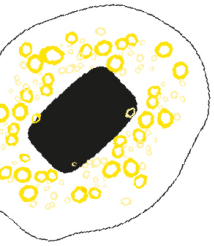


Framing the Outage

Analysing Media Framing of the 2023 Optus Outage Across Crisis Phases

Bachelor Thesis in Communication Science (BSc)

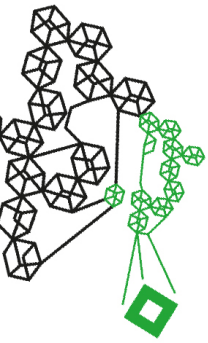
Prepared by
Tibor R. van Maas
s2882639

Supervisor
Dr. Jordy F. Gosselt

Department
Faculty of Behavioural, Management and Social Sciences (BMS)

University of Twente

July 1, 2024



Abstract

Aim: This study investigates the media framing of Australia's 2023 Optus network outage. Using framing theory and content analysis, it explores how media coverage changed during the crisis, from the first reports to the aftermath. Additionally, it investigates the consequences of crisis communication methods and organisational reputation management.

Method: A corpus of 188 news articles, TV clips, and radio transcripts from major Australian media outlets underwent qualitative content analysis. The study employed a two-tiered approach, utilising Semetko and Valkenburg (2000) news frames alongside context-specific codes adapted from Holladay (2010) work on crisis communication strategies.

Findings: The findings reveal significant shifts in media framing over five pre-defined time periods of the crisis. Initially, coverage concentrated on the immediate effect and economic consequences, with the responsibility framing dominating. As the situation worsened, the conflict frame became more prominent, indicating rising tensions between Optus and stakeholders. Later phases saw a greater emphasis on ethical implications and corporate responsibility, with the morality frame becoming increasingly prominent. The analysis also emphasised the importance of timely and transparent communication in shaping public perception during a crisis.

Conclusions: The study showed how media framing changed throughout a crisis and, in turn, how it influenced public sentiment and opinion. The findings highlight the importance of adaptive crisis communication techniques that respond to shifting media narratives. To maintain stakeholder confidence and prevent reputational harm, organisations amid crises must prioritise timely and transparent communication, visible leadership, and proactive response to moral challenges.

Keywords: Optus network outage, media framing, crisis communication, content analysis, telecommunications

Table of Contents

Introduction

The Optus network outage on 8 November 2023 sent Australia into chaos, with over 10 million customers left without phone and internet services (Gregory, 2023). This outage of the country's second-biggest telecommunications company had a significant impact on essential services like emergency response and healthcare. This comes just a year after Optus suffered a large-scale data breach, which exposed 10 million customer accounts, with thousands of customers having their data leaked to the dark web (Taylor, 2022). The widespread effects of the 14-hour outage brought to light the vital role that telecommunications play in everyday life and the need for a well-prepared crisis communications plan.

Research into media framing in such crises emphasises the media's power to influence public perception and stakeholder responses in safeguarding an organisation's reputation (Semetko & Valkenburg, 2000). Media frames are the narrative structure and emphases that news media use to package and present information, which conveys meaning to situations and events and influences how the public perceives and assesses crises (Entman, 1993). Analyses of media framing of the Optus outage offer valuable insights into how the crisis was portrayed, how responsibility was attributed, and how the public's perception of the crisis developed over time. In crises, the media is paramount in shaping public opinion or perception since they are the first through which one derives information and understanding (Park et al., 2024). In the case of Optus, a lack of urgency to communicate with stakeholders allowed speculation and misinformation to take over, causing the narrative to take on a life of its own. This situation demonstrates the importance of timely and transparent communication during crises to manage the immediate impact and safeguard an organisation's reputation. The media coverage during the crisis not only informed the public on the cause of the outage but also provided context for the crisis's economic, social, and political implications (Lin et al., 2016). Understanding how the media portrayed this outage is critical for researchers and practitioners in crisis communication and public relations, as it may guide tactics for effective crisis management and stakeholder communication in subsequent crises.

This study aims to investigate the dynamic nature of the media framing during the Optus network outage in the five distinct phases identified in this study. The study addresses a critical gap in crisis communications research by studying how media framing evolved across these phases. While extensive research exists on crisis communications strategies, little attention has been paid to how media framing evolves through the different phases of a crisis. This study addresses the following key research question: *How did the framing of media coverage of the Optus network outage change across the different phases of the crisis?*

The study takes a two-tiered approach, combining Semetko and Valkenburg's (2000) general frames with context-specific codes drawn from Holladay's (2010) work on crisis communication methods. With the prominence of social media and online news reporting, the window for responding to crises has significantly narrowed in today's media landscape. Organisations must move quickly to control the narrative and limit possible reputational damage. Delays in communication can result in misinformation, speculation, and loss of control over the situation. Therefore, organisations must have well-prepared crisis communication plans that can be implemented promptly to ensure effective responses. By understanding these changes at a macro level, this study aims to contribute to a broader understanding of crisis communication in the telecommunications sector of today's media landscape. It will also provide insights into the dynamic relationship between media coverage, public perception, and organisational response during large-scale technological failures. In the upcoming chapters, this paper will establish a theoretical framework that will lay the foundations for the research and explore the various aspects of media framing in crisis communications. The paper will then discuss the development of the coding scheme, the qualitative content analysis choices, and the findings related to the research question. The paper will offer recommendations for navigating subsequent crises of a similar nature.

Theoretical Framework

Crisis Communication

Crisis communication has been a vital aspect of public relations. Every organisation has inevitably faced a crisis, and it is up to them how they handled the crisis, both internally and externally, to mitigate any potential damage to an organisation's reputation. A crisis can be understood as how stakeholders perceive an event that jeopardises their key expectations and can affect the organisation's functioning (Coombs, 2009). Crises are primarily based on perception. If stakeholders perceive an event as a crisis, the organisation is deemed in a crisis unless it can effectively convince stakeholders otherwise (Coombs, 1999). Crises occur when events deviate from stakeholders' expectations, indicating that the organisation has taken actions that stakeholders consider unacceptable. There is no universally accepted definition of crisis, as interpretations vary among scholars, disciplines, and organisational contexts. Crises are complex phenomena that come in many forms and are understood differently by different people (Coombs & Holladay, 2012). While crises are commonly perceived as threats to organisational stability, it is important to recognise that they also present opportunities for growth, innovation, and positive change. As Friedman (2002) puts it, it is *"...not necessarily a bad thing. It may be a radical change for good as well as bad".* However, for this paper, we will focus primarily on how crises can be a threat to an organisation. In the context of the telecommunications network outage at Optus, a crisis can be defined as "*a major occurrence*

with a potentially negative outcome affecting an organisation, company, or industry, as well as publics, products, services or good name. It interrupts normal business transactions and can sometimes threaten the existence of the organisation" (Fearn-Banks, 1996). This definition encapsulates the unexpected nature of the outage, its potential to cause harm to the organisation and its stakeholders, and the urgency of the response required to mitigate its impact.

In today's world, when a crisis occurs, news about it has spread like wildfire. For that reason, communication scholars and professionals see crisis communication as an essential part of their public relations and communications strategy (Coombs & Holladay, 2012; Fearn-Banks, 1996; Friedman, 2002; Grundy & Moxon, 2013; Haupt, 2021; Holladay, 2010; Lin et al., 2016; Umansky, 1993). Crisis communications was seen as a way to respond to a threat to an organisation's reputation and involved addressing stakeholders' cognitive and emotional needs in a crisis (Dowling, 2002). It has included showing remorse, responding to the media promptly and informatively, and addressing enquiries. Effective crisis communication has involved the gathering, analysing, and disseminating information to handle a crisis strategically (Weiss-Blatt, 2021). The practical definition of crisis communication has been to deliver essential information about the crisis, such as what happened, who was involved, where and why, and how it might have affected the public (Weiss-Blatt, 2021). It also entailed to advise on what the public can do to lessen the crisis's threat.

Most people do not experience the crisis themselves. However, they hear and see it through the media. So organisations should know crisis communications' strategic advantage when disaster strikes (Holladay, 2010). The failure to front the media and stakeholders promptly and inform has been able to make or break an organisation in a crisis. At the very least, the organisation has needed to take action to reassure the community that things were under control and that efforts were underway to restore some form of normality (Holladay, 2010). The organisation's survival may not be in danger, but the crisis created uncertainty, and the public expected the organisation to act. The media were often an essential stakeholder to consider when stakeholders were communicated to. The media have run with messages from organisations. However, they also had complete control over how they communicated those messages to their audience. This communication technique is described as framing.

Several key theories and models offer frameworks for comprehending and putting crisis communication techniques into practice. Framing Theory is a key media theory as it describes how public views and interpretations of events can be influenced by how the media presents a crisis. Since stakeholder perception and response to a crisis can be influenced by the careful construction of a crisis message, Situation Crisis Communication Theory (SCCT) from Timothy Coombs presents

suitable crisis response strategies based on crisis type and level of organisational responsibility perceived. According to SCCT, an organisation's reputational harm may be minimised by aligning its crisis response strategy with the degree of reputational threat.

Additionally, the Uncertainty Reduction Theory (URT) sheds light on how individuals seek information to lessen uncertainty in times of crisis. By adopting URT principles, organisations may proactively address stakeholders' concerns and minimise ambiguity by providing clear and timely information. Applying these ideas to the design and execution of crisis communication can help organisations better control stakeholder trust, manage public perceptions, and minimise reputational damage during crises.

Framing Theory

Framing Theory was observed as an essential theory to comprehend how a communicator presented and packaged information by highlighting parts of a story while underplaying others, which in turn affected how the public viewed and understood the information (Entman, 1993). Entman (1993) defined framing as the process of highlighting specific characteristics *"of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation and/or treatment recommendation for the item described".* Framing Theory originated from the work of sociologist Erving Goffman, who provided a foundational understanding of how framing influences audience thinking (Norin & Kahlström, 2012). Entman (1993) noted that things made salient became more *"noticeable, meaningful, or memorable",* which in turn made it easier for the audience to understand and store in their memory.

Framing Theory explored the presentation of information, which had a major impact on its audience's perceptions and behaviour. The effects of framing were proven to affect attitudes, intentions, and actions across various contexts (Chong & Druckman, 2007; Semetko & Valkenburg, 2000). The framing of media stories can also exacerbate a situation and increase the traction of its publicity. Bourmeche (2022) revealed how robust framing was during the 2016 Brexit referendum when media framing had a major role on British expatriates, which resulted in British residents leaving for the European Union (EU). This was done through media framing, increasing their concern about national identity, influence on public opinion and business impact. The media selected specific aspects of the Brexit issue, such as the concerns of British expatriates and EU nationals about Britain leaving the EU. The media highlighted these issues in their coverage to make them more salient to the audience (Bourmeche, 2022). Through the media's framing, they indirectly influenced actions or responses, such as applying for EU citizenship and British expatriates to address the challenges of

Brexit. To better understand how media framing worked, it was essential to explore different commonly used frames.

As presented by Semetko and Valkenburg (2000), news content was analysed using five news frames formed from earlier studies on framing and framing effects. Although this combination of frames was formed over 20 years ago, they are still relevant and are consistently used in content analysis studies of today's media landscape (Demuyakor et al., 2024; Jinah et al., 2024; Prieto-Andrés et al.; Tastsoglou et al., 2024). This framing set consisted of the *conflict, human interest, responsibility, economic consequences, and morality frames*. The *conflict frame* was linked to the conflict between the affected stakeholders, and it emphasised the tension and dissatisfaction resulting from an incident. The *human Interest frame* focused on personal anecdotes and emotional accounts of individuals or families affected by the incident, bringing a human face to the story. The *responsibility frame* explored the attribution of responsibility for the event and examined whether an individual/organisation or other factors were responsible for the incident. The *economic consequences frame* analysed the economic impacts of the outage on businesses, industries, and the overall economy and highlighted the financial repercussions of an incident. The *morality frame* highlighted the moral implications of an event and explored issues such as corporate ethics, customer trust, and broader societal values. These five frames act as lenses through which news media present information to audiences, influencing how events are understood and evaluated (Semetko & Valkenburg, 2000). For the analysis of this study, the researcher has employed all five frames as proposed by Semetko and Valkenburg (2000). The five generic news frames allow the research to conceptually understand what happened across the different crisis phases.

Situation Crisis Communication Theory

Coombs (1999) created the SCCT, which offered a framework for comprehending how organisations might employ communication tactics to preserve their reputation in times of crisis. According to SCCT, an organisation's perceived amount of responsibility and the nature of the crisis will determine how effective a crisis response plan is. According to the theory, there are three crisis cluster types: victim, accidental, and preventive crisis clusters, all of which call for distinct communication tactics (Coombs & Holladay, 2012). SCCT may be used to examine how the organisation's communication methods changed in response to shifting perceptions of responsibility in the context of the Optus network outage. When further information became available, the outage may have been reframed as a preventable crisis brought on by weak infrastructure or poor management rather than something that happened by mistake at first. According to SCCT, to minimise reputational harm and rebuild in such situations, organisations should implement response strategies, including compensation and apologies (Coombs & Holladay, 2012). The codebook

reflected these tactics, with sections for crisis causes, crisis histories, and information-giving tactics. These elements are essential for comprehending the organisation's reaction to the crisis and how it has been portrayed in the media.

Uncertainty Reduction Theory

First presented by Berger and Calabrese in 1975, URT described how people look for information to lessen uncertainty when they first meet. The theory has since been adapted to be used in crisis communication contexts. URT has been used in the context of crisis communication to comprehend how stakeholders seek information and how media outlets aim to reduce ambiguity towards a crisis (Afifi & Weiner, 2004). In understanding the media portrayal of crises such as the 2023 Optus outage, URT provided the framework through which the contribution of media news coverage in causing the public's level of uncertainty can be explored. According to Sellnow et al. (2009), inconsistencies or gaps within news crisis messaging on food poisoning heightened public uncertainty and fear. Similarly, Liu et al. (2016) found that social media coverage, including clear explanations and practical instructions provided by relevant actors in the context of a public health crisis, received less ambiguity and less confusion from impacted stakeholders. Applying URT to media coverage about the Optus outage, undefined factors such as message consistency, sufficiency of information, and channel choice used for public communication might have impacted the perception of uncertainty by members of the public during a crisis phase. URT provided a valuable framework against which to assess the participatory role of the media in crisis communications in the event of the 2023 Optus outage. Guided by the principles of URT, this study sought to gain a deeper understanding of how the media worked to reduce public ambiguity and fulfil its informative function during the outage.

Relevance to the Study

The combination of Framing Theory, SCCT, and URT provided a comprehensive framework through how the media coverage of the Optus network outage across the different phases could be analysed. Framing Theory allowed the researchers to understand which lenses journalists have used to communicate different facets of the crisis to their audience, influencing public perception and interpretation of events. This theory and the generic frames identified allowed for the exploration of how the framing of the Optus outage may have changed over time with the release of new information. SCCT offered valuable insight into how Optus should have strategically responded. As a media content analysis was conducted, this research needed access to the strategies employed by Optus. However, through the results, the study aimed to build recommendations based on SCCT. The URT explained stakeholders' motivations to seek information during the crisis and how the levels of uncertainty may have changed over the different phases, which correlated to the other theories.

According to this theory, a technological network outage gave rise to a greater desire among the public to understand the causes and impacts. These theories provided a multi-dimensional lens to examine how the media framed the crisis, how Optus responded to the situation, how stakeholders strived to reduce uncertainty, and how these factors interacted and evolved throughout the various phases of the Optus network outage.

Data Collection

Method and Instruments

This study consisted of a mix of qualitative and quantitative research designs. This design examined how media coverage of the Optus network outage was framed during the various phases of the crisis. Stone et al. (1966) (1966, p. 5, with credit given to Dr. OleHolsti) defined content analysis as *"any research technique for making inferences by systematically and objectively identifying specified characteristics within text."* Coding articles for content analysis was suitable for this study as it helped quantify and analyse the presence, meanings, and relationships of chosen words, themes, or concepts in media coverage of the Optus outage event. The method allowed for the systematic monitoring of changes in media framing over time or across different phases of crisis by coding text into predefined categories.

This research used a mix of qualitative and quantitative media content analyses, which added depth to the analysis of the media framing and captured subtle differences in tone, narrative, and context that might have been missed in a purely quantitative approach (Macnamara, 2005). The analysis helped reconstruct and identify the storyline and narrative of the crisis over time. Additionally, the qualitative content analysis allowed for the flexibility to adapt the analysis in the event that new themes or patterns emerged during the research process, which was helpful when dealing with a complex event such as the Optus outage, where the full scope of media coverage was not entirely known at the start (Neuendorf, 2002). Macnamara (2005) argued that the researcher's interpretation of texts was subjective and that scientific reliability could not be ensured. This risk was mitigated using a deductive approach, which could easily be replicated and handle large volumes of texts (Semetko & Valkenburg, 2000). A predefined codebook was used with codes from existing similar literature and research. Text lengths were considered when analysing codes and frames. These texts per frame ranged from just a few words to whole paragraphs. As the lengths of these texts changed, using qualitative and quantitative methods ensured a balanced approach. This supported the discovery of underlying meanings, assumptions, and ideologies present in media coverage, which were critical for understanding the evolution of framing throughout the crisis.

Text Sources

The selection included a diverse range of sources across television, online news, and radio, ensuring a broad representation of media framing during the crisis. The media outlets were chosen based on their reach, influence, and relevance to the Australian public (Sora Park et al., 2023). The selection aimed to include a mix of national and regional sources and outlets with varying political orientations and audience demographics as reported by Park et al. (2024). This approach ensured a comprehensive analysis of how different media framed different phases of the Optus network outage. Television news broadcasts were included due to their reach, which comprised 36% of Australia's primary news sources. Programs were also selected based on whether their programming of the crisis during the phases was still accessible online during data collection. Programs included *7 News, ABC News, ABC Breakfast, Sunrise, The Project*, and the *Today Show*. Online news platforms, which made up 28% of Australia's news consumption, were included (Park et al., 2024). The selected online sources were *9 News, Australian Associated Press, ABC News, Australian Radio Network, Brisbane Times, Canberra City News, Daily Mail, Guardian Australia*, *News.com.au, Newscorp, Reuters, Sydney Morning Herald, The Advertiser, The Age, The Australian, The Courier Mail, The Daily Telegraph, The Herald Sun.* Radio broadcasts were added to include key interviews, which made up the timeline of the crisis. Interviews were from *2GB Sydney* and *ABC Mornings*. Including these diverse media outlets ensured a comprehensive analysis of the media framing of the Optus network outage. The crisis unfolded in the morning, which made breakfast TV programs like *ABC Breakfast, Sunrise,* and the *Today Show* particularly relevant as they provided real-time updates and coverage throughout the early hours of the crisis.

Corpus Selection

The corpus selection process involved several steps to ensure the inclusion of relevant and comprehensive texts. The articles and broadcasts were selected from November 8, 2023, to November 25, 2023. This time frame was chosen to capture the initial collapse of the Optus network and the subsequent media coverage as the crisis unfolded. The keywords used for the search were "Optus" and "Optus outage", with the location filtered to only Australia. These terms were selected to ensure that the search results were directly related to the network outage crisis. Given the specificity of the event, these keywords were sufficient to capture the relevant media coverage. The first search was conducted through NexusUni, which provided a good selection for the corpus. To ensure there were enough texts in all phases, additional articles were directly downloaded from the news organisations' websites, which did not have a paywall. News and radio broadcasts were sourced from YouTube, Twitter, and Facebook. These broadcasts were then transcribed using Amberscript, which ensured that all spoken content was available for analysis. The selection criteria

for articles and broadcasts included if they were published or aired within the specified time frame if they contained mentions of "Optus" or "Optus outage", and that they primarily focused on the Optus network outage rather than if they were tangentially mentioned it in the context of other topics. This resulted in a final corpus of 188 texts, which included articles, TV clips, and radio transcripts. This comprehensive collection ensured a robust analysis of the media framing of the Optus network outage.

Table 1

Corpus distribution: Types of news content and their distribution across the phases

Content	Phase					Total
	1	2	3	4	5	
TV News Broadcasts						
7 News	0	1	5	0	0	6
ABC News (TV)	3	2	7	1	0	13
ABC News Breakfast	1	0	2	0	0	3
Sunrise	7	0	1	0	0	8
The Project	0	0	1	0	0	1
Today Show	4	0	3	0	0	7
Online						
9 News	0	2	3	11	3	19
AAP	1	2	0	0	0	3
ABC News	0	1	9	7	2	19
ARN	0	1	0	0	0	1
Brisbane Times	0	4	4	0	0	8
Canberra City News	1	4	0	0	0	5
Daily Mail	2	3	0	0	0	5
Guardian Australia	3	11	6	11	2	33
News.com.au	1	7	11	12	3	34
Newscorp	2	1	0	0	0	3
Reuters	1	1	2	0	0	4
Sydney Morning Herald	0	2	0	0	0	2
The Advertiser	0	1	0	0	0	1
The Age	0	2	0	0	0	2
The Australian	0	0	1	0	0	1
The Courier Mail	0	1	1	0	0	2
The Daily Telegraph	1	1	0	0	0	2
The Herald Sun	0	1	1	0	0	2
Radio						
2GB Sydney	0	1	0	0	0	0
ABC News (Sydney)	1	1	1	0	0	3
Total	28	50	58	42	10	188

Once the articles were collected, five phases were established. This served as a timeline to examine how the media framing changed over time. The first phase, 04:05 a.m. – 10:29 a.m. 8 November 2023, included the initial network crash. The second phase, from 10:30 a.m. – 03:59 p.m. 8 November 2023, included the Optus CEO's first media appearance until the outage was over. The third phase, 04:00 p.m. 8 November – 03:59 p.m. 9 November 2023, included the evening commentary and the start of Optus's recovery. The fourth phase, 04:00 p.m. 9 November – 23:59 19 November 2023, included when the cause of the crisis was confirmed and the senate inquiry. The fifth and final phase, 20 - 25 November 2023, included the resignation of the CEO and the media commentary which followed.

Data Analysis

Codebook

The codebook for this study was created using a deductive method. Variables were identified, and coding schemes were formed based on existing crisis communication literature. This included the five news frames from Semetko and Valkenburg (2000) and context-specific codes drawn from Holladay (2010) work on crisis communication tactics. This guaranteed that the codes were based on proven research while appropriate for the unique situation of the Optus network outage. The codebook was divided into seven code groups, each aimed to capture distinct characteristics of media coverage, and codes were assigned to each paragraph of each analysed content.

The five news frames from Semetko and Valkenburg (2000) were widely used in media studies to analyse how news topics are framed. These frames included (1) the *conflict frame*, (2) the *human interest frame*, (3) the *responsibility frame*, (4) the *economic consequences frame*, and (5) the *morality frame*. While Semetko and Valkenburg (2000) news frames served as a solid foundation for analysing how the media framed the crisis, they could not capture the complete context and complexities of this crisis.

While the news frames provided a consistent method for examining broad framing trends throughout news media coverage, to fully comprehend the factors of the crisis, the study needed to create and implement context-specific codes that could capture the distinctive elements, key stakeholders, and contextual considerations at play. Combining the news frames with additional context codes allowed the study to undertake a more extensive and nuanced analysis that considered both universal framing approaches and the unique circumstances of the crisis. This dual approach allowed the research to find overall framing patterns and investigate how the media contextualised and presented material specific to this circumstance. This resulted in a more

comprehensive understanding of the media's involvement in moulding public perception of the crisis.

The first code group of the context codes was *Crisis Cause. T*he aim was to uncover what people believed the actual cause of the crisis to be. This category was crucial for understanding the initial framing of the crisis and the attribution of responsibility. Based on research from Holladay (2010), two codes were formed. (6) *software glitch*, which captured reference to technical failures or software issues as the cause of the outage, and (7) *other crisis cause*, which included any other mentioned causes that did not fall under software glitches, such as human error or external factors. Code group C*risis History* was based on the SCCT, which posits that past crises could influence public perceptions and the perceived capability of an organisation to handle the current crisis (Coombs & Holladay, 2012). Given the recent history of Optus, (8) *data breach* was the main code as it captured reference to the 2022 Optus data breach, where 10 million customer accounts were exposed (Taylor, 2022). (9) *other Crisis History* included references to other past incidents involving Optus or similar organisations that may have had the potential to influence the reporting of the Optus crisis.

Information-giving Strategies were essential for understanding how the organisation communicated during crises. These strategies were taken from Holladay (2010). They included (10) *context information, which covered background information about the crisis, such as scope and impact, and* (11) *Instructing information*, which included instructions given to the public on how they should have responded to the crisis, including safety measures or service restoration updates. The *Source Information* code group identified the different sources cited in the media coverage, which could influence the framing and perceived credibility of the information. Based on Holladay (2010), the following codes were used. (12) *industry spokesperson, who* captured statements from industry experts or representatives. Quotes from Optus included the (13) Optus CEO Kelly Bayer Rosmarin, (14) Optus website and (15) *Optus spokesperson*. Quotes from affected Optus (16) *customer*'s, (17) *elected government official*s, and (18) *other source* which were not covered in the other codes.

The *Disrupted Services* code group captured the areas affected by the network outage. Included codes were (19) *healthcare disruption*, (20) *transportation disruption*, (21) *emergency response*, (22) *business impact*, and (23) *other disruption*. These codes were taken from Holladay (2010), however, adapted for this crisis. The *Action Required* code group identified the actions suggested or taken in response to the crisis. These codes were formed specifically for this study. However, inspiration was taken from Holladay (2010). (24) *Investigation* referred to people who called for a political or government inquiry into what happened and class action lawsuits. (25) *Compensation* included people who wanted money for lost income or people who wanted their

money back for poor service. This also included any account credit or extra data given to customers. (26) *Lack of information*, which included stakeholders calling for more information about the situation to be made available to the public. This study aimed to comprehensively analyse how the crisis was framed and communicated to the public by systematically applying these codes to the media coverage of the Optus network outage.

Reliability

Several measures were taken to ensure the codebook's reliability, including a pre-test and an intercoder reliability test. The pre-test involved randomly selecting 10% of the articles from the corpus, four articles from each phase of the crisis. Another researcher coded these articles independently using the existing codebook. This process helped identify any ambiguities or inconsistencies in the coding scheme and allowed for necessary adjustments. The intercoder reliability test measured the coding consistency between different coders. Intercoder reliability calculations were performed using Krippendorff's alpha (c-Alpha-binary), a statistical measure suitable for binary data. Computing Krippendorff's alpha is considered more robust than Cohen's Kappa (Antoine et al., 2014). Its reliability was intended for addressing projects with larger numbers of coders, different measurement scales, and missing data, making it versatile and overall reliable (Zapf et al., 2016). An alpha value of 1 showed complete agreement, a value of 0 indicated no agreement, and a negative value implied inverted agreement. The results of the intercoder reliability test were presented in Table 2.

Table 2

Intercoder Reliability

Category	Kriffendorff's c-Alpha-binary
Crisis cause	0.851
Crisis history	0.764
Information giving strategies	0.873
Source information	0.727
Media frames	0.828
Disrupted services	0.850
Action required	0.767
Total	0.876

The overall intercoder reliability score of 0.876 indicated a high level of agreement between the coders, which suggested that the codebook was reliable and could be used across the entire corpus. The high intercoder reliability scores across all categories demonstrated the robustness of the codebook. The measures taken to ensure reliability, including the pretest and the use of Krippendorff's alpha, provided confidence in the consistency and accuracy of the coding process. These steps were essential for ensuring the content analysis findings were valid and could be replicated in future studies. The systematic development and testing of the codebook ensured that the analysis of media framing of the Optus network outage was both rigorous and reliable. The use of established codes from previous research, combined with thorough testing and validation, provided a solid foundation for the content analysis and contributed to the overall credibility of the study.

Data Processing and Analysis

To account for the varying number of articles across different phases of the crisis, the data was normalised using Atlas.ti software. This normalisation process ensured that the analysis was not skewed by the uneven distribution of articles across phases. The analysis was conducted based on word count per code rather than frequency of code occurrence. This approach provided a more accurate representation of the prominence of each code within the media coverage, as it accounted for the varying lengths of coded segments. Using word count, the study captured the presence of a particular frame or theme and its relative emphasis within the articles. This method allowed for a more nuanced comparison across phases, regardless of the number of articles in each phase, and provided a more robust basis for the identification of trends in media framing throughout the crisis.

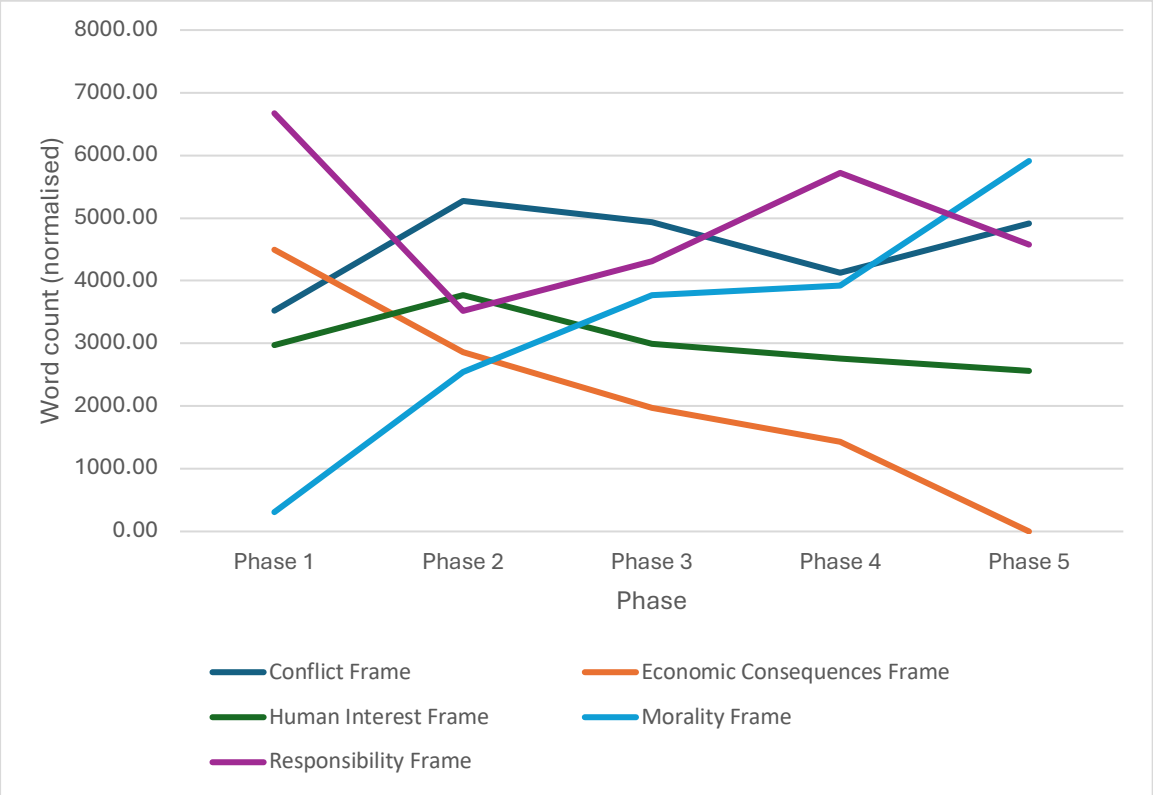
Results

Overall Framing Trends

Generic frames were identified and analysed for each of the pre-defined crisis phases. These broad frameworks provided a thematic perspective to the crisis's content study across its many phases. The study found that the many news frames were easily discernible in media coverage, and the frames at different stages of the crisis differed from one another.

Figure 1

Normalised word counts for each news frame across the five crisis phases.



The *conflict frame* was consistently prevalent across all phases, with the highest normalised word count in Phase 2 (*n* = 5273.45) and significant presence in Phases 3 (n=4934.00) and 5 (*n* = 4914.97). This frame highlighted the tensions and disagreements between stakeholders, including Optus, its customers, and government officials. For example, during Phase 2, media reports highlighted the disappointment and conflict which arose from the outage, with statements like, *"4 am is when this first started happening. You were missing in action for hours. Why were you missing in action this morning?"* from radio host Deborah Knight speaking to Optus CEO (2GB, 8.22.2023). This framing illustrated the community's disappointment and the pressure on Optus to provide explanations. The *conflict frame* remained prominent throughout the crisis, as evident in Figure 1, as it reflected the ongoing disputes and criticisms directed at Optus.

The *economic consequences frame* was most prominent in Phase 1 (*n* = 4494.80) but gradually decreased in prevalence over subsequent phases, with no significant presence in Phase 5. This frame highlighted the financial repercussions and operational challenges businesses faced due to the outage. For instance, in Phase 1, television reporter Reece D'Alessandro stated, "*. . . as the outage rolls on, it is starting to impact thousands of businesses as well who are unable to take payments*" (Today Show, 8.11.2023a). This underscored the scale of the outage and its potential economic impact. By Phase 3, the focus shifted to the economic fallout and compensation efforts, as reported by Michael Atkin, *"this Sydney dry cleaner is counting the cost of turning away customers because his payment system was down"* (ABC News TV, 9.11.2023b). However, by Phase 5, the *economic consequences frame* had diminished, which indicated a shift in media focus towards other aspects of the crisis.

The *human interest frame* was consistently present across all phases, with the highest normalised word count in Phase 2 (*n* = 3770.84). This frame brought a personal and emotional angle to the coverage. It focused on the individual stories and experiences of those affected by the outage. For example, in Phase 2, media reports highlighted the frustration and inconvenience experienced by customers, with reporter Molly Glassey who stated, *"A Melbourne commuter said her frustration about the Melbourne trains being down was made even worse when she realised she couldn't order an Uber because of the outage.*" (Guardian Australia, 8.11.2023j). This framing maintained constant prominence throughout the phases, as demonstrated in Figure 1, which emphasised the personal stories and emotional responses of those affected.

The *morality frame* saw a substantial increase in prevalence from Phase 2 (*n* = 2548.56) to Phase 5 (*n* = 5910.81), reflecting the growing focus on ethical implications and corporate responsibility. This frame explored corporate ethics, customer trust, and broader societal values. For instance, in Phase 3, one report criticised Optus's communication strategy. Kate Ainsworth stated, "*Optus is in the business of sending messages, but the public grilling over its outage shows it's incapable of receiving them"* (ABC News Online, 17.11.2023b). This framing suggested a moral failing on the part of Optus and emphasised the importance of effective communication and transparency in maintaining customer trust. By Phase 5, the *morality frame* had become the most prominent. It highlighted the ethical implications of the crisis and the need for greater corporate accountability.

The *responsibility frame* was the most dominant across all phases, with the highest normalised word count in Phase 1 (*n* = 6672.15) and significant presence in Phases 4 (*n* = 5725.28) and 5 (*n* = 4580.34). This frame focused on attributing blame and accountability for the outage and highlighted Optus's role in the crisis. For example, in Phase 1, one report criticised the lack of clear

communication from Optus, with Karl Stefanovic who said, *"So after four hours of this uncertainty and disorder, what has Optus had to say? Well, a little more than quote, we know there's an issue that may be affecting some customers"* (Today Show, 8.11.2023a). Stefanovic's quote demonstrated the community's frustration with Optus's slow and vague communication. The *responsibility frame* remained significant throughout the crisis and reflected the ongoing scrutiny of Optus's actions and the demand for accountability.

Phase-by-Phase Analysis

Phase 1 (03:05 a.m. – 10:29 a.m. 8 November 2023)

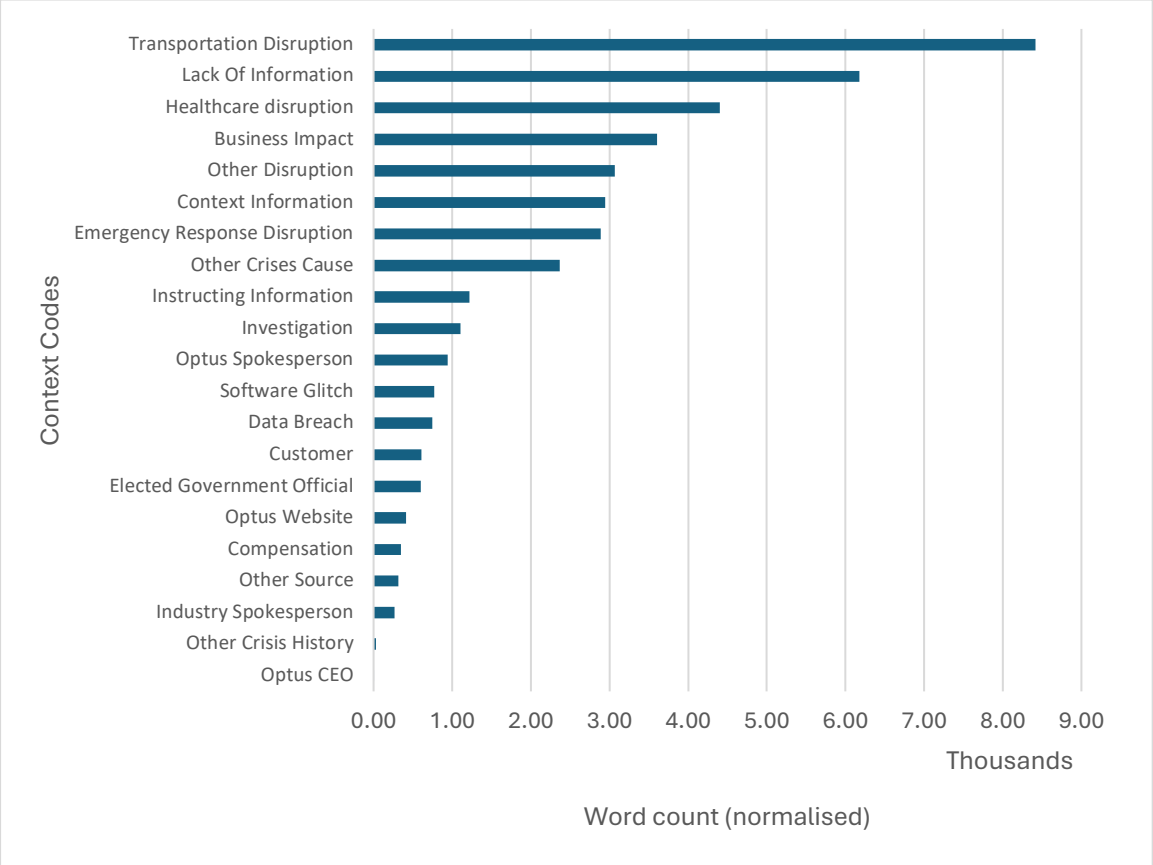
The first phase of the Optus network disruption occurred early on 8 November 2023, at 04:05 a.m. AEDT. The outage affected nearly 10 million consumers and caused countrywide mobile and broadband service disruptions. The initial impact was considerable, causing widespread interruptions in critical services such as healthcare, transportation, and emergency response systems. The early media coverage concentrated on the magnitude of the outage and the immediate repercussions on various sectors, which emphasised the severity and breadth of the crisis. Due to the timing of the crisis, breakfast morning shows (e.g. *Today Show, Sunrise,* and *ABC Breakfast*) were the first to provide constant updates regarding the outage. Optus at this stage had only posted a short statement to Twitter at 06:47 a.m., which stated that they were aware of the outage. In this statement, Optus also mentioned that customers could still call Triple-0 ("000"); later phases would show that this had damaging effects. Most of the morning's media coverage consisted of the *responsibility* and *economic consequence* framing. Most of the attention focused on the responsibility and economic consequences frames. However, another framing (*conflict* and *human interest frames*) still had prominence in this phase's coverage but played a less significant role. The *morality frame* had no significant effect in this phase, as observed in Figure 1.

Dominant Generic Frames. The *responsibility frame* was the most dominant in Phase 1, with a normalised word count of n = 6672.15. This frame focused on the attribution of blame and accountability for the outage. One report criticised Optus's need for more clear communication. Matt Shirvington stated, "*A few hours to hear from Optus. Is that good enough, considering the size of the network?*" (Sunrise, 8.11.2023a). This quote underscored the frustration with Optus's slow and vague communication. Isabelle Mullen noted, *"Optus has not specified how long it could take to get the network back up and running. It has caused some concern among customers"* (Sunrise, 8.11.2023f). This framing highlighted the need for transparency and accountability from Optus, and emphasised the company's responsibility to provide timely and accurate information.

The *economic consequences frame* was highly prevalent in Phase 1, with a normalised word count of *n* = 4494.80. Media coverage emphasised the financial impact of the outage on businesses and the broader economy. For example, Karl Stefanovic stated, *"10 million Optus customers are still without mobile and broadband services amid a massive nationwide outage"* (Today Show, 8.11.2023a). This quote stressed the scale of the outage and its potential economic impact on the many customers. Reece D'Alessandro noted, *"Meantime, as the outage rolls on, it is starting to impact thousands of businesses as well who are unable to take payments"* (Today Show, 8.11.2023a). News coverage also featured small business owners who were coming to grips with the challenge they faced for the day, particularly those reliant on electronic payment systems.

Figure 2

Normalised word counts for each context code in Phase 1



Most Prevalent Context-Specific Codes. The *Disrupted Services* code group was most prominent in Phase 1. Code *transportation disruption* had a normalised word count of *n* = 8403.61. This code highlighted the impact of the outage on public transportation systems as people needed to commute to work, particularly in Melbourne, where the train network was shut down. The

healthcare disruption code was also prevalent, with a normalised word count of *n* = 4399.42. This code captured the impact of the outage on healthcare services, including hospitals and emergency response systems. For instance, Karl Stefanovic affirmed, *"It's now just it's not just transport feeling the aftershock, the health system too. From emergency departments to GP offices all left in the dark"* (Today Show, 8.11.2023a). This reporting emphasised the potential risks to public safety and health due to the outage. The *business impact* code, with a normalised word count of *n* = 3602.47, highlighted the economic consequences of the outage on businesses. Reports frequently mentioned the operational challenges businesses faced, particularly those reliant on electronic payment systems, as previously mentioned.

The most prevalent context-specific code in Phase 1 was *lack of information*, with a normalised word count of *n* = 6168.27. This code captured the widespread criticism of Optus's communications during the initial hours of the outage. For example, Isabelle Mullen stated, *"Optus has not specified how long it could take to get the network back up and running. It has caused some concern among customers"* (Sunrise, 8.11.2023f). Reports frequently highlighted the frustration and confusion among customers due to the lack of clear and timely updates from Optus. At this stage, the only point of contact for media at Optus was through official spokespersons who provided written statements with a normalised word count of *n* = 942.73. This resulted in reports of quoted government officials who urged Optus to improve its communication. James Morrow reported, *"[Communications Minister] urged Optus to get their act together and tell people what was going on"* (The Daily Telegraph, 8.11.2023a).

Phase 2 (10:30 a.m. – 03:59 p.m. 8 November 2023)

During Phase 2 of the Optus network outage, the media coverage evolved to focus on the ongoing service disruptions, the economic impact on businesses, the lack of clear communication from Optus, and the broader implications for the telecommunications industry. This phase saw increased scrutiny of Optus's crisis management and communication strategies, as well as the growing frustration and dissatisfaction among customers and government officials. The key events included widespread service disruptions, significant economic impacts on businesses, and heightened public and governmental scrutiny of Optus's response. The Optus CEO also made her first media appearance in this phase and, through public anger, saw the rise of the *conflict* and *human interest frames*. The CEO's statements on the radio also saw an increase in *morality frame* quotes of her apology for the outage. The *responsibility and economic consequences* frames saw a drop as there was a lack of new information, and the initial shock of the outage wore off. Media directed their attention towards service disruptions, which included *business impact, healthcare disruption*,

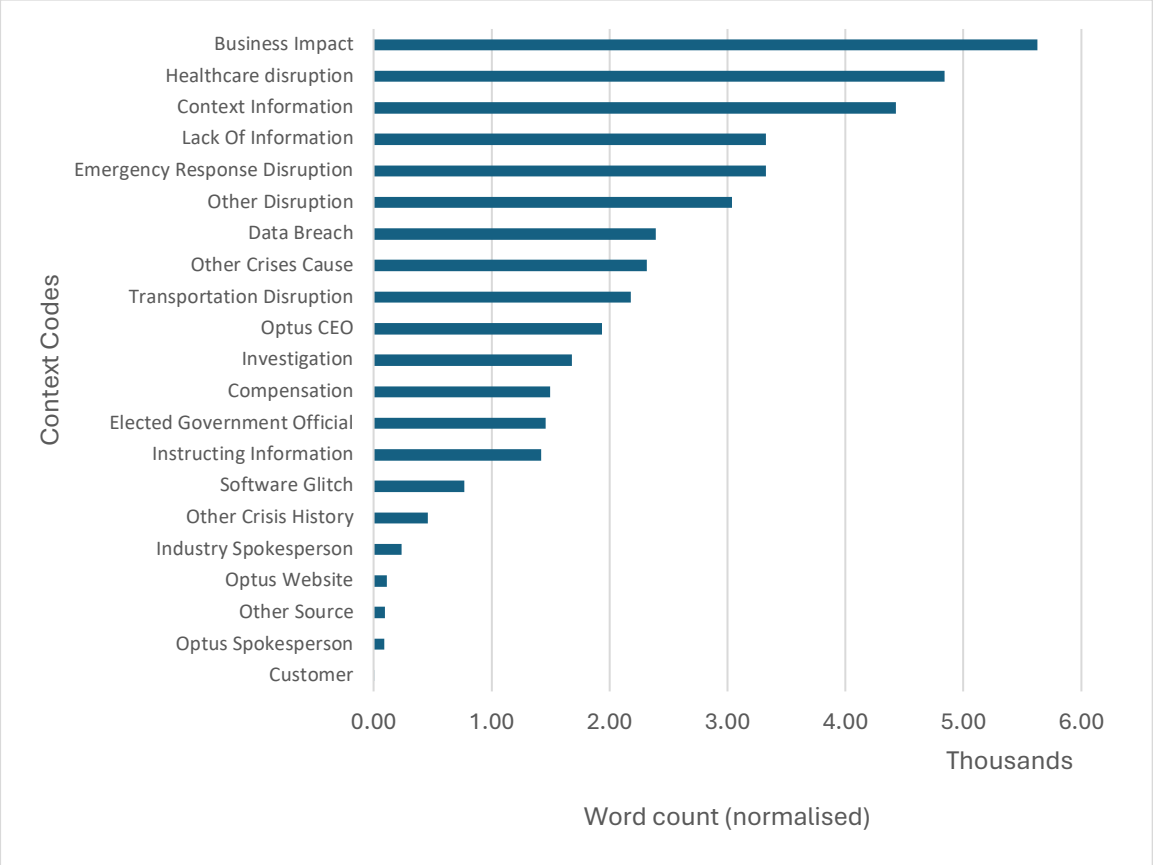
and *emergency response disruption*. Optus also came out with new information, which confirmed that people requiring emergency services could not call Triple-zero from landline connections.

Dominant Generic Frames. The *conflict frame* was the most dominant in Phase 2, with a normalised word count of *n* = 5273.45. This frame emphasised the continued growing tensions and disagreements between various stakeholders. For example, one report highlighted the growing dissatisfaction from government officials, with Communications Minister Michelle Rowland, who said, *"I would urge Optus to utilise every channel available, including the broadcast media, to ensure these messages get across"* (Guardian Australia, 8.11.2023d). This quote illustrated the government's concern and the pressure on Optus to inform stakeholders further. Another report quoted government official Sarah Hanson-Young, who urged Optus to improve its communication and stated, *"It's a disgrace that so far, eight hours on, the CEO of Optus has done nothing more than phone it in, rather than fronting the Australian community, the customers, the media, to explain what they're doing, how long this is going to go on for, and how they're going to help Australians get through it"* (Guardian Australia, 8.11.2023f). This emphasised growing tension and the start of a long battle between Optus and government officials, again highlighting the demand for better communication and accountability.

The *human interest frame* began focusing on the individual stories and experiences of those affected by the outage. With a normalised word count of *n* = 3770.84, this frame increased and peaked prevenance in Phase 2. Media reports highlighted the frustration and inconvenience experienced by customers. Chris Hopkins stated, *"Miriam, who did not want to disclose her surname, spent two hours frantically calling the Royal Women's Hospital on Wednesday morning after going into labour"* (The Sydney Morning Herald, 8.11.2023*).* This quote expressed the potential life-threatening toll on individuals and how people were inconvenienced due to the outage.

Figure 3

Normalised word counts for each context code in Phase 2



Most Prevalent Context-Specific Codes. The *service disruption* code group continued its prevalence with the *business impact* code, which rose to the top in Phase 2, with a normalised word count of n = 5626.64. This code captured the significant economic consequences of the outage on businesses, particularly small family-owned establishments. For example, one report highlighted the operational challenges faced by businesses. Chris Hopkins stated, *"[the café] was only able to stay open this morning because a single staff member was not an Optus customer, and the cafe was able to hotspot its card payment machine off that staff member's phone"* (Sydney Morning Herald, 8.11.2023). These stories could put into perspective the greater challenges and the strain on businesses that relied on uninterrupted telecommunications services. The *healthcare disruption* code was also significant in Phase 2, with a normalised word count of n = 4803.66. This code highlighted the impact of the outage on healthcare services, which included hospitals and emergency services. For instance, one report noted, "Lives were even at stake as hospitals and doctors were impacted, Kids Helpline went down, and the Queensland Poisons Information Centre helpline was offline" (The Courier Mail, 8.11.2023). This reporting underscored the critical nature of the outage.

The *lack of information* code was prevalent in Phase 2, with a normalised word count of *n* = 3302.99. This code captured the frustration and dissatisfaction with Optus's communication strategy during the outage. For example, one report by Ally Foster stated*, "Optus customers have taken to social media to blast the telco, slamming the outage as an 'absolute failure'"* (News.com.au, 8.11.2023c). This quote highlighted Optus's need for better communication and transparency. At 10:30 a.m., the Optus CEO gave an interview on ABC Radio (Sydney), which was not syndicated across the country. During this interview, the CEO could not provide further information and clarity regarding the cause of the outage. The CEO did rule out that the outage was not cyber-security related. This came after many thought it could have been another *data breach* (normalised word count of *n* = 2375.30), similar to one which occurred to Optus a year earlier. This thinking led to reports by Brooke Rolfe, who said, *"It's the second major incident for the telco in two years after almost 10 million Optus customers had their personal details compromised in 2022 when hackers taunted the public for weeks by releasing the details of 10,000 customers on the dark web"* (News.com.au, 8.11.2023g). The ABC Radio interview left other news organisations to quote the interview. At the same time, the Communications Minister Michelle Rowland, a half hour later, gave a press conference to which all media outlets were invited. Many media outlets started quoting more of what the minister had to say, as seen by remarks such as "It is a fault that is quite fundamental to the network. But my understanding, having just recently spoken again to the CEO, is that a number of problems have been identified" (Brisbane Times, 8.11.2023d), This had indicated that the government had stepped in and was heavily involved. Other *elected government officials* (normalised word count of *n* = 1690.15*)* nationwide also started speaking to the media. Kara Jung reported *"Health Minister Chris Picton reiterated triple 0 was working and that SA Health were working to connect to other providers and systems to work around the outage,"* (The Advertiser, 8.11.2023) which left politicians to fill the information void.

Phase 3 (04:00 p.m. 8 November – 03:59 p.m. 9 November 2023)

Phase 3 of the Optus network outage was a 24-hour window after the outage was declared over. The media coverage focused on stakeholders' ongoing impact in the wake of the outage, the start of recovery efforts, and the increased scrutiny of Optus's crisis management. This phase saw a shift towards a more detailed analysis of the causes and consequences of the outage. Key events included the continued disruption of services, the Optus CEO's first on-camera media appearance, the start of compensation discussions, and the involvement of government officials in seeking explanations and accountability from Optus. The media also began to explore the broader implications of the outage for the telecommunications industry and public safety. The phase saw the *conflict frame*'s continued presence and a sharp rise in the *responsibility* and *morality frames*. This

phase did observe a decline in the *human interest frame* and a continued decline in the *economic consequences frame,* as observed in Figure 1.

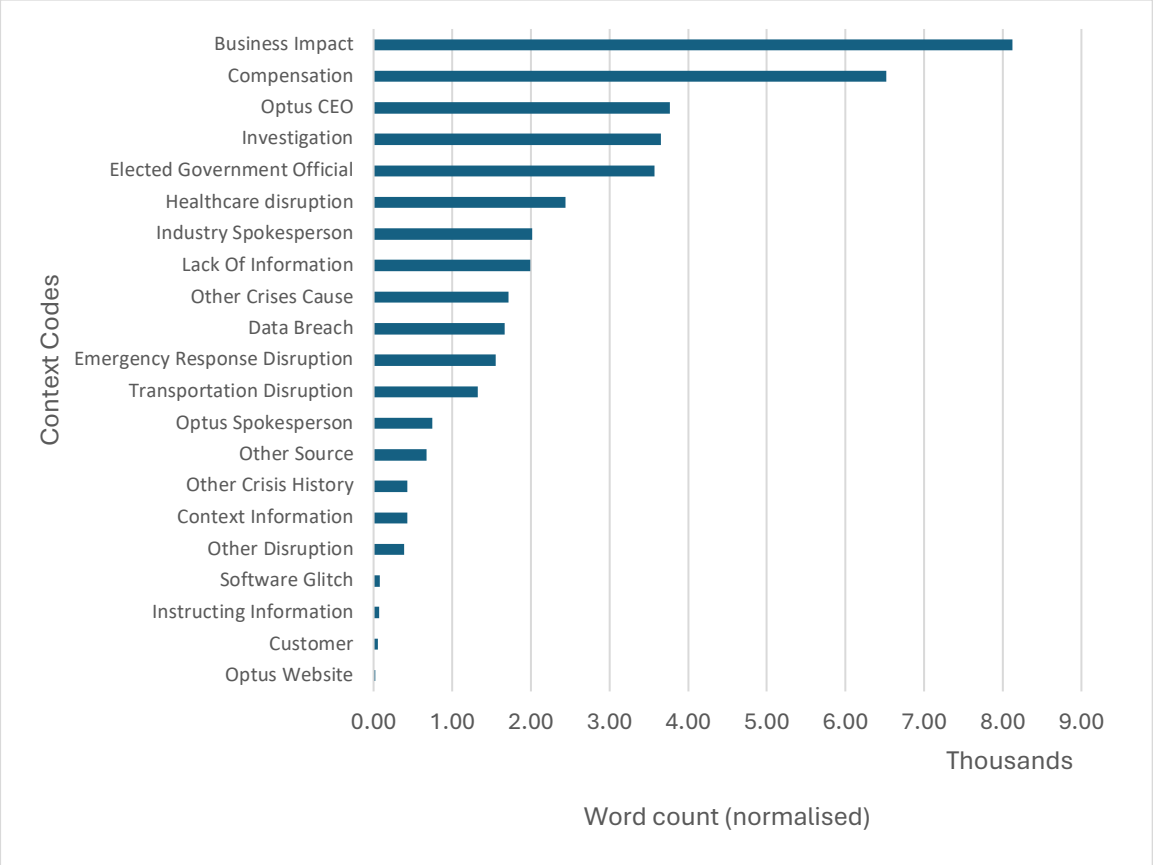
Dominant Generic Frames. The *conflict frame* with a normalised word count of *n* = 4125.97 encompassed the tension and dissatisfaction resulting from the incident and highlighted the disputes between affected stakeholders and Optus. Media reports often portrayed a contentious relationship between the company and its customers and between Optus and government officials. One report captured this tension; Eric Johnston stated, "Senior government ministers including Home Affairs Minister Clare O'Neil and Communications Minister Michelle Rowland demanding to know how millions of customers and critical infrastructure could be offline for more than 10 hours" (The Herald Sun 9.11.2023). This reporting illustrated the growing demands on Optus to address the crisis more effectively and the conflict arising from perceived inadequacies in their response.

The *responsibility frame* was a dominant theme in Phase 3, with a normalised word count of *n = 4309*. It emphasised accountability, investigations, and potential consequences for Optus. The *responsibility frame* was prominent in discussions about government-led investigations into the outage. Jake Evans reported, *"Communications Minister Michelle Rowland said her department would undertake the review, adding it was critical the telecommunications industry learned from the incident"* (ABC News, 9.11.2023a). Optus was to be held accountable through various governmental and regulatory investigations, compensation discussions, and transparency demands. It highlighted the company's obligation to explain the technical causes of the outage and face scrutiny from multiple official bodies.

The *morality frame* saw a substantial increase in prevalence in Phase 3 with a normalised word count of *n* = 3767, which reflected the growing focus on ethical implications and corporate responsibility. Talks of compensation for affected customers dominated the *morality frame*. Reporter Isabelle Mullen emphasised this: *"Optus refuses to settle customers claims. Instead, Optus has offered eligible customers 200GB of free data and pre-paid customers unlimited data on weekends as compensation"* (Sunrise, 9.11.2023a). This report illustrated the debate over whether Optus' compensation offer was adequate, framing it as a moral obligation to make amends to affected customers. The *morality frame* was also present in discussions around Optus's communication during the crisis. Ian Verrender said, *"Rather than an immediate statement alerting customers to the meltdown, or an early morning press conference to outline the extent of the issue, the Optus chief waited some time before she rang ABC Radio"* (ABC News Online, 9.11.2023b). This criticism framed Optus's delayed communication as a moral failure and suggested a lack of consideration for affected customers.

Figure 4

Normalised word counts for each context code in Phase 3



Most Prevalent Context-Specific Codes. The *business impact* code was highly prevalent in Phase 3, with a normalised word count of *n* = 8111.06. This code captured the extensive coverage of the financial and operational challenges businesses faced due to the outage. Reports highlighted how businesses could not process transactions, which led to significant revenue losses and operational disruptions. The *compensation code* also saw a significant increase in prevalence in Phase 3, with a normalised word count of *n* = 6514.04. Media coverage focused on Optus's compensation efforts for affected customers and the criticism these efforts received. Karl Stefanovic stated, *"Optus is facing more backlash this morning as customers slammed the telco giant for offering data as compensation for their catastrophic outage"* (Today Show, 9.11.2023b). Many businesses suffered significant financial losses due to the outage, and the free data offer was seen as an insufficient solution to address the losses.

The *investigation code* was prominent in Phase 3, with a normalised word count of *n* = 3648.47. This code captured the media's focus on the government's response and the calls to

investigate the outage. Reports emphasised the potential regulatory consequences for Optus and the broader implications for corporate accountability. The following morning of the outage (9.11.2023), ministers fronted the media (*elected government official* normalised word count of *n* = 3565.84). They announced there was to be a Senate inquiry where Optus's actions were to be scrutinised. Lara Vella reported *"Optus is now facing multiple government led inquiries, where the CEO will no doubt face an extended grilling. In the meantime, industry experts have described the Optus debacle and the subsequent handling by the CEO as, quote, a clown show*" (Today Show, 9.11.2023b). This narrative highlighted the adversarial nature of the inquiry and the conflict between Optus and regulatory bodies.

The *Optus CEO* code saw a significant increase in prevalence in Phase 3, with a normalised word count of *n* = 3761.32. More scrutiny and responsibility focused on Optus CEO Kelly Bayer Rosmarin as the public and government authorities sought answers and accountability for the outage. This was evident with the announcement of her appearance before a Senate inquiry; Dannielle Maguire reported, *"There will be a Senate inquiry, which will compel Optus leaders to appear"* (ABC News Online, 9.11.2023f). During this phase, the CEO made more media appearances, apologised for the outage, and offered updates on the situation. The media also focused on her leadership and management skills and called her out for her delayed communication. Additionally, comparisons were made to the 2022 data breach, which further increased mentions of the CEO.

Phase 4 (04:00 p.m. 9 November – 11:59 p.m. 19 November 2023)

Several significant developments marked phase 4 of the Optus network outage. Firstly, Optus made the cause of the network outage public. The outage was caused by a routine software upgrade that led to routing information changes, resulting in a cascading network failure. This phase also saw increased scrutiny from government officials and regulatory bodies and continued public and media criticism of the organisation's crisis management and communication strategies. The *responsibility frame* gained much prominence in this phase, which was linked to the senate inquiry the Optus leadership faced. The *conflict frame* remained strong and saw the rise of the *morality frame* as Optus implemented a compensation strategy, which offered 200GB of free data to affected customers and established a dedicated complaints team for small businesses which was met with much criticism. The *human interest frame* was still present with journalists' continued reporting of affected customers, and the *economic consequences frame* continued its decline as it had lost its relevance.

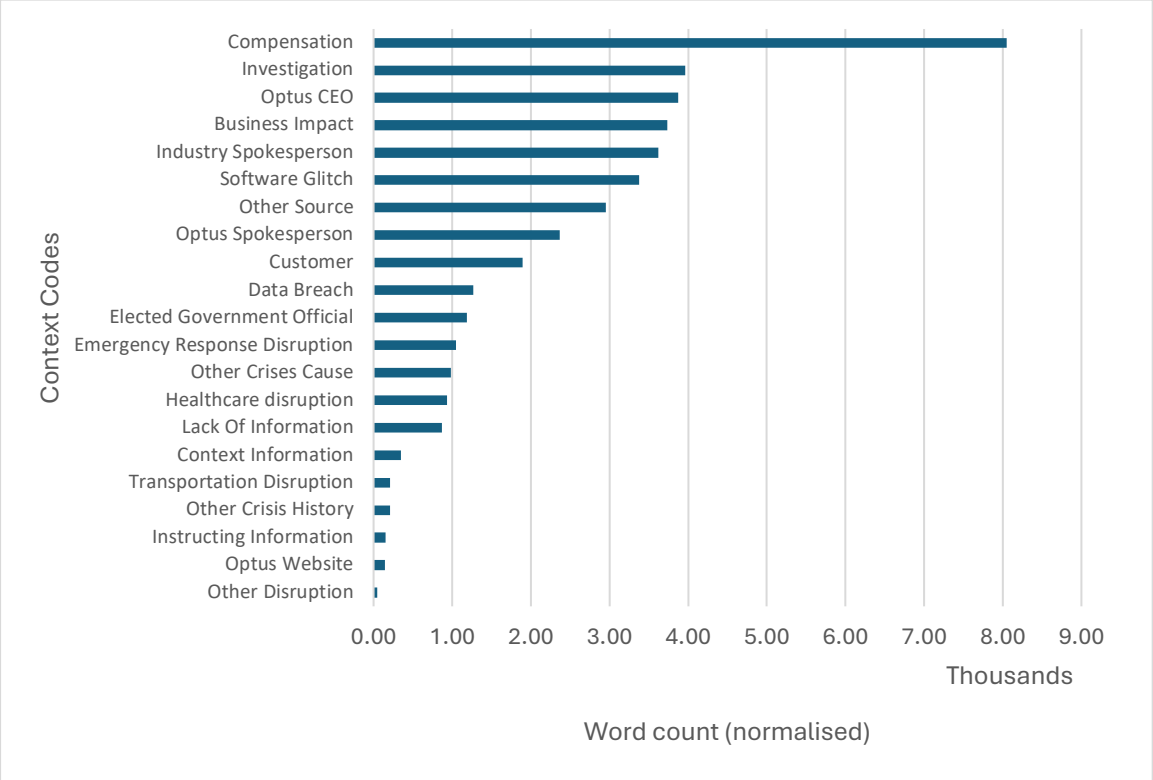
Dominant Generic Frames. The *responsibility frame* was the most dominant in Phase 4, with a normalised word count of *n* = 5725.28. This frame focused on accountability, investigations, and actions taken by both Optus and the government. The government had also launched multiple

investigations into the outage aimed to investigate the outage thoroughly and develop recommendations for improving the resilience of the country's telecommunications networks. A Senate inquiry was established, which saw vast media coverage of the CEO who faced the government Senate committee. Daniel Jeffery reported, *"The telco's under-fire boss fronted a Senate inquiry . . . facing questions about the cause of the crash, as well as compensation, back-up plans, and her future."* (9 News Online, 17.11.2023). This report emphasised the corporate responsibility aspect of the crisis, with significant attention paid to the actions and statements of Optus's leadership. The media also reported on the technical explanations provided by Optus, Kate Ainsworth reported, "*Optus identifies cause of nationwide outage, says 'changes to routing information' after software upgrade to blame"* (ABC News Online, 13.11.2023). This coverage aimed to clarify the cause of the outage while holding Optus accountable for the technical failures that led to the crisis.

The *morality frame* saw a substantial increase in prevalence in Phase 4, with a normalised word count of *n* = 3922.71. This frame focused on issues of accountability, compensation, and corporate responsibility. The government called on Optus to compensate affected customers and highlighted the moral obligation of the company to make amends. Senator Sarah Hanson-Young was quick to question the value of the compensation, as reported by Josh Taylor "*how can the tokenistic offer of 200GB of data possibly constitute fair compensation for those who were unable to work, contact loved ones or go about their daily lives?"* (Guardian Australia, 16.11.2023). As a reaction, Optus had established a dedicated complaints team for small businesses affected by the outage. This shift demonstrated Optus's attempt to address its moral obligation to its customers.

Figure 5

Normalised word counts for each context code in Phase 4



Most Prevalent Context-Specific Codes. The context-specific code for *compensation* was highly prevalent in Phase 4, with a normalised word count of *n* = 8051. Media coverage extensively discussed Optus's efforts to mitigate the damage of its offer of compensation to affected customers. However, these efforts were often met with criticism, as reported by Nathan Schmidt, *"Optus customers have slammed what the company calls a 'token gesture' after a nationwide blackout left users without phone or internet access for more than 12 hours"* (News.com.au, 10.11.2023). This criticism suggested that the compensation provided was perceived as insufficient, further exacerbating customer dissatisfaction and highlighted the economic strain on both businesses and individuals. The *investigation* code was also significant in Phase 4, with a normalised word count of *n* = 3963. This code reflected the media's focus on the government's response to the outage. It included calls for investigation and regulatory changes. This coverage illustrated the escalating political pressure on Optus and the broader implications for the telecommunications industry. The *investigation* code also revealed the more severe consequences of the outage that people were unable to contact emergency services, with Daniel Jeffery who reported, "*The telco has conducted welfare checks with all 228 customers and they are all 'okay', she said, but shifted blame for those failed calls"* (9 News Online, 17.11.2023). This blame-shifting was a common trend throughout Optus's recovery strategy. This also occurred when Optus shifted the blame for the outage to their

parent company, Singtel. However, this also played out in the media, as reported by Josh Taylor, *"Singtel moved to distance itself from responsibility, saying Optus had been informed in advance about the upgrade and that it had not caused the outage"* (Guardian Australia, 17.11.2023). The *Optus CEO* code was prominent in Phase 4, with a normalised word count of *n* = 3877.

Media coverage focused on the actions and statements of Optus CEO Kelly Bayer Rosmarin, particularly her testimony at the senate inquiry. There was also mixed messaging around the crisis caused by the CEO in the lead-up to the official announcement. Industry experts were quick to point out the cause on the day of the outage. Kate Ainsworth reported, "The software upgrade theory surmised by telecommunications analysts and experts last Wednesday were put to Optus CEO Kelly Bayer Rosmarin, who rejected those suggestions" (ABC News Online, 13.11.2023). The *industry spokesperson* code was also notable in Phase 4, with a normalised word count of *n* = 3619. Media reports included statements from various industry experts and spokespersons, who provided technical explanations and broader industry perspectives on the cause of the outage. This coverage aimed to clarify the cause of the outage while holding Optus accountable for the technical failures that led to the crisis.

Phase 5 (20 - 25 November 2023)

Phase 5 focused mainly on the resignation of Optus CEO Kelly Bayer Rosmarin. This event represented a significant juncture in the crisis, with the combination of several frames and codes that had been dominant throughout the previous phases. The *morality frame* emerged as media coverage and public debate struggled with the ethical implications of the CEO's resignation, situating it within a larger corporate responsibility and accountability narrative. This frame was linked with the *conflict frame*, which highlighted the internal and external forces that led to Bayer Rosmarin's departure, including scrutiny from the Senate inquiry and public backlash. The *responsibility frame* continued its prominence as it centred on accountability and the various investigations into Optus. The *human interest frame* concentrated on the individual stories and experiences of people affected by the outage. These stories were often linked to the financial impacts of the crisis. However, the *economic consequences frame* made few appearances in this phase.

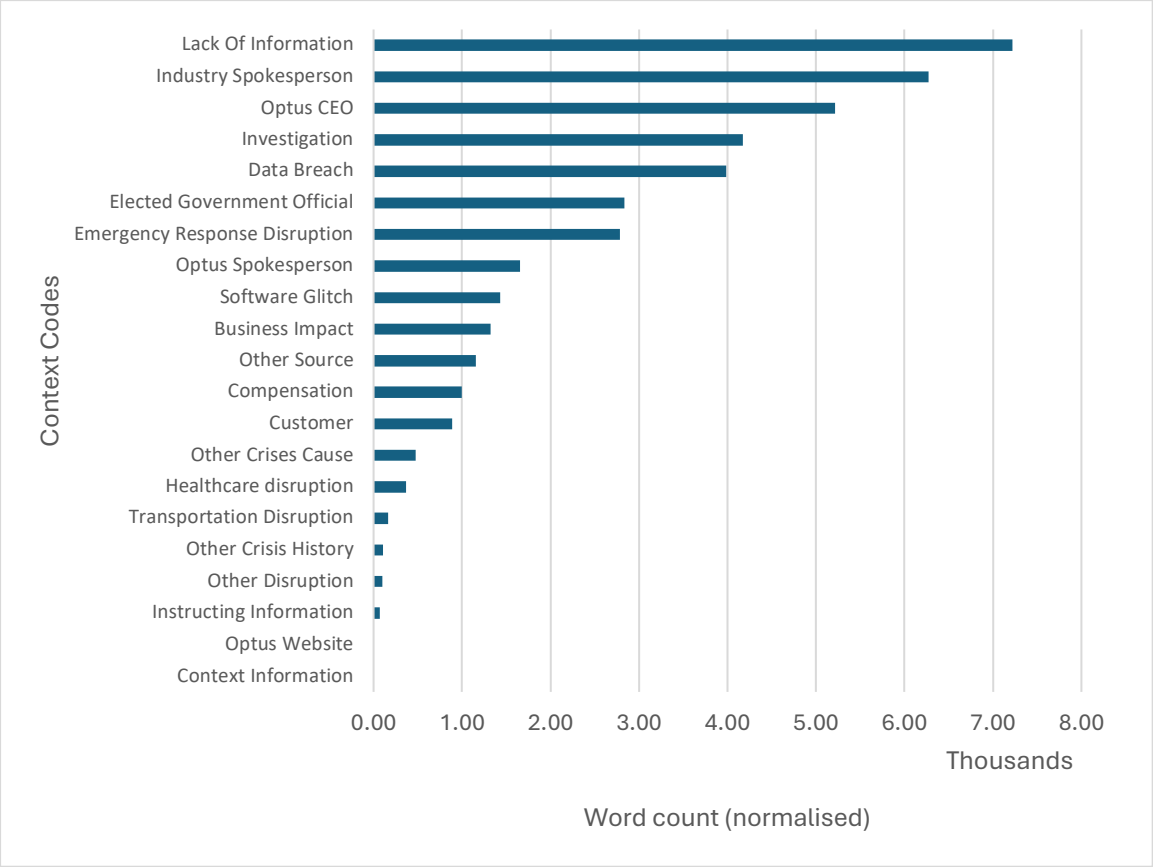
Dominant Generic Frames. The *morality frame* became the most dominant in Phase 5, with a normalised word count of *n* = 5910.81. This framing concerned the crisis's ethical consequences, particularly business ethics and customer trust. The media critically analysed Optus's handling of the crisis and its broader ethical issues. Josh Taylor reported, *"Optus gets some clear air but the ghosts of twin disasters will haunt whoever comes next"* (Guardian Australia, 20.11.2023). This referred to the

departure of the CEO and the ongoing challenges of rebuilding its reputation and restoring customer trust after the 2022 data breach and 2023 outage.

The *conflict frame* remained significant, with a normalised word count of *n* = 4914.97. Media reports included discussions about government scrutiny and potential regulatory changes in response to the crisis. For example, Josh Taylor reported, "*The prime minister, Anthony Albanese, on Monday described the Optus outage as 'a shocker' and 'a complete fail', saying Bayer Rosmarin's resignation was unsurprising*" (Guardian Australia, 20.11.2023a). Daniel Jeffrey also reported, *"You can replace your CEO and that's absolutely fine, but you would be short changing yourself if you thought that was enough"* (9 News Online, 21.11.2023). This reporting emphasised the conflict between Optus and regulatory authorities, suggesting that the crisis had broader implications for telecommunications policy and industry practices. The media also reported on customer defections to rival networks, highlighting the industry's competitive tensions.

Figure 6

Normalised word counts for each context code in Phase 5



Most Prevalent Context-Specific Codes. The persistent *lack of information* about the root cause of the outage, as well as Optus' communication failings, remained a hot topic, which highlighted the ongoing challenges of its transparency and crisis management. *Lack of information* code had a normalised word count of *n* = 7222.92. This information gap was especially troublesome in light of the *emergency response disruption*s raised during the outage, which emphasised how vital clear communication and effective contingency planning are in telecommunications infrastructure. *Industry spokespersons* with a normalised word count of *n* = 6274.54 played an important role in this phase. They provided technical insights that linked the outage to a software malfunction and gave clarity amid confusion. The *data breach* code was still prominent in phase 5 with a normalised word count of *n* = 3982.27 since media coverage and public conversation constantly mentioned the 2022 Optus data breach. This historical context helped to characterise Bayer Rosmarin's departure not as an isolated incident but as the culmination of a series of crises that had eroded trust in Optus's leadership. The investigation code remained noticeable with a normalised word count of *n* = 4171.04. Enquiries about the outage were ongoing, with government and regulatory authorities stepping up their investigations of Optus's response. These investigations, combined with continued discussions about *emergency response disruption* (normalised word count of *n* = 2786.69) during the outage, fuelled calls for accountability and systemic improvements in the telecommunications sector.

Discussion

Main Findings

The primary research question of this study was: "How did the framing of media coverage of the Optus network outage change across the different phases of the crisis?" The findings reveal that the media framing evolved significantly over the crisis's five phases, reflecting the event's dynamic nature and the shifting public perceptions.

In Phase 1, the media coverage primarily focused on the immediate impact and scale of the outage, emphasising economic consequences and human interest stories. The *responsibility frame* was dominant (*n* = 6672.15), highlighting Optus's lack of clear communication (Semetko & Valkenburg, 2000). This aligns with the URT, as stakeholders sought information to reduce uncertainty in the early stages of the crisis (Grace & Tham, 2020). As the crisis progressed to Phase 2, there was a notable shift towards ongoing service disruptions and the broader implications for the telecommunications industry. The *conflict frame* became more prominent (*n* = 5273.45), reflecting growing tensions between Optus and its stakeholders (Semetko & Valkenburg, 2000). This shift in framing is consistent with Situational Crisis Communication Theory, as the crisis moved from the "victim cluster" towards the "preventable cluster" (Coombs & Holladay, 2012). Phase 3 saw a further

evolution in framing, focusing on an in-depth analysis of causes and consequences. The *responsibility frame* remained significant (*n* = 4309), but there was also a rise in the *morality frame* (*n* = 3767), reflecting growing concerns about corporate ethics and accountability (Semetko & Valkenburg, 2000). This phase also saw increased attention on the *Optus CEO* (*n* = 3766.34), indicating a personalisation of the crisis narrative. In Phase 4, the *responsibility frame* peaked (*n* = 5725.28), coinciding with government investigations and the Senate inquiry. The *morality frame* continued to gain prominence (*n* = 3922.71), particularly in discussions regarding compensation and corporate responsibility (Semetko & Valkenburg, 2000). This phase demonstrated how media framing can influence public perception of crisis management and organisational accountability (Entman, 1993). Finally, Phase 5 saw the *morality frame* become dominant (n = 5910.81), focusing on the ethical implications of the CEO's resignation and long-term consequences for Optus and the industry. The *conflict frame* remained significant (*n* = 4914.97), highlighting ongoing tensions between Optus and regulatory authorities (Semetko & Valkenburg, 2000). Throughout the crisis, the evolution of media framing reflected the changing nature of the crisis and its perceived implications. The shift from operational concerns to ethical and accountability issues demonstrates how media framing can shape public perception and expectations during a crisis (Chong & Druckman, 2007). This analysis underscores the importance of effective crisis communication strategies that adapt to evolving media narratives and stakeholder concerns (Lin et al., 2016).

The outcomes of these results are consistent with previous studies on crisis communication and media framing. Previous research has emphasised the necessity of timely and transparent communication in managing public perceptions during a crisis. The initial emphasis on giving context and instructional material is consistent with this approach; nevertheless, the following escalation of disagreements and compensation demands implies that Optus's communication attempts may have been seen as insufficient or lacking openness.

Practical Implications

The Optus network outage case study findings provide valuable insights for organisations looking to strengthen their crisis communication strategy. These findings can help improve media relations and stakeholder management during a crisis. From the results, four practical implications can be concluded for future crisis communications strategies. Firstly, the Optus crisis demonstrates the vital need for timely and transparent communication from the start of the crisis. As seen in the early phases of the outage, Optus's delayed and ambiguous information caused consumer dissatisfaction and uncertainty. The company did not come across as trustworthy as they were withholding information about the outage. Organisations must prioritise delivering contextual and instructional information as soon as possible, as per URT, which states that stakeholders desire

knowledge to minimise uncertainty in ambiguous circumstances (Grace & Tham, 2020). As the crisis progresses, organisations should address concerns such as calls for compensation, responsibility attribution, and larger ramifications to maintain public trust and minimise reputational harm. This approach is consistent with SCCT, emphasising the need to match crisis response techniques to the amount of reputational risk (Coombs & Holladay, 2012).

The media's attention on the Optus CEO's statements and acknowledgement of ethical concerns emphasises the need for visible leadership during crises. Organisations should ensure their leaders actively participate in crisis communication, addressing accountability and ethical concerns to restore public trust. Even when information can be conveyed through written statements, having a "talking head" can give public confidence and limit speculation. This visible leadership strategy may also reduce the need for other industry spokespersons or government authorities to cover information gaps, as shown in the Optus situation. Communicate to the media but also monitor their framing. The Optus outage highlights the significance of closely monitoring media framing and adjusting communication efforts accordingly. As media attention switched from operational concerns to responsibility attribution and ethical concerns, Optus failed to adapt its communication strategy successfully. Organisations should use real-time media monitoring tools to track how their crisis is portrayed and change their communication strategy accordingly. This approach is consistent with Framing Theory, which emphasises the influence of the media’s presentation of stories on public views and perception of events (Entman, 1993).

Public safety must remain paramount, which means addressing the impact of essential services. When a crisis threatens essential services such as healthcare or emergency response, organisations must prioritise communication about the consequences and mitigate safety risks. Optus' inability to appropriately address concerns regarding emergency service access during the outage heightened public attention and undermined faith in the company's crisis management capabilities. Organisations should be on the front foot with communicating such vital information and utilise appropriate communication channels for essential service disruptions to ensure that public safety issues are addressed quickly and effectively. To utilise these findings, organisations should:

- Create complete crisis communication strategies with protocols for prompt response, leadership visibility, and continuous stakeholder engagement.
- Invest in real-time media monitoring software to track framing patterns and public sentiment.
- Carry out frequent crisis simulation exercises that incorporate situations involving critical service outages or worst-case scenarios.

- Establish open lines of contact with regulatory organisations and government agencies to enable coordinated actions during crises.
- Pre-establish a specialised crisis communication team capable of quickly assessing and responding to shifting media narratives.

By using these tactics, organisations may improve their ability to successfully manage media relations during crises, preserve stakeholder trust, and reduce long-term reputational harm. The Optus case demonstrated how vital a proactive, transparent, and adaptable crisis communication response strategy is in today's fast-paced media landscape.

Limitations

The study acknowledges several limitations that should be considered when interpreting the results. The study examined media coverage in a specific geographic and cultural setting. Future studies should examine how media framing and crisis communication tactics vary among countries or cultural settings, offering a more complete picture of the issue. This study also only focused on traditional media sources. Future studies should also use social media data to examine the framing and public discourse around crises since social media platforms have become increasingly prominent in forming public opinion and crisis communication methods. While this study looked at how media framing evolved across crisis phases, a longitudinal analysis could shed light on the long-term effects of media framing on public perceptions and organisational reputation and the efficacy of crisis communication strategies over time. Although this study used word counts, it was primarily a qualitative content analysis. Future research could include quantitative methods such as sentiment analysis or network analysis to understand better media framing and its impact on public opinion and organisational reputation.

Suggestions for Future Research

While this study had some limitations, this study does present several suggestions for future research on media framing during crises. Firstly, comparative research of media framing across various crises (e.g., natural disasters, corporate scandals, public health emergencies) could provide valuable insights into how framing methods fluctuate depending on the nature of the crisis. Furthermore, in today's digital context, studying the impact of social media in constructing crisis narratives and affecting conventional media framing would be very important. Research would delve into practical communication tactics depending on the social media platform. Research could also investigate the long-term influence of media framing on organisational reputation and stakeholder trust. Longitudinal studies examine how framing changes over time and affect public perception. These proposed study directions will help further broaden the scope of media framing research in

crises, ultimately leading to more successful crisis communication practices for organisations and media professionals.

Conclusion

To summarise, this study emphasises the importance of understanding media framing in organisational crises, particularly in the context of a telecommunications outage. The research demonstrates how media framing changed throughout the crisis, from early operational concerns to broader themes of corporate responsibility, accountability, and ethical considerations. This progression highlights the fluid nature of crisis communication, and organisations need to alter their methods when public perceptions and media narratives shift. The study found that the framing of the Optus outage had a substantial impact on public perception and stakeholder responses. The dominance of the *responsibility frame* throughout the crisis emphasises the significance of organisations communicating promptly and transparently during crises. The move towards *morality* and *conflict frames* in later phases of the crisis demonstrates how media coverage may impact public debate on business practices and corporate responsibility.

Furthermore, the study emphasises the interconnection of contemporary telecommunications infrastructure and its significance in society. The significant impact of the outage on companies, emergency services, and everyday life highlighted the need for good crisis management and communication tactics. This research teaches organisations how media framing may affect public opinion, influence regulatory actions, and have a long-term impact on business reputation. This study's findings have implications for crisis communication techniques, emphasising the importance of organisations proactively monitoring and responding to developing media narratives. It also emphasises the significance of visible leadership and transparent communication while serving a moral duty during crises. As telecommunications and technology infrastructure continue to play an increasingly important role in society, understanding media framing in crisis circumstances is critical for organisations and communication practitioners to manage public perceptions and establish successful crisis responses.

References

Afifi, W. A., & Weiner, J. L. (2004). Toward a theory of motivated information management. *Communication Theory*, *14*(2), 167-190. https://doi.org/10.1111/j.1468-2885.2004.tb00310.x

Antoine, J.-Y., Villaneau, J., & Lefeuvre-Halftermeyer, A. (2014). Weighted Krippendorff's alpha is a more reliable metrics for multicoders ordinal annotations: Experimental studies on emotion, opinion and coreference annotation. *14th Conference of the European Chapter of the Association for Computational Linguistics 2014, EACL 2014*. https://doi.org/10.3115/v1/E14-1058

Bourmeche, F. (2022). Brexit And British Expatriates in The British Newspapers [Article]. *Journal of Ethnic and Cultural Studies*, *9*(3), 92-105. https://doi.org/10.29333/ejecs/964

Chong, D., & Druckman, J. N. (2007). A Theory of Framing and Opinion Formation in Competitive Elite Environments. *Journal of Communication*, *57*(1), 99-118. https://doi.org/10.1111/j.1460-2466.2006.00331.x

Coombs, W. T. (1999). *Ongoing Crisis Communication : Planning, Managing and Responding*. Sage Publications Inc.

Coombs, W. T. (2009). *Conceptualizing crisis communication.* (H. D. O. H. Robert L. Heath, Ed.). Routledge. https://doi.org/https://doi.org/10.4324/9781003070726

Coombs, W. T., & Holladay, S. J. (2012). *The Handbook of Crisis Communication*. Wiley. https://books.google.nl/books?id=mt0F2LBNPa8C

Demuyakor, J., Avenyo, S., & Amankwah, A. (2024). COVID-19 vaccines and vaccinations coverage on news portals: Framing, Tone, and Source Analysis. *Communication and the Public*, *1*, 1-18. https://doi.org/10.1177/20570473231225299

Dowling, G. (2002). *Creating Corporate Reputations: Identity, Image, and Performance*. Oxford University Press. https://books.google.nl/books?id=WIHTHd6HqNIC

Entman, R. M. (1993). Framing: Toward Clarification of a Fractured Paradigm. *Journal of Communication*, *43*(4), 51-58. https://doi.org/https://doi.org/10.1111/j.1460-2466.1993.tb01304.x

Fearn-Banks, K. (1996). *Crisis Communications: A Casebook Approach*. Lawrence Erlbaum Associates. https://books.google.nl/books?id=jAlvQgAACAAJ

Friedman, M. L. (2002). *Everyday Crisis Management*. First Decision Press. https://books.google.nl/books?id=JH_0wEY8E6QC

Grace, R., & Tham, J. C. K. (2020). Adapting Uncertainty Reduction Theory for Crisis Communication: Guidelines for Technical Communicators. *Journal of Business and Technical Communication*, *35*(1), 110-117. https://doi.org/10.1177/1050651920959188

Gregory, M. A. (2023). An Analysis of the Optus National Outage and Recommendations for Enhanced Regulation [Article]. *Journal of Telecommunications and the Digital Economy*, *11*(4), 185-198. https://doi.org/10.18080/jtde.v11n4.898

Grundy, M., & Moxon, R. (2013). The effectiveness of airline crisis management on brand protection: A case study of British Airways. *Journal of Air Transport Management*, *28*, 55-61. https://doi.org/https://doi.org/10.1016/j.jairtraman.2012.12.011

Haupt, B. (2021). The Use of Crisis Communication Strategies in Emergency Management [Article]. *Journal of Homeland Security and Emergency Management*, *18*(2), 125-150. https://doi.org/10.1515/jhsem-2020-0039

Holladay, S. (2010). Are They Practicing What We Are Preaching? An Investigation of Crisis Communication Strategies in the Media Coverage of Chemical Accidents. In (pp. 159-180). https://doi.org/10.1002/9781444314885.ch7

Jinah, N., Lee, K. Y., Zakaria, N., Zakaria, N., & Ismail, M. (2024). Media framing on news of the Hartal Doktor Kontrak (HDK) movement in Malaysia: a quantitative content analysis of two Malaysian newspapers. *Humanities and Social Sciences Communications*, *11*. https://doi.org/10.1057/s41599-024-03158-3

Lin, X., Spence, P. R., Sellnow, T. L., & Lachlan, K. A. (2016). Crisis communication, learning and responding: Best practices in social media. *Computers in Human Behavior*, *65*, 601-605. https://doi.org/https://doi.org/10.1016/j.chb.2016.05.080

Macnamara, J. (2005). Media Content Analysis: Its Uses, Benefits and Best Practice Methodology. *Asia-Pacific Public Relations Journal*, *6*.

Neuendorf, K. (2002). *The Content Analysis Guidebook*. https://doi.org/10.4135/9781071802878

Norin, E., & Kahlström, J. (2012). Media framing – As time goes? : A qualitative longitudinal study.

Park, S., Fisher, C., McGuinness, K., Lee, J., McCallum, K., Cai, X., Chatskin, M., Mardjianto, L., & Yao, P. (2024). *Digital News Report: Australia 2024*. U. o. C. Canberra: News & Media Research Centre.

Prieto-Andrés, A., Fernández, C., & López-Avilés, A. The visual representation of Ukrainian and Afghan refugees in the Spanish press. *Media, War & Conflict*, *0*(0), 17506352241249036. https://doi.org/10.1177/17506352241249036

Sellnow, T., Ulmer, R., Seeger, M., & Littlefield, R. (2009). Introducing a Message-Centered Approach to Risk Communication. In (pp. 3-18). https://doi.org/10.1007/978-0-387-79727-4_1

Semetko, H., & Valkenburg, P. (2000). Framing European Politics: A Content Analysis of Press and Television News. *Journal of Communication*, *50*, 93-109. https://doi.org/10.1111/j.1460-2466.2000.tb02843.x

Sora Park, Kieran McGuinness, Caroline Fisher, Jee Young Lee, & McCallum, K. (2023). *Digital news report: Australia 2023*.

Stone, P., Dunphy, D., Smith, M., & Ogilvie, D. (1966). *The General Inquirer: A Computer Approach to Content Analysis* (Vol. 4). https://doi.org/10.2307/1161774

Tastsoglou, M., Kontogianni, S., Poulakidakos, S., & Pleios, G. (2024). Agenda-setting and framing during the first wave of coronavirus pandemic: A content analysis of news in Greek media. *ANTHROPOLOGICAL RESEARCHES AND STUDIES*, *14*, 143-161. https://doi.org/10.26758/14.1.11

Taylor, J. (2022, September 28). Optus data breach: everything we know so far about what happened. *The Guardian*. https://www.theguardian.com/business/2022/sep/29/optus-data-breach-everything-we-know-so-far-about-what-happened

Umansky, D. (1993). How to Survive and Prosper When It Hits the Fan [Article]. *Public Relations Quarterly*, *38*(4), 32-34. http://ezproxy2.utwente.nl/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=9411282438&site=ehost-live

Weiss-Blatt, N. (2021). Tech Crisis Communication. In *The Techlash and Tech Crisis Communication* (pp. 73-95). Emerald Publishing Limited. https://doi.org/10.1108/978-1-80043-085-320211008

Zapf, A., Castell, S., Morawietz, L., & Karch, A. (2016). Measuring inter-rater reliability for nominal data – which coefficients and confidence intervals are appropriate? *BMC Medical Research Methodology*, *16*(1), 93. https://doi.org/10.1186/s12874-016-0200-9

Appendices

Appendix A: AI Use Declaration

During the preparation of this work, the author used ChatGPT for guidance on paper structure and formatting. Grammarly was also used for grammar and punctuation writing assistance. After using these tools/services, the author reviewed and edited the content as needed and takes full responsibility for the content of the work.

Appendix B: Codebook

Table 3

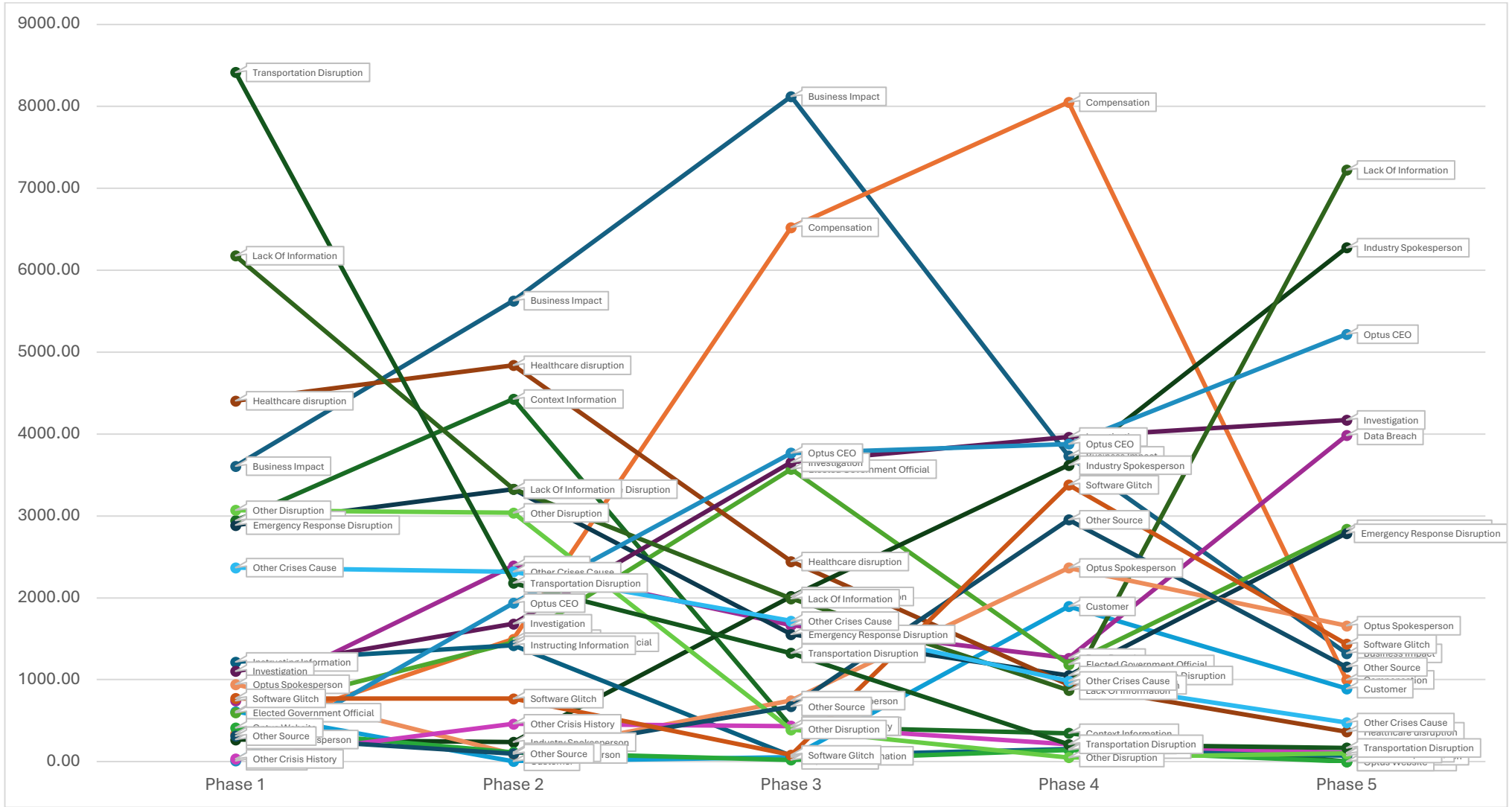
Codebook

Code Group	Code
1. Media frames	1.1 Conflict frame 1.2 Human interest frame 1.3 Responsibility frame 1.4 Economic consequences frame 1.5 Morality frame
2. Crisis cause	2.1 Software glitch 2.2 Other crises cause
3. Crisis history	3.1 Data breach 3.2 Other crisis history
4. Information giving strategies	4.1 Context information 4.2 Instructing information
5. Source information	5.1 Industry spokesperson 5.2 Optus CEO 5.3 Optus Website 5.4 Optus Spokesperson 5.5 Customer 5.6 Elected Government Official 5.7 Other Source
6. Disrupted services	6.1 Healthcare disruption 6.2 Transportation disruption 6.3 Emergency response disruption 6.4 Business impact 6.5 Other disruption
7. Action required	7.1 Investigation 7.2 Compensation 7.3 Lack of information

Appendix C: Code Frequencies Over Time

Figure 7

Normalised Word frequencies per context code per phase



Appendix D: Literature Search Log

Research Question: *How did the framing of media coverage of the Optus network outage change across the different phases of the crisis?*

Table 4

Relevant search terms

Concepts	Related terms	Smaller terms	Broader terms
News framing	News frames, media framing, media portrayal	News frames, generic frames, issue specific frames, media frames	Framing

Table 5

Search queries

	Date	Database	Search action / search technique	Total hits
1	07.05.2024	Scopus	"Framing theory" AND "content analysis", Limit to: English, Social Sciences	242
2	07.05.2024	Scopus	"Media portrayal", Limit to: English, Social Sciences	153
3	13.05.2024	Scopus	"Media content analysis", Limit to: English, Social Sciences	269
4	13.05.2024	Scopus	"Framing theory" AND "content analysis", Limit to: English, Social Sciences	157

Appendix D: Corpus

Table 6

Research corpus sorted by crisis phase

Nr	Date	Document	Publisher	Phase
4	8.11.2023a	Nationwide outage leaves Optus customers offline	Australian Associated Press	Phase 1
30	8.11.2023a	Emergency services	ABC News (TV)	Phase 1
31	8.11.2023b	Optus issues update but provides little new information	ABC News (TV)	Phase 1
41	8.11.2023c	Telco consumer advocate urges Optus customers to record losses from outage	ABC News (TV)	Phase 1
42	8.11.2023	Nationwide outage hits Optus, grinds Melbourne metro network to halt	ABC News Breakfast	Phase 1
37	8.11.2023a	Optus outage - I cant remember anything this major for this long	ABC Radio	Phase 1
35	8.11.2023a	Greens push for inquiry into national Optus outage	Canberra City News	Phase 1
32	8.11.2023a	Aussies argue Optus outage proves why Australia shouldn't go completely cashless	Daily Mail	Phase 1
39	8.11.2023b	Optus outage outrages business owners as bosses are forced to shut up shop with millions of Aussies	Daily Mail	Phase 1
34	8.11.2023a	Government left flat-footed by corporate incompetence	Daily Telegraph	Phase 1
21	8.11.2023a	Optus services restored: as it happened	Guardian Australia	Phase 1
29	8.11.2023b	Optus services restored: as it happened	Guardian Australia	Phase 1
43	8.11.2023c	What has been hit by the Optus network going down: from train services to wifi cat feeders	Guardian Australia	Phase 1
40	8.11.2023a	Optus outage: Major delays on Melbourne metro trains	News.com.au	Phase 1
3	8.11.2023a	Barwon Health phones down due to Optus outage	Newscorp	Phase 1
36	8.11.2023b	NQ cafe goes old school amid Optus blackout	Newscorp	Phase 1
33	8.11.2023a	Chaos as Optus outage disconnects half of Australia	Reuters	Phase 1
1	8.11.2023a	Optus customers left disconnected amid major communications outage	Sunrise	Phase 1
20	8.11.2023b	Optus Outage Today No service nationwide	Sunrise	Phase 1
22	8.11.2023c	Optus outage crisis affects millions of customers	Sunrise	Phase 1
23	8.11.2023d	Optus outage crisis affects millions of customers	Sunrise	Phase 1

25	8.11.2023e	Optus outage crisis affects millions of customers	Sunrise	Phase 1
26	8.11.2023f	Optus customers left disconnected amid major communications outage	Sunrise	Phase 1
27	8.11.2023g	Optus customers left disconnected amid major communications outage	Sunrise	Phase 1
2	8.11.2023a	Optus outage hits millions Hospitals, banks and payment systems impacted	Today Show	Phase 1
24	8.11.2023b	Optus outage hits millions Hospitals- banks and payment systems impacted	Today Show	Phase 1
28	8.11.2023c	Optus outage hits millions Hospitals, banks and payment systems impacted	Today Show	Phase 1
38	8.11.2023d	Optus outage: Major delays on Melbourne metro trains	Today Show	Phase 1
189	8.11.2023	Optus CEO 2GB Interview	2GB Sydney	Phase 2
51	8.11.2023a	Millions of Optus customers lose service due to major outage nightmare	7 News	Phase 2
72	8.11.2023a	Optus outage: Full list of services impacted by mass network outage	9 News Online	Phase 2
76	8.11.2023b	Optus outage_ the year from hell for telco_When the Optus boss is forced to call in to address a crisis via WhatsApp you know it's bad	9 News Online	Phase 2
56	8.11.2023b	Optus reconnects some services after hours-long outage	Australian Associated Press	Phase 2
57	8.11.2023c	What people are saying about the national Optus outage	Australian Associated Press	Phase 2
86	8.11.2023d	The Albanese government announced a post-incident telecommunications review	ABC News (TV)	Phase 2
87	8.11.2023e	Victorian emergency services struggle with surge in asthma cases amid Optus network outage	ABC News (TV)	Phase 2
69	8.11.2023a	Optus outage prompts calls to force telcos to switch customers onto other networks when one fails	ABC News Online	Phase 2
52	8.11.2023b	Optus CEO ABC radio interview	ABC Radio	Phase 2
64	8.11.2023	Optus goes down across Australia	Australian Radio Network	Phase 2
5	8.11.2023a	It just rings straight out' Optus outage knocks out Brisbane businesses	Brisbane Times	Phase 2
44	8.11.2023b	It just rings straight out' Optus outage knocks out Brisbane businesses	Brisbane Times	Phase 2
77	8.11.2023c	Optus outage: What caused the major network failure	Brisbane Times	Phase 2
80	8.11.2023d	Optus services 'gradually being restored' across Australia	Brisbane Times	Phase 2
7	8.11.2023b	Optus struggles to fix national outage	Canberra City News	Phase 2

78	8.11.2023c	Optus reconnects some services after long outage	Canberra City News	Phase 2
82	8.11.2023d	Optus services restored after 'costly' nine-hour outage	Canberra City News	Phase 2
83	8.11.2023e	Optus struggles to fix national outage	Canberra City News	Phase 2
6	8.11.2023c	Optus CEO vanishes for hours after network crashes	Daily Mail	Phase 2
59	8.11.2023d	Horrific update on Optus crash as telco shares chilling Triple Zero development with blackout STILL	Daily Mail	Phase 2
62	8.11.2023e	Optus CEO vanishes for hours after network crashes	Daily Mail	Phase 2
63	8.11.2023b	Optus considers compensation for outage disaster	Daily Telegraph	Phase 2
45	8.11.2023d	Optus services restored: as it happened	Guardian Australia	Phase 2
46	8.11.2023e	Optus services restored: as it happened	Guardian Australia	Phase 2
47	8.11.2023f	Optus services restored: as it happened	Guardian Australia	Phase 2
48	8.11.2023g	Optus services restored: as it happened	Guardian Australia	Phase 2
49	8.11.2023h	Optus services restored: as it happened	Guardian Australia	Phase 2
50	8.11.2023i	Optus services restored: as it happened	Guardian Australia	Phase 2
61	8.11.2023j	Open threadtell us how the Optus outage affected you	Guardian Australia	Phase 2
65	8.11.2023k	Optus network outage may have been caused by same issue that brought Facebook down in 2021	Guardian Australia	Phase 2
70	8.11.2023m	Optus outage: CEO says some services are being restored after millions across Australia lost mobile and internet	Guardian Australia	Phase 2
71	8.11.2023n	Optus outage: customers in regional Australia gather in shops and McDonald, for wifi	Guardian Australia	Phase 2
81	8.11.2023o	Optus services restored: as it happened	Guardian Australia	Phase 2
58	8.11.2023	Hack or not: Optus mobile outage explained	Herald Sun	Phase 2
66	8.11.2023b	Optus outage Australia: What businesses are impacted	News.com.au	Phase 2
67	8.11.2023c	Optus outage cash: Warning against cashless society as EFTPOS down	News.com.au	Phase 2
73	8.11.2023d	Optus outage: Mobile and internet services slowly returning across Australia	News.com.au	Phase 2
74	8.11.2023e	OPTUS OUTAGE: Tasmanian Poisons information call centre impacted, where you can find a payphone	News.com.au	Phase 2

75	8.11.2023f	Optus outage: Telstra prepaid customers impacted amid chaos	News.com.au	Phase 2
88	8.11.2023g	What happened to Optus share price after outage	News.com.au	Phase 2
89	8.11.2023h	Young Aussies reveal how they are dealing with the optus outage	News.com.au	Phase 2
55	8.11.2023c	Far North businesses battle on as Optus outage impacts sales	Newscorp	Phase 2
68	8.11.2023b	Optus outage causes chaos in Australia before services restored	Reuters	Phase 2
53	8.11.2023a	Angry customers outside Optus store as phones remain down at hospitals	Sydney Morning Herald	Phase 2
79	8.11.2023b	Optus services 'gradually being restored' across Australia	Sydney Morning Herald	Phase 2
85	8.11.2023	SA govt may dump Optus after chaotic nationwide outage	The Advertiser	Phase 2
60	8.11.2023a	How Optus disconnected Victorians from doctors, loved ones and even their interior lights	The Age	Phase 2
84	8.11.2023b	Optus: Unlucky, accident-prone or culpable	The Age	Phase 2
54	8.11.2023	Editor's view: Optus must be called to account over outage response	The Courier Mail	Phase 2
92	9.11.2023a	Optus reveals compensation for customers impacted by nationwide outage	7 News	Phase 3
93	9.11.2023b	Optus set to hold senate inquiry after Nationwide network failure	7 News	Phase 3
94	9.11.2023c	Australian government demands answers from Optus after major outage	7 News	Phase 3
96	9.11.2023d	Optus Network Outage Sparks Government Inquiry	7 News	Phase 3
126	8.11.2023c	Optus outage update: Services back for all customers, cause remains unknown	9 News Online	Phase 3
128	9.11.2023a	Optus outage: Government pledges review into network collapse	9 News Online	Phase 3
133	9.11.2023b	Optus outage: Rival telcos boom as customers leave Optus after outages	9 News Online	Phase 3
90	9.11.2023a	Australian Chamber of Commerce and Industry slams Optus clown show	ABC News (TV)	Phase 3
91	9.11.2023b	Pressure mounting on Optus to do more in the wake of yesterday's unprecedented service outage	ABC News (TV)	Phase 3
100	8.11.2023f	ABC Business	ABC News (TV)	Phase 3
101	8.11.2023g	ABC News Optus Outage	ABC News (TV)	Phase 3
102	8.11.2023h	ABC News Optus Outage	ABC News (TV)	Phase 3
104	8.11.2023i	Optus CEO ABC News Interview	ABC News (TV)	Phase 3
105	8.11.2023j	ABC News Victoria	ABC News (TV)	Phase 3
103	9.11.2023a	ABC News Breakfast	ABC News Breakfast	Phase 3
107	9.11.2023b	Optus response to network outage prompts government review	ABC News Breakfast	Phase 3

9	9.11.2023a	Federal government announces investigation into Optus outage, minister urges telco consider compensation	ABC News Online	Phase 3
10	9.11.2023b	First a cyber attack, now a national outage. Can Optus boss Kelly Bayer Rosmarin survive this latest debacle	ABC News Online	Phase 3
110	9.11.2023c	Businesses count the economic cost of Optus network meltdown	ABC News Online	Phase 3
116	9.11.2023d	More than 10 million customers were affected by the Optus outage. Here's how it played out	ABC News Online	Phase 3
117	8.11.2023b	Optus blackout_ What is a 'deep network' outage and what may have caused it	ABC News Online	Phase 3
120	9.11.2023e	Optus defends 'front-footed' communication over nationwide outage, says 'technical network fault' is to blame	ABC News Online	Phase 3
132	9.11.2023f	Optus outage: Questions unanswered a day after Optus outage cuts communication for millions of Australians	ABC News Online	Phase 3
140	9.11.2023g	VIDEO TRANSCRIPT - Could the Optus outage happen again	ABC News Online	Phase 3
142	9.11.2023h	What caused Optus's nationwide outage, and how long was it down for? Here's what we know	ABC News Online	Phase 3
95	9.11.2023	Optus under financial pressure due to inflation	ABC Radio	Phase 3
11	9.11.2023a	Optus outage: Victorian government to review telco relationship	Brisbane Times	Phase 3
124	8.11.2023e	Optus outage disconnected Victorians from doctors, loved ones, works	Brisbane Times	Phase 3
130	9.11.2023b	Optus outage: Michelle Rowland announces government review	Brisbane Times	Phase 3
136	9.11.2023c	Optus outage: What to do when you have no internet	Brisbane Times	Phase 3
115	9.11.2023	Miles slams 'essential service' Optus as outage hits hard	The Courier Mail	Phase 3
113	9.11.2023a	Half of Australia left without internet or phone as Optus crashes	Guardian Australia	Phase 3
129	9.11.2023b	Optus outage: Is this a good time to switch plans? And can I get compensation?	Guardian Australia	Phase 3
131	9.11.2023c	Optus outage: network offers free data to customers as it faces Senate inquiry and government review	Guardian Australia	Phase 3
137	8.11.2023p	Optus services restored: as it happened	Guardian Australia	Phase 3
139	9.11.2023d	The Optus outage underlines the need for emergency mobile roaming	Guardian Australia	Phase 3
143	9.11.2023e	What is next for Optus as national outage damages already frail reputation	Guardian Australia	Phase 3
121	9.11.2023	Optus hasn't learned from the cyberattack playbook	Herald Sun	Phase 3

112	8.11.2023i	Economy: Businesses left hurting by Optus outage	News.com.au	Phase 3
114	9.11.2023a	How will Optus compensate customers for outage	News.com.au	Phase 3
118	9.11.2023b	Optus compensation_ Aussie,A $1000 nightmare, demands to be paid	News.com.au	Phase 3
119	8.11.2023j	Optus considers compensation for millions of Aussies affected by internet outage	News.com.au	Phase 3
122	8.11.2023k	Optus outage Australia: Huge lines show customers leaving for Telstra, Vodafone	News.com.au	Phase 3
125	9.11.2023c	Optus outage robs daughter of final goodbye with dying mum	News.com.au	Phase 3
127	8.11.2023l	Optus Outage: Class action lawsuit threatened as customers demand compensation	News.com.au	Phase 3
134	8.11.2023m	Optus outage: South Australian Premier Malinauskas threatens future Optus contracts	News.com.au	Phase 3
135	8.11.2023n	Optus outage: What caused major chaos for 10m Australians	News.com.au	Phase 3
138	8.11.2023o	Telecoms outage cuts off millions of Australians	News.com.au	Phase 3
141	8.11.2023p	What caused Optus outage? Core fault issue behind blackout	News.com.au	Phase 3
109	9.11.2023a	Australia to investigate Optus outage as customers seek compensation	Reuters	Phase 3
123	9.11.2023b	Optus outage causes chaos in Australia before services restored	Reuters	Phase 3
8	9.11.2023a	Optus could face large compensation claims	Sunrise	Phase 3
97	9.11.2023b	Cafe owner slams Optus offer of free data after network outage	Sunrise	Phase 3
111	9.11.2023	Communication failure as Optus opts out, no refunds	The Australian	Phase 3
106	8.11.2023	The Project	The Project	Phase 3
98	9.11.2023a	Communications Minister unable to provide reason for mass Optus outage	Today Show	Phase 3
99	9.11.2023b	Optus customers slam compensation offer	Today Show	Phase 3
108	9.11.2023c	What you can claim if affected by the Optus outage	Today Show	Phase 3
12	9.11.2023c	Optus outage updates: Warning issued over text scam pretending to offer Optus outage compensation	9 News Online	Phase 4
145	10.11.2023a	Campaign calls for cash protections in wake of Optus outage	9 News Online	Phase 4
150	14.11.2023a	Harvey Norman founder defends Optus in radio ad after 14-hour outage.pdf	9 News Online	Phase 4
165	9.11.2023d	Optus outage compensation: Can I get a refund for lost service, what to do, what we know	9 News Online	Phase 4

167	17.11.2023	Optus outage update: CEO Kelly Bayer Rosmarin fronts Senate inquiry, admits hundreds of triple zero calls failed during outage, dodges resignation questions	9 News Online	Phase 4
168	9.11.2023e	Optus outage update: How the Optus network failed causing Australia's biggest outage	9 News Online	Phase 4
169	10.11.2023b	Optus outage update: How to get your free data, how to get compensation explained	9 News Online	Phase 4
170	13.11.2023	Optus outage update: Telco reveals cause of network failure, but experts say questions remain unanswered	9 News Online	Phase 4
171	14.11.2023b	Optus outage updates: How to negotiate a discount on your plan	9 News Online	Phase 4
173	9.11.2023f	Optus Outage: Is Optus still down, what caused it, has Optus been hacked and everything to know	9 News Online	Phase 4
174	10.11.2023c	Optus outage: Tech expert slams Optus' outage compensation bid	9 News Online	Phase 4
15	10.11.2023	Optus customers still fuming after nationwide outage	ABC News (TV)	Phase 4
146	10.11.2023a	Can you sue Optus, or end your contract early? Here are your rights and how to make a claim	ABC News Online	Phase 4
148	15.11.2023	Could Optus face a class action over its nationwide outage? Legal experts say it's not that straightforward	ABC News Online	Phase 4
153	17.11.2023a	Optus CEO Kelly Bayer Rosmarin fronted a Senate inquiry today. Here's what she had to say	ABC News Online	Phase 4
158	13.11.2023	Optus identifies cause of nationwide outage, says 'changes to routing information' after software upgrade to blame	ABC News Online	Phase 4
159	17.11.2023b	Optus is in the business of sending messages, but the public grilling over its outage shows it's incapable of receiving them	ABC News Online	Phase 4
164	9.11.2023	Optus offers customers 200GB of free data as compensation for nationwide outage	ABC News Online	Phase 4
181	10.11.2023b	The Optus outage has thrown our cashless society into question, but experts say there's no going back	ABC News Online	Phase 4
13	13.11.2023	Optus reveals routine software upgrade the cause of 14-hour network outage	Guardian Australia	Phase 4
151	17.11.2023	More than 200 Optus customers unable to call triple zero during 14-hour outage, Senate inquiry told	Guardian Australia	Phase 4

152	16.11.2023	Optus CEO Kelly Bayer Rosmarin faces Senate grilling as Singtel denies it was to blame for outage	Guardian Australia	Phase 4
155	11.11.2023	Optus chief executive set to face Senate inquiry over nationwide outage _ Optus _ The Guardian.pdf	Guardian Australia	Phase 4
162	10.11.2023a	Optus loses court bid to keep report into cause of 2022 cyber-attack secret	Guardian Australia	Phase 4
172	10.11.2023b	Optus outage: company offer of free data as compensation criticised as hollow gesture	Guardian Australia	Phase 4
175	10.11.2023c	Optus outage: will I be compensated, and what are my rights?	Guardian Australia	Phase 4
177	14.11.2023	Optus resellers make few or no announcements of compensation after nationwide network outage	Guardian Australia	Phase 4
178	10.11.2023d	Optus went down and the smart lights came on. And then Marayke was stranded in bed	Guardian Australia	Phase 4
180	10.11.2023e	Telcos could be forced to let customers roam rival networks during outages under plan Optus opposed	Guardian Australia	Phase 4
182	10.11.2023f	The Optus outage was like an old South Park episode , only the serious and costly disruption unleashed was LOLs-free	Guardian Australia	Phase 4
14	9.11.2023d	Small, rival telcos boom as Optus customers switch after outage	News.com.au	Phase 4
147	10.11.2023a	Cash, ATM loving Aussies rage in wake of Optus outage	News.com.au	Phase 4
149	10.11.2023b	Customers, slam Optus over token, internet compensation after nationwide outage	News.com.au	Phase 4
154	10.11.2023c	Optus CEO Kelly Bayer Rosmarin slammed for, 'tone deaf' outage comment	News.com.au	Phase 4
156	11.11.2023	Optus customer service worker, blunt message shocks Aussies	News.com.au	Phase 4
157	14.11.2023	Optus customers defect to Telstra after outage	News.com.au	Phase 4
160	10.11.2023d	Optus issues grovelling apology text messages to millions affected by outage	News.com.au	Phase 4
161	9.11.2023e	Optus likely to explain outage 'disaster' at senate inquiry	News.com.au	Phase 4
163	15.11.2023a	Optus national outage: Telco could face legal woes after health providers impacted by outage	News.com.au	Phase 4
166	15.11.2023b	Optus outage compensation: Trick to turn 200GB data into cash	News.com.au	Phase 4
176	10.11.2023e	Optus reputation in ruins after outage, expert predicts billion-dollar cost	News.com.au	Phase 4
179	16.11.2023	SingTel says Optus to blame for nationwide outage	News.com.au	Phase 4

18	20.11.2023a	Optus CEO Kelly Bayer Rosmarin resigns	9 News Online	Phase 5
19	20.11.2023b	Optus outage: What went wrong at Optus and how the company restores trust	9 News Online	Phase 5
186	21.11.2023	Optus CEO resignation: Kelly Bayer Rosmarin quits, what it means for Optus, calls for government change	9 News Online	Phase 5
16	20.11.2023a	Kelly Bayer Rosmarin's fate as Optus CEO was sealed well before her resignation was public knowledge	ABC News Online	Phase 5
188	20.11.2023b	Optus outage prevents triple-0 call for Melbourne man suffering heart attack	ABC News Online	Phase 5
17	20.11.2023a	Optus CEO Kelly Bayer Rosmarin resigns after network outage	Guardian Australia	Phase 5
187	20.11.2023b	Optus gets some clear air but the ghosts of twin disasters will haunt whoever comes next	Guardian Australia	Phase 5
183	21.11.2023	Bizarre moment that marked beginning of the end for Optus boss Kelly Bayer Rosmarin	News.com.au	Phase 5
184	20.11.2023a	Kelly Bayer Rosmarin resigns from Optus after outage, senate grilling	News.com.au	Phase 5
185	20.11.2023b	Optus cable break leads to another coverage failure for Melbourne customers	News.com.au	Phase 5