step into leadership roles due to personal attacks and vitriol on social media.

5.7 Media Scan

A media scan was completed to look at the focus and language used by the parties working to influence sentiment via media releases and Facebook posts as described in the methodology section.

Table 1: Summary of Media Releases

	Negative Media Releases					Positive/Neutral Media Releases				
	Regulations	**CC/ETS***	**Forestry**	**Other**	**Total**	**Best Practise**	**Trade**	**Corporate**	**Other**	**Total**
Federated Farmers	12	3	1	3	**19**	8	0	6	8	**22**
B+LNZ	6	3	4	1	**14**	7	4	8	6	**25**
Total	18	6	5	4	**33**	15	4	14	14	**47**

**Climate Change / Emissions Trading Scheme.*

Analysis of the media releases shows that the majority (59%) are positive or neutral. Federated Farmers appear to have more negative media releases than B+LNZ. This aligns with Federated Farmer's focus on advocacy and therefore regulations that impact farmers, while B+LNZ have a specific focus on promoting best practice by funding research and development including field days and awards.

The highest number of media releases was related to regulations. This aligns with the results of the literature review and interviews that the primary driver of the current state of farmer sentiment is due to environmental regulations and raises the question: is this sentiment a result of communication from industry organisations?

Corporate media releases include B+LNZ AGM and Director elections, while other positive media releases include information on the cyclone recovery and wellbeing initiatives.

Table 2: Summary of Facebook Posts

	Total Posts			Negative Posts		
	Number	**Likes**	**Comments**	**Number**	**Likes**	**Comments**
Federated Farmers	61	30	5	20	46	13
B+LNZ	104	11	2	11	13	5
Backing Farmers	13	145	42			
Groundswell	49	393	100			

Note: Likes and comments referred to the average per post.

The Facebook analysis shows how social media promotes fear and negativity, with negative posts achieving more engagement via likes and comments than other posts. Despite most of the content from B+LNZ and Federated Farmers being positive, the focus is directed towards negative narratives which achieve more engagement.

The percentage of negative posts by Federated farmers and B+LNZ was 33% and 11% respectively. The topic with the largest number of posts from B+LNZ was promoting best practise at 54% of total posts. Best practice includes field days, awards, and technical information such as parasite management. The most posted topic for Federated Farmers was related to Cyclone Gabrielle at 24%, with best practice at 11%.

Federated Farmers achieved more engagement than B+LNZ as shown by the average number of likes and comments per post. This was due to the negative posts from Federated Farmers gaining more attention and engagement than other posts. Negative posts from Federated Farmers gained twice as many likes as positive or neutral posts. The topic with the most engagement for Federated Farmers was climate change and the ETS, at 67 likes and 17 comments per post.

Engagement appeared consistent across all B+NZ posts with little differentiation for the negative posts. However, this could be because this focus was directed to the Kiwis Backing Farmers Campaign. All the posts on this platform were either focused on forestry or government regulations so the analysis did not separate these into negative and positive posts.

The Kiwis Backing Farmers campaign achieved more engagement than Federated Farmers or B+LNZ. However, Groundswell achieved significantly more social media engagement, with the average number of likes per post at 2.7 times more than Kiwis Backing Farmers and 35 times more than the average 'likes' of B+LNZs posts over the same period.

The Groundswell NZ posts were focused on 2 main topics: food costs and the importance of feed production. They included memes focused on the effect of unworkable regulations and the costs of regulations on Bread and Butter and food costs in New Zealand.

6 Key Findings

The key findings section of this report interprets the insights gained from the semi-structured interviews and media scan while considering the literature review.

Farmer Sentiment

The literature review and interviews show that farmer sentiment is exceedingly negative and is manifesting as decreased trust in government and industry representatives. They feel overwhelmed and uncertain about the future, leading to fear, anxiety and stress. Farmers feel threatened and consider they are not valued, understood, or listened to. These trends in farmer sentiment are similar to global trends in trust formed in the post-truth era and are impacting farmer mental health, as evidenced by trends in mental health shown in the literature review.

Competition for Farmer Sentiment

No prior research has been completed on the competition between industry organisations for sentiment nor the impact of communication from industry organisations on farmer sentiment, emotions or perceptions. Farmer confidence surveys discussed in the literature review, and the semi-structured interviews both attribute current farmer sentiment to government regulations and financial factors. Although it should be noted that two of the farmer confidence surveys are completed by industry organisations and may be framed to avoid criticism of the organisations themselves.

Most interview participants, including representatives from industry organisations, had not considered the impact of how industry organisations are communicating with farmers on farmer sentiment. There is, however, a recognition that the messaging has grown more emotional to let farmers know they are being heard and supported.

The interviews and media scan suggest that Federated Farmers and B+LNZ are not consciously attempting to influence farmer sentiment with malice. Also, industry organisations do not seem to be actively competing against each other for farmer sentiment.

The impact of Industry Organisations

Industry organisations are trying to influence sentiment to inform farmers that they are listening and are working on their behalf. The competition is not so much between the organisations representing farmers, but rather that those organisations are competing against the 'infodemic', which represents an overabundance of information, some accurate and some not (Hannah, 2022a).

Most media releases and posts from B+LNZ and Federated Farmers are positive or neutral. However, to inform farmers that they are being heard and supported and ensure relevancy, attribution and financial support, industry organisations unconsciously increase their use of emotive messages in media releases and social media.

This is supported by interviews with industry leaders, media participants, and the media scan., together with the literature review that found the agriculture sector could be seen to be working the news cycle to create headlines, relevance and for some to maintain financial support through membership (Weir, 2022) and that in the post-truth society, political and social actors compete to win trust, legitimacy, and efficacy (Edwards, et al., 2019).

Industry organisations are trying to change the perception amongst farmers that they are not being heard or supported via increased media releases and social media posts. However, research shows that this is potentially counterproductive in that once perceptions are held they are difficult to change (Russo, Carlsen, & Meloy, 2006) and the more leaders appear in the media, the less they are trusted (Edwards, et al., 2019).

So, industry attempts to change farmers' perceptions could be contributing to the decrease in trust and satisfaction in industry organisations as shown by the B+LNZ satisfaction levels and consistent with the interviews.

The focus of these messages is potentially reinforcing the sentiment held by farmers that they are not valued by the public and that the government is out to get them. Table 1 shows that 55% of negative media releases from B+LNZ and Federated Farmers are related to government regulations. This coincides with the primary reason for the negative sentiment from farmer confidence surveys and interviews. Further research is required to investigate if the focus of media releases is in response to farmer confidence surveys or if they contribute to current farmer sentiment.

Farmer information sources

The literature review and interviews concur that farmers have small professional and social networks (Small, Brown, & Montes de Oca Munguia, 2015). Their main sources of information are rural newspapers and other farmers and neighbours (The Nielsen Company, 2019). As a result, most of the information they receive is aligned with their current world views and risks building an echo chamber that is impermeable to new ideas or global trends. This shows the importance and responsibility of rural news providers as the main source of information to provide content that introduces new ideas and megatrends.

However, the interviews and literature review show that farmers are increasing their use of the Internet (The Nielsen Company, 2019) and social media (Phillips, Klerkx, & Marie, 2018). The interviews also highlighted that industry organisations are increasing their use of social media as an effective method to reach farmers.

Social Media

Increasing the use of social media has significant risks. Using social media to reach farmers, discuss industry issues and achieve cohesion does not match the business model of social media, which is to drive engagement via algorithms that can tend towards amplifying fear, anger and divisiveness while further reinforcing echo chambers and underlying biases.

The media scan provides evidence that negative messages including government regulation receive higher levels of engagement which are then promoted more widely by social media algorithms. Federated Farmer posts that are negative achieve twice the engagement via likes and comments than other posts.

Furthermore, the use of emotive language and focusing on issues that elicit strong responses, such as pines taking over rural communities, 'unworkable' government regulation and farming tax significantly amplifies engagement. This can be seen in the significantly higher number of likes and comments for posts related to the Kiwis Backing Farmers campaign and Groundswell.

Facebook posts from Groundswell, which are mostly negative and use emotive language, have 35 times more likes and 5 times more comments than B+LNZ Facebook posts, of which only 11% have a negative focus. This data aligns with the findings in the literature review that anger is the emotion that travels the fastest and farthest on social media (Fan, Zhao, & Xu, 2014) and the presence of emotional language increases diffusion (Brady, Wills, & Bavel, 2017).

Mis- and disinformation

As discussed previously current farmer sentiment is characterised by fear, uncertainty and anxiety for the future. Hannah (2022a) found that these characteristics contribute to an individual's propensity to first entertain and then believe and advocate for conspiratorial ideas.

Groups that exclusively use social media and rely on memes focusing on key themes like 'the government is against farmers' are disenfranchising certain members of the farming community. Encouraging anger and fear and feelings of isolation could result in people inadvertently entertaining disinformation and enable them to be enticed by deliberately malign individuals or organisations using themes like 'the government is against you' and loss of entitlement as a bridge into areas such as racism, misogyny, climate change denial and white supremacism. Distrust in government is a key area of disinformation (Daubs, 2022).

Unintended Consequences

Industry organisations trying to influence farmer sentiment has the potential to negatively impact farmer sentiment further, resulting in industry polarisation and division. This will potentially lead to further loss of farmer support for industry organisations, decreased cohesiveness, and harm to the perception of the farming industry – resulting in decreased desirability for those entering the industry and impacting the industry's social license to operate.

7 Conclusions

The purpose of this research was to explore if industry leaders, representatives and lobby groups are further reinforcing and exacerbating negative sentiment by the way they are communicating with farmers and what are the potential future consequences.

Industry organisations and leaders are not monitoring or contemplating the impact of how they are communicating, and the media channels used on farmer sentiment. Combined with a lack of prior research on this topic and global trends in trust it is difficult to conclusively link industry organisation communication to negative farmer sentiment.

This research found that while industry organisations are not purposely competing with each other for sentiment they are working to influence sentiment using the media and social media to inform farmers they are being heard and supported and to ensure relevancy, attribution, and financial support. This is resulting in the use of emotional language, topics, and targeted campaigns that permeate fear and anxiety among farmers.

The methodology and media channels used by industry organisations to influence farmers' perceptions are conceivably exacerbating negative sentiment and distrust of industry organisations, becoming counterproductive to the original objectives of the industry organisations.

Moreover, this strategy could result in significant consequences for the farming sector such as polarisation, loss of cohesiveness and an increase in negative perception, ultimately undermining the sector's social license to operate.

By using social media as an effective method to reach widespread audiences and permeating messages of fear, uncertainty and anxiety for the future, industry organisations may unwittingly be creating an environment where disinformation and polarisation thrive.

8 Recommendations

These recommendations aim to outline principles for industry leaders and organisations to consider when communicating with farmers to prevent further exacerbating negative sentiment and potential unintended consequences.

Consider the potential impact of communication.

- When communicating with farmers, producing media releases and social media posts, industry leaders should consider the potential impact on farmer sentiment. This includes giving thought to whether the communication is emotive and could result in increased levels of fear and anxiety.
- Research and monitor the impact of communication on farmer sentiment to ensure industry organisations are not exacerbating and reinforcing negative sentiment.

Model best behaviour.

- Industry leaders should lead from the front and communicate positively without reverting to unnecessary catastrophising, defending, or trying to show empathy by point scoring and reinforcing negative narratives.

Create safe spaces for industry discussion and debate.

- Social media platforms are not designed for robust, constructive conversations. Using media releases and social media posts to inform farmers they are being heard can be counterproductive.
- Set clear boundaries and rules of engagement for discussion and debate.
- Create an environment where different perspectives are valued.

Develop communications strategies that bring farmers on the journey with you.

- Communicate early on future trends that could impact farmers to raise awareness.
- Engage early to gain agreement on the 'why' before moving forward.
- Communicate regularly to reduce information vacuums.
- Build trust through personal interactions and engagement involving face-to-face contact.

Raise industry awareness of the presence and impact of mis- and disinformation.

- Invest in industry awareness on the perils of mis- and disinformation, including leadership training in critical thinking.
- Actively highlight mis- and disinformation that is being circulated throughout the industry.

9 References

Acumen. (2022). *Trust in New Zealand. Acumen Edelman Trust Barometer New Zealand.* Retrieved from Acumen NZ: https://acumennz.com/

AUT Research Centre for Journalism, Media & Democracy. (2023). *Trust in news in Aotearoa New Zealand 2023.* AUT research centre for Journalism, Media and Democracy (JMAD). Retrieved from https://www.jmadresearch.com/trust-in-news-in-new-zealand

Bayne, K., Edwards, P., & Payn, T. (2019). Media coverage of recent New Zealand storm events. *NZ Journal of Forestry*, 64(1), 17.

Beef and Lamb NZ. (2022). *Annual Report 2022.* Beef and Lamb New Zealand. Retrieved from https://beeflambnz.com/sites/default/files/content-pages/BLNZ-AR-2022.pdf

Bice, S., & Moffat, K. (2014). Social License to operate and impact assessment. *Impact Assessment and Project Appraisal, 32:4*, 257-262. doi:10.1080/14615517.2014.950122

Brady, W., Wills, J., & Bavel, J. (2017). Emotion shapes the diffusion of moralized content in social networks. *Proceedings of the National Academy of Sciences, 114(28)*, (pp. 7313-7318). Retrieved from https://www.pnas.org/doi/abs/10.1073/pnas.1618923114

Brand, E. (2017). *Impact of Social Media on the primary industry in New Zealand.* Kellogg Rural Leadership Programme. Retrieved from https://ruralleaders.co.nz/wp-content/uploads/2022/12/Emma-Brand_Investigating-the-Impact-of-Social-Media-in-the-Primary-Industry_Kellogg-report.pdf

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*, 77-101. doi:10.1191/1478088706qp063oa

Brown, P., & Roper, S. (2017). Innovation and networks in New Zealand farming. *Australian Journal of agricultural and resource economics, 61(3)*, 422-442. doi:10.1111/1467-8489.12211

Brown, P., Daigneault, A., & Dawson, J. (2019). Age, values, farming objectives, past management decisions and future intentions in New Zealand agriculture. *Journal of environmental management, 231*, 110-220. doi:10.1016/j.jenvman.2018.10.018

Cambridge Dictionary. (2023a). *Sentiment*. Retrieved from Cambridge Dictionary: https://dictionary.cambridge.org/dictionary/english/sentiment

Cambridge Dictionary. (2023b). *Post-truth*. Retrieved from Cambridge Dictionary: https://dictionary.cambridge.org/dictionary/english/post-truth

Campbell, H. (2021). *Stop the clocks: The politics of nostalgia in the Groundswell farmer protests*. Retrieved from Newsroom: https://www.newsroom.co.nz/ideasroom/stop-the-clocks-the-politics-of-nostalgia-in-the-groundswell-farmer-protests

Campbell, H. (2021(b)). *Divided they fall: NZ's complex farming future*. Retrieved from Newsroom: https://www.newsroom.co.nz/ideasroom/divided-they-fall-nzs-complex-farming-future

Daubs, M. (2022). *Affect, bias and disinformation*. Retrieved from Royal Society: https://www.royalsociety.org.nz/what-we-do/our-expert-advice/speakers-science-forum/speakers-science-forum-2022/speakers-science-forum-misinformation/

Docehring, K., Longnecker, N., Cole, C., Young, R., & Robb, C. (2022). A missing piece of the puzzle of on-farm freshwater restoration: What motivates land managers to record and report land management actions? *Ecology and Society, 27, no. 4*. doi:10.5751/ES-13562-270425

Eade, D. (2022). *Resign or redesign*. Nuffield New Zealand. Retrieved from https://ruralleaders.co.nz/wp-content/uploads/2022/05/David-Eade_Resign-or-Redesign_Nuffield-Report.pdf

Edelman. (2020). *20 years of trust*. Retrieved from Edleman: https://www.edelman.com/20yearsoftrust/

Edelman. (2023). *2023 Edelman Trust barometer*. Intelligence, E. Retrieved from https://www.edelman.com/sites/g/files/aatuss191/files/2023-03/2023%20Edelman%20Trust%20Barometer%20Global%20Report%20FINAL.pdf

Edwards, P., Fleming, A., Lacey, J., Lester, L., Pinkard, E., Ruskstuhl, K., . . . Williams, T. (2019). Trust, engagement, information and social licence - insights from New Zealand. *Environmental Research Letters 14(2)*, 024010. doi:10.1088/1748-9326/aaf33c

Edwards, P., Lacey, J., Fleming, A., Bezuidenhout, C., Willams, T., Bayne, K., . . . Lester, L. (2018). *National Social License Forum Summary.* Scion.

Fan, R., Zhao, J., & Xu, K. (2014). Anger is more influential than joy: Sentiment correlation in Weibo. *Plos one, 9(10)*, p. e110184. Retrieved from https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0110184

Federated Farmers. (2023). *Mid-Season Farm Confidence January 2023.* Federated Farmers New Zealand.

Gabel, J. (2022). *Rebuilding better: poll reveals what Kiwis trust the most*. Retrieved from NZ Herald: https://www.nzherald.co.nz/nz/rebuilding-better-poll-reveals-the-key-institutions-most-trusted-by-kiwis/QSZZBUTYBZGNPOL255PQKIO3UM/

Gluckman, P., Bardsley, A., Spoonly, P., Royal, C., Simon-Kumar, N., & Chen, A. (2021). *Sustaining Aotearoa New Zealand as a cohesive society.* Koi Tu.

Goffin, A. (2014). *Farmers' mental health: A review of the literature.* ACC. Retrieved from https://www.acc.co.nz/assets/research/dcaf5b4e0d/farmer-mental-health-review.pdf

Gosnell, H., Gill, N. g., & Voyer, M. (2019). Transformational adaption on the farm: processes of changes and persistence in transitions to 'climate smart' regenerative agriculture. *Global Environmental Change 59*. Retrieved from https://pdf.sciencedirectassets.com/271866/1-s2.0-S0959378019X00060/1-s2.0-S0959378018309117/am.pdf?X-Amz-Security-Token=IQoJb3JpZ2luX2VjEDIaCXVzLWVhc3QtMSJHMEUCIHhMtIaepQPCG%2F38BY%2BsYFx1Z4vbVh143a%2FD9vjWW9kPAiEAp6SsPoEfoUqLn58Rx7ZwqpryOQgqwIrJ%2Fm%2B1

Gosnell, H., Gill, N., & Voyer, M. (2019). Transformational adaption on the farm: processes of change and persistence in transitions to 'climate smart' regenerative agriculture. *Global Environmental Change, 59*, 101965. doi:10.1016/j.gloenvcha.2019.101965

Groundswell NZ. (2023). *Groundswell NZ - our story*. Retrieved from Groundswell NZ: https://www.groundswellnz.co.nz/our-story

Hannah, K. (2022a). *Eroded information ecologies: Social cohesion, trust, and the impact of misinformation*. Retrieved from The Disinformation Project: https://thedisinfoproject.org/2022/07/20/eroded-information-ecologies-social-cohesion-trust-and-the-impact-of-misinformation/

Hannah, K. (2022b). *The common good or the tragedy of the commons? Social cohesion, trust, and the impact of misinformation*. Retrieved from Royal Society: https://www.royalsociety.org.nz/what-we-do/our-expert-advice/speakers-science-forum/speakers-science-forum-2022/speakers-science-forum-misinformation/

Hattotuwa, D., Hannah, K., & Taylor, K. (2023). *Transgressive transitions: Transphobia, community building, bridging, and bonding within Aotearoa New Zealand's disinformation ecologies March-April 2023.* The Disinformation Project. Retrieved from https://thedisinfoproject.org/wp-content/uploads/2023/05/Transgressive-Transitions.pdf

Horwitz, J., & Seetharaman, D. (2020). *Facebook executives shut down efforts to make the site less divisive*. Retrieved from The Wallstreet Journal: https://www.wsj.com/articles/facebook-knows-it-encourages-division-top-executives-nixed-solutions-11590507499?mod=hp_lead_pos5

Millar, C. (2015). *Developing New Zealand's primary industries social capital.* Kellogg Rural Leadership Programme. Retrieved from https://www.dropbox.com/s/ntrmalf0xmzetts/Millar_C_Developing_New_Zealand_s_Primary_Industries_social_capital_Final.compressed.pdf?dl=0

Pearse, A., & Neilson, M. (2022). *Federated Farmers condemns government's agricultural emissions pricing plan*. Retrieved from NZHerald: https://www.nzherald.co.nz/nz/farm-emissions-scheme-federated-farmers-condemns-governments-agricultural-emissions-pricing-plan/F7US73J7Y3WSWBVOSJM4R3FTVU/

Phillips, T., Klerkx, L., & Marie, M. (2018). An investigation of social media's roles in knowledge exchange by farmers. *13th European International Farming Systems Association (IFSA), Farming systems: facing uncertainties and enhancing opportunities.* Retrieved from https://www.researchgate.net/profile/Tom-Phillips-8/publication/326626080_An_Investigation_of_Social_Media's_Roles_in_Knowledge_Exchange_by_Farmers/links/5b59afd0a6fdccf0b2f8ae99/An-Investigation-of-Social-Medias-Roles-in-Knowledge-Exchange-by-Farmers.pdf

Rabobank NZ. (2023). *Rural Confidence Survey*. Retrieved from Rabobank NZ: https://www.rabobank.co.nz/knowledge/rural-confidence-survey/

Russo, J., Carlsen, K., & Meloy, M. (2006). Choosing an Inferior Alternative. *Psychological Science 17(10)*, 899-904. doi:https://doi.org/10.1111/j.1467-9280.2006.01800.x

Small, B., Brown, P., & Montes de Oca Munguia, O. (2015). Values, trust and management in New Zealand agriculture. *International Journal of Agricultural Sustainability*. doi:10.1080/14735903.2015.1111571

Sowman, C. (2019). *Farming in a pressure cooker: How pressure impacts farmer decision making.* Nuffield New Zealand.

Stahlman-Brown, P. (2021). *Rural Decision Makers Survey 2021*. doi:10.7931/ 3tcs-wb24

Stanley, S. (2013). *Harnessing social media in agriculture.* Nuffield New Zealand. Retrieved from https://www.dropbox.com/s/kyhxdzp5qo9mqaz/S_Stanley_executive_summary.pdf?dl=0

The Disinformation Project. (2021). *Mis- and disinformation in Aotearoa New Zealand.* Retrieved from The Disinformation Project: https://thedisinfoproject.org/wp-content/uploads/2022/04/2021-11-Understanding-mis-and-disinformation.pdf

The Nielsen Company. (2019). *Climate issues facing farmers: Sustainable Land Management and Climate Change Research Programme.* Ministry for Primary Industries. Retrieved from https://www.mpi.govt.nz/dmsdocument/33747/direct

The Workshop. (2021). *How to talk about the future of farming in Aotearoa New Zealand.* The Workshop. Retrieved from https://ourlandandwater.nz/wp-content/uploads/2022/11/The-Workshop_How-To-Talk-About-The-Future-Of-Farming-INTERACTIVE.pdf

The Workshop. (2021). *Talking about landuse and farming practise change: A literature review*. The Workshop. Retrieved from https://static1.squarespace.com/static/5e582da2de97e67b190b180c/t/615ba2f8b6de7232f609f1fb/1633395455869/The+Workshop+2021_Talking+about+Land+Use+and+Farming+Practice+Change_A+Literature+Review.pdf

UMR Research. (2017). *New Zealander's views of the primary sector*. Ministry for Primary Industries. Retrieved from https://www.mpi.govt.nz/dmsdocument/27582-New-Zealanders-views-of-the-primary-sector

Vosoughi, S., Roy, D., & Aral, S. (2018). The spread of true and false news online. *Science, 359(6380)*, pp. 1146-1151. Retrieved from https://www.science.org/doi/10.1126/science.aap9559

Weir, P. (2022). *Restructuring industry good for the future*. Nuffield New Zealand. Retrieved from https://ruralleaders.co.nz/wp-content/uploads/2022/06/Phil-Weir_Restructuring-Industry-Good-for-the-Future_Nuffield-report.pdf