

**To Bag the Ban or Ban the Bag:
Analysing a shifting discourse in Canadian online news during the pandemic year, 2020**

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Abstract

Plastics pollution is an existential threat to the environment, and in particular to the world's oceans. Pre-pandemic, a global response to this crisis was gaining traction, with news media reporting large scale policy implementation. For example, in Canada, the federal government made an announcement in 2019 that it would implement a nationwide single-use plastics ban by 2021. A disruption to this response occurred at the onset of the COVID-19 pandemic, with a shifting Canadian news media discourse reflecting recommendations to increase consumption of single-use plastic bags and to ban reusable bags from stores. In order to understand how the human health crisis may have been used to push back on reusable bag use and promote single-use plastic, and to understand subsequent implications for policy change and environmental action, I conducted a two-part longitudinal analysis consisting of a critical discourse analysis of exemplar texts and a larger framing analysis of Canadian online news articles. Ultimately, the aim of this communications study was to understand how the representation of claims-makers, journalistic norms of practice, underlying worldviews and the pandemic itself may have contributed to a shifting discourse about the single-use plastic bag issue over time.

Keywords

Single-use plastics, single-use plastic bags, reusable bags, bans, ban delays, communication, environmental communication, framing analysis, critical discourse analysis, plastics pollution, plastics industry, environmentalism, social constructionism, online news, media, media studies, pandemic, COVID-19

Acknowledgments

I began exploring the topic of single-use plastic bags two months into the pandemic. At the time, I was perched at a tiny sewing desk in the corner of my bedroom, with a sign taped to the door. My three teenagers, who were also at home in online classes, knew that if the door sign read “In Penticton”, they could come in. If it was flipped to “In Edmonton” they were to assume that, in spirit at least, I was with my cohort in Edmonton beginning the capstone adventure in Comm 501 and was not to be disturbed. Many thanks to my family for sticking to this in-house travel ban. And also for listening to hundreds of iterations of my research question, picking up the slack around the house, and enduring my 11pm meltdowns when I thought that I couldn’t possibly keep going. I am constantly heartened by family, and a silver lining of the pandemic lockdowns was the ability to spend so much time at home with all of them.

I would also like to extend my gratitude to:

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As I prepare to graduate, I feel a sense of closure on my studies and my study topic. Recently, after returning from the vaccine centre, I visited our local grocery store. It had just banned single-use plastic bags. With a shot in my arm and watching people pack their groceries into paper and reusable bags, I felt it possible that we were returning not just to our old world, but to a better one.

Table of Contents

Abstract	2
Acknowledgments	3
Table of Contents	4
Chapter 1: Introduction	6
Purpose of Study	6
Literature Preview	7
Methodology Preview	8
Summary	9
Chapter 2: Literature Review	11
Introduction	11
Methodology	12
Discussion of the Literature	15
Theoretical Framework: Social Construction of Environmental Issues	21
Approach to Research Design: Framing and Discourse Analysis	23
Summary	27
Chapter 3: Methodology	28
Introduction	28
Study Strategy	29
Methodology	32
Sampling	34
Part One: Critical Discourse Analysis	38
Part Two: Framing Analysis	40
Study Limitations	41
Summary	42
Chapter 4: Findings	44
Introduction	44
Data Presentation	45
Analysis Limitations	65
Summary	65
Chapter 5: Discussion	67
Introduction	67
Discussion	67
Summary	73
Chapter 6: Conclusion	75
Introduction	75
Findings Summary	75
Findings in Context	76
Future Direction	77
Summary	78

References	79
Appendices	86
A. Sample Signage at Halifax Superstore	86
B. BC Ministry of Health Information Bulletin	87
C. The Guardian as a Source of Fact-Checked News	89
D. Globe and Mail Ad: Trust André Picard	90
E. Emerging Themes for Literature Review	91
F. Listing of Studies, Reports, Health Directives, Ban Announcements, Delays and Re-implementations	92
G. Complete List of Articles used for Critical Discourse and Framing Analysis	94
H. Dominant Claims-maker and Dominant Claim (Perception) in Articles Grouped by Carryout Bag Type and Critical Discourse Moment	97
I. Framing Coding Table	104
Tables	
1. Adaptation of Fairclough's Three Dimension Model for CDA	39
Figures	
1. Study Boundary Justification	30
2. Four Categories of a Crisis Lifecycle	31
3. An Integrated Process Model of Framing	33
4. Study Design: Sampling Process for Data Set	35
5. Determining Critical Discourse Moments from Data Set	37
6. Dominant Perceptions of Plastic Bags and their Alternatives in Selected Articles Over the Pandemic Year, organized by Critical Discourse Moments	45
7. Dominant Perceptions of Plastic Bags and their Alternatives in Selected Articles Over the Pandemic Year, focusing on CDM One	46
8. Dominant Perceptions of Plastic Bags and their Alternatives in Selected Articles Over the Pandemic Year, focusing on CDM Two	49
9. Dominant Perceptions of Plastic Bags and their Alternatives in Selected Articles Over the Pandemic Year, focusing on CDM Three	53
10. Dominant Perceptions of Plastic Bags and their Alternatives in Selected Articles Over the Pandemic Year, focusing on CDM Four	56
11. Dominant Perceptions of Plastic Bags and their Alternatives in Selected Articles Over the Pandemic Year, focusing on CDM Five	58
12. Dominant Perceptions of Plastic Bags and Their Alternatives in Relation to Policy Implementation, Emerging Information and the Pandemic	61

Chapter 1: Introduction

Eight million metric tons of plastic waste enter the oceans every year, with scientific models predicting that by 2050, there will be more plastic by weight than fish in the oceans (National Oceanic and Atmospheric Administration as cited in Ford, 2020). Pre-pandemic, these alarming statistics and existential threat to wildlife were beginning to be addressed through policy implementation in many jurisdictions around the globe. Here in Canada, in 2019, the federal government announced that they would ban single-use plastics nationwide by 2021. Then, as we all know, in early 2020, the pandemic hit and upended our world in so many ways – including exacerbating single-use plastics consumption and subverting action on the plastics pollution crisis.

As the COVID-19 pandemic appears to be coming to a close, it is hoped that the world will never again face a public health crisis of this magnitude. And yet, in light of increasing disruptions due to climate change, it seems likely that we will continue to encounter various kinds of crises that present existential threats to humans and the environment alike (McMichael & Lindgren, 2011). Understanding this probability, it is important to continue to research and explore ways to keep environmental issues front and centre not just in everyday life, but especially during human-centred crises. As a result, my research centres on the representation of single-use plastics¹ consumption in news media during the pandemic, with an aim to contribute to an emerging body of knowledge on the communication of environmental concerns.

Purpose of the Study

At pandemic onset it appeared that a discourse in the Canadian news media reflected a recommendation to increase consumption of single-use plastic bags and to ban reusable bags from stores as a means to reduce COVID-19 transmission. While it makes sense that human health would be forefront in mediated discourse during the emergence of a pandemic, it was concerning that the promoted solution to a human health crisis was also one that could exacerbate an ongoing environmental crisis. This observation and related concern led to my study's aim, which is to understand this discourse shift as a communicative phenomenon, focusing on the portrayal of the issue within the Canadian online news media over the course of the pandemic year, 2020. After all, the media continues to play a key role in constituting and

¹ This study is focused on the environmental issue of single-use plastics bags, which falls within the larger issue of single-use plastics consumption and pollution.

reflecting how citizens view and act upon various public issues, and continues to be essential for disseminating information to the public during a crisis. To more fully understand this shifting discourse, I examine the role certain claims-makers such as industry advocates and environmental advocates have in the shaping of the mediated discourse, and explore the effect of the crisis itself on an unfolding narrative. In addition, I examine the ways in which factors such as journalistic norms of practice and underlying ideologies about how humans perceive and relate to the environment may influence a shifting discourse. Through the use of critical discourse analysis and framing theory, I further analyse the construction and reconstruction of a shifting discourse to understand how new problem definitions of plastic's usefulness and reusable bag harms may contribute to the delay or stoppage of single-use plastics bans.

Literature Preview

My literature review includes academic studies that document the plastics pollution crisis in general, as well as several studies that specifically examine single-use plastics consumption during the pandemic. In fact, my decision to pursue the topic was initially informed by a Greenpeace research brief published just after the pandemic was declared (Schlegel, 2020). While understanding that this was a non-peer-reviewed article by an organization with an overtly pro-environmental stance, I was nonetheless intrigued by the article's documentation of how the plastics industry was able to penetrate American news media through the promotion of apparent industry-biased studies (Williams et al., 2011; Sinclair et al., 2018) and by the misinterpretation of an emerging virus transmissibility study (van Doremalen et al., 2020). My literature review includes articles (Hale and Song, 2020; Silva et al., 2021) that validate claims in the Greenpeace research brief. The Silva et al. article (2021) in particular, provides evidence of increased plastics consumption during the pandemic, and focuses on several key points about the relationship between single-use plastics and COVID-19 that help to anchor my study. Most notably, it confirms that plastic use policy was adapted due to the COVID-19 pandemic; the COVID-19 pandemic is contributing to worldwide plastic pollution; and that COVID-19 precautionary measures challenged environmental sustainability.

Literature by several key scholars provide a theoretical underpinning for my study. In particular, Anders Hansen, a noted environmental communications scholar, underscores the importance of understanding the environment as a socially-constructed phenomenon. From this, Hansen highlights the essential role that the media continues to play in shaping how society

thinks about, and as a consequence, acts in relation to environmental problems (Hansen, 2019). George Lakoff, also a noted environmental communications scholar, emphasizes that underlying worldviews shape media construction, noting that the anthropocentric worldview of humans as separate and superior to the environment is a “terribly false frame” (Lakoff, 2010, p.77). In addition, my literature review includes articles relating to pressures influencing the reporting and shaping of issues in the media such as economic changes in the current media landscape, journalistic practices relating to the reporting of scientific information and the practices of linking to sources in online journalism.

In addition, literature regarding the various ways that claims-makers can influence policy decisions at various stages of crisis lifecycles is explored. This includes a discussion of *Shock Doctrine: The rise of disaster capitalism* by Naomi Klein (2008), which relates how a shock to a political system can break open an opportunity for claims-makers to shift a discourse or policy implementation. Of particular note, an article by Clapp and Swanston (2009) is included in my literature review as it relates directly to the powers of industry advocates, including their discursive power to shift how single-use plastic bags are perceived. This study further demonstrates that the way that plastic bags are perceived – whether as a harm or a benign convenience – impacts the ability to implement plastics-related policy change.

My literature review also includes an overview of media effects theories and methodologies that inform the design of my study, which employs both framing and critical discourse analysis. Of note to my framing analysis, Robert Entman’s (1993) writings on how the framing of an issue in the media helps shape problem definitions and solutions, and subsequent suggested remedies to those problems is highlighted. Because I am interested in not just understanding how the issue of plastic bag consumption is framed over time, but also in a critical understanding of the ways that the issue is constructed in media representations, my literature review includes articles on critical discourse analysis, including articles by Norman Fairclough, whose three-part model of analysis informs my research design.

Methodology Preview

As noted, my research question seeks to understand the construction and the framing of the single-use plastic bag issue over time. As such, a longitudinal two-part analysis aids the ability to answer the different components of my research question. My research design begins with a determination of my study’s temporal boundary: the 2020 calendar year. My decision to

set this boundary is shaped by both the stages of the pandemic, and by the announcement, delay and subsequent reannouncement of a nationwide single-use plastics ban. My sample set of news media articles drawn from this time period contains 48 articles from the Canadian Broadcasting Corporation (CBC) online news and the Canadian Press (CP) online news service. In my methodology chapter I explain in further detail how and why I chose to select these articles and news outlets. After collecting these data, my first stage of analysis involves a critical discourse analysis of 5 exemplar texts, which I chose by determining critical discourse moments (CDM). According to Carvalho (2008), these CDMs are defined as key periods of note for discourse shift. Analyzing these CDMs using critical discourse analysis (CDA) helps in understanding the construction of the issue, and also helps to shape a list of inductive frames, coding for the perception and recommended actions regarding single-use plastic bags over time. During the second method of analysis, a framing analysis, I trace the appearance of these frames over a period of time, and also code for dominant claims-makers in relation to those shifting perceptions.

When first creating my research design, I considered conducting either a framing analysis or a critical discourse analysis. And yet, framing didn't allow for the critical approach I was seeking, and a critical discourse analysis didn't provide enough data to understand the evolution of the issue over time. A suggestion to conduct both sequentially solved this dilemma, and so I employ a mixed-method analysis in this study. However, I note that the two-part analysis does introduce some difficulties regarding the scope of the project, creating a large and complex volume of data for analysis and discussion. I resolve this issue by restricting my focus to certain key elements found in the data, and pointing to areas that can serve as a launching point for future research. I discuss further limitations of my study in my methodology chapter.

Summary

This study is designed to examine a shifting discourse about single-use plastics in the Canadian online news media over the pandemic year, 2020. This year of great upheavals included disruptions to policy implementation and individual action regarding an important environmental concern, the plastics pollution crisis. Going forward, I believe it is imperative to ensure that this environmental concern once again reemerges as a priority in mediated discourse. This study operates on the assumption that it is important to first understand whether a shift indeed occurred, and second, if so, to subsequently determine *how* it might have occurred.

TO BAG THE BAN

Through this study I hope to inform citizens of the continued importance that media discourse plays in shaping and reflecting environmental issues in the news, and to reiterate the need for better resourced journalism. This study also critically examines how journalism practices, especially in an the online landscape, may affect shifts in discourses. Finally, I hope that this study helps to inform the field of environmental communication in general. This paper begins with a detailed examination of the literature in related fields and is followed by a methodology chapter which details my research design, including study limitations. A two-part analysis then leads to a lengthier findings chapter, and a discussion chapter. My concluding chapter closes with final words to situate this study in a broader context and point to future directions of study.

Chapter 2: Literature Review

Introduction

The larger societal conversation about the need to reduce or eliminate single-use plastic bags in order to avert an environmental crisis seemed to evolve over the year 2020, and in particular, in relation to the pandemic. For example, during the early days of the pandemic, it appeared that signs in stores, messages from public health officials, and media articles across Canada called for the increased consumption of single-use plastic bags, and the corresponding setting aside of pro-environmental goals in order to help reduce virus transmission in a new and human-health focused crisis (see Appendix A for sample signage and Appendix B for sample health guidelines). This anecdotal observation, combined with an interest in the impact of communications on environmental issues in the news, sparked the idea for my capstone research. As such, this literature review is designed to guide an inquiry into how the news media framed this real-world communicative phenomenon, focusing on how online news media portrayed single-use plastic bags as a problem or as a solution over time, and how they reported recommended actions in relation to that definition. After all, the media has a significant role not only reflecting but also constituting issues in the larger societal conversation. The media remains a significant source of public information, and, according to renowned environmental communications scholar, Anders Hansen (2011), the media also forms the basis for much of what the public knows about environmental issues, as well as how we value and relate to them.

I begin this literature review with an overview of my search methodology, which details research question development, search strategy, inclusion and exclusion criteria and limitations of the search design. A discussion of literature that positions single-use plastics consumption as a significant environmental issue follows. Next, I turn to the communicative aspects of this topic, beginning by discussing literature that highlights multiple factors affecting current news reporting on environmental issues. The discussion then turns to focus on theoretical frameworks useful for understanding the construction of problem definitions and proposed solutions within environmental discourses, including social constructionism and the role of claims-makers. This section also reviews literature regarding how dominant worldviews serve to strengthen or weaken the communication of environmental problem definitions and solutions. I also review theories about how crises can shape the presentation and strength of claims in the public sphere. Finally, I review the literature regarding issues framing and discourse analysis to explore and

evaluate scholarly works that use these methods to track the communication of an environmental issue within a media landscape. The pandemic has created a unique opportunity to study the creation and circulation of environmental discourses in the media, which usually develop and evolve much more slowly over time (Hansen, 2019). In addition to offering a view of a current shift in an environmental discourse, this study may also contribute to further research into how human-focussed crises can make environmental discourses susceptible to reframing by certain motivated actors, or provide insight into factors that could contribute to more effective environmental communications.

Methodology

Before commencing a formalized approach to my study, I conducted a broad but cursory search of both media and scholarly articles. This pilot study was done to verify whether shifting claims about single-use plastic bag consumption that I observed in news reporting, and read about in a non-peer reviewed study (Schlegel, 2020), was in fact a real phenomenon, and not something generated from my own biases and heightened concerns about plastics consumption. Using Mozilla Firefox and Google search engines, and the ProQuest News and Newspapers database, I initially searched for media articles using the terms ‘plastics’, ‘single-use plastics’, ‘bans’ and the phrase ‘bags banned at stores’. Looking at articles written at the onset of the pandemic, I discovered several news articles in both print and online formats from Canada, the United States, and the United Kingdom, which variously noted a need to ban reusable bags, stop charging for plastic bags, and postpone government-led plastic bag bans due to pandemic-related health concerns. I then searched the University of Alberta EBSCO database and found a sampling of more scholarly articles related to the phenomenon (Hale & Song, 2020; Prata et al., 2020). These early findings led me to believe that a more robust study was merited, and as such I began to form a more systematic search approach.

Research Question Development

In recent years environmental media stories have presented claims and counter-claims regarding a need to reduce single-use plastic consumption to avert an environmental crisis. During the pandemic, it appeared that a new and competing claim regarding single-use plastics consumption emerged. This new claim argued for increased plastics use, in particular the use of plastic bags, to avert a human health crisis. To understand this evolution regarding news media representations of the use or banning of plastic bags, my research question (RQ) became: ***How***

did the Canadian online news media construct and represent a shifting discourse about single-use plastic bags during the pandemic year, 2020?

As my study developed, I kept a journal record of my continuously evolving research question. For example, my RQ began as a comparative study of the evolving discourse in American and Canadian media as I noticed a more polarized debate on this issue in the United States. However, it became apparent that broad systemic variables such as the two very different political landscapes and healthcare systems could detract from my focus on the news discourse itself. I decided to focus on mainstream media content, to the exclusion of social media sources, because I observed that mainstream media outlets² were highlighting their role as trusted sources of information during the pandemic (see Appendix C and Appendix D for sample in-house media advertisements). To further narrow the parameters of my study, I also chose to focus on online versions of mainstream media stories.

My RQ evolved as I began to understand a need to study the discourse at several points during the pandemic rather than at a single moment in time. In part this was informed by my pilot study, during which it appeared that the problem of plastics consumption in relation to environmental health and human health was reported differently at various points during the pandemic.

At the same time as developing my RQ, I created and modified questions to guide my literature review. Those guiding questions became:

- 1.) What is known about single-use plastics, and in particular plastic bags, and their effects on the environment and human health?
- 2.) What factors are affecting news reporting on environmental issues?
- 3.) How are environmental discourses constructed in news media?
- 4.) What are effective approaches to studying environmental discourses in news media?

Search Strategy

I developed several broad themes to guide my literature search and encapsulated them in an organizational chart (see Appendix E). These themes were then mirrored in the organization of folders in my bibliographic software tool, RefWorks. The primary databases I chose to search were Canadian Newsstream, the University of Alberta EBSCO, and Google Scholar. Canadian

² Mass media outlets that focus on delivering news to the general public, largely through print and broadcast mediums, and through digital online versions of those formats.

TO BAG THE BAN

Newsstream searches provided a topic overview, helped refine my RQ, and were used to begin to develop a future data sample. EBSCO was the main database I used to search for academic literature. I used Google Scholar to cross-reference the number of times a particular researcher had published articles, the stature of those publications, and to obtain a general idea of citation numbers. To document my search process, I developed a search table that included search dates; key word strings, both attempted and successful; suggestions for term modifications; and the number of articles found with each particular term. I determined that a key word search yielding 100 or fewer results was focused enough for more in-depth review. In this process, I found the search table too time consuming and cumbersome to fill out, and eventually developed a simpler table, which detailed applicable key words, but no longer included documenting unsatisfactory search terms.

A class session with two Master of Arts, Communications and Technology (MACT) librarians helped improve my key word phrase development, and a second individual session with a MACT librarian helped refine Newsstream key word searches, determining that the broader term ‘plastic*’ was sufficient to produce results. In addition to key word searches, bibliographic searches of pearl articles were particularly fruitful, and an excellent way to discover key researchers and studies within particular fields. Further, a concurrent environmental communications research in practice course, offered by the International Environmental Communication Association, helped ensure that my literature review of environmental discourses was thorough and representative. Through my search, I exported approximately 200 articles into RefWorks for further review. On an Excel spreadsheet, which I also used to note inclusion/exclusion criteria, I kept track of the depth of analysis I performed for each article. The levels of review were: 1(title/abstract), 2 (first read through), and 3 (in-depth analysis).

Eligibility Criteria

To begin, my search parameters included articles that were published within the past 12 years. However, I quickly found that a blanket policy for inclusion/exclusion based on publication date was not particularly useful. Rather, I needed to allow for classic literature or seminal articles that informed the development of particular fields, especially in relation to environmental discourse development and framing and discourse analysis. Peer-reviewed articles were preferred; however, the nature of the pandemic crisis and recency of the topic led me to include media articles, as well as non-peer-reviewed scholarly articles. To gain confidence in the

academic literature published prior to peer review due to crisis time pressures, I included those that scored well for both the author's H-factor, and quality of the journal in which the article appeared. One exception to this process was regarding a research brief published by Greenpeace (Schlegel, 2020), which I included after cross-referencing assertions made in the article with other scholarly works on the same subject (Hale & Song, 2020; Prata et al., 2020). This article was particularly relevant in its evaluation of scientific studies that emerged in the mainstream media during the time period of my study. My literature review also included the referenced scientific studies that, in some cases had poor methodology or were industry-influenced, due to the fact that they also appear and form the basis of some claims in news articles I plan to study.

From the 200 articles compiled in RefWorks, I re-evaluated and excluded articles based on their pertinence to the latest version of my RQ and literature review questions. For example, further into my literature search, I began to more fully understand this communicative phenomenon as an evolving environmental discourse, and as such focussed on articles with theoretical perspectives and methodology particularly related to this field. Because it was impossible to review all of the literature in this topic area, I devised a strategy to focus on researchers that appeared repeatedly in articles as seminal figures in a field, or whose research was particularly applicable to my study. I then created an annotated bibliography, organized under broad themes, which allowed me to see interesting relationships and overlap in the literature. As my RQ continued to develop, and after completion of my annotated bibliography, I noted a few gaps in my search. I found that I needed to include more articles about plastics pollution and the social construction of environmental discourses, and to exclude articles focussed on stakeholder theory. I also noted a need to understand how a crisis can assist claims-makers who are looking to make rapid shifts in a discourse, and how different stages of a crisis offer better opportunities for a shift than others. The ongoing nature of the current health crisis created a requirement to continue to review pandemic-related literature as it became available. This led to the inclusion of a key article about the impacts of the pandemic on plastics consumption (Silva et al., 2021) in the late stages of the writing of this capstone project.

Discussion of the Literature

Context: Plastics and the Environment

To put this study in context, I began by reviewing literature that identified single-use plastics consumption as an environmental problem. The majority of literature reviewed verifies

that plastics pollution is a serious environmental issue, with alarming consequences for our planet's biodiversity and health. In fact, the United Nations recently declared that plastics pollution is the second most ominous threat to the global environment after climate change (as cited in Smith, 2020). More than five trillion plastic pieces are afloat in the world's ocean, with plastics pollution now considered a planetary boundary threat³ (Prata et al., 2020). Studies also indicate that plastic bags in particular are associated with increased wildlife mortalities by ingestion and entanglement (Clapp & Swanston, 2009; Xanthos & Walker, 2017; Hale & Song, 2020). Single-use plastics constitute about half of all plastic waste, with less than ten per cent of plastic bags being recycled, as they can entangle machinery (Hale & Song, 2020). Importantly, microplastics, the result of fragmented plastics, are also being understood as hazardous to human health (De-la-Torre, 2020; Sana et al., 2020). Concern over plastics pollution is not new, having been reported as a problem in the marine environment since the 1970s; however, it is increasingly being recognized and reported on as a global problem (Xanthos, 2020). "Because of the multiple problems posed by plastic shopping bags, attitudes towards them have turned negative around the world and a number of governments have taken action to restrict their use" (Clapp & Swanston, 2009, p. 318). For example, in 2019, the Canadian federal government proposed a nationwide plastics ban, and called for plastics to be declared a toxic substance (Government of Canada, 2019). While action is still yet to take place, the government has renewed its commitment to a nationwide plastics ban, including a ban on single-use plastic bags, beginning in 2021 (Government of Canada, 2020b). It has subsequently been documented that the pandemic led to a large increase in the use of single-use plastics (Silva et al., 2021).

Industry plays a large and three-fold role in pushing back against changing attitudes and subsequent policy recommendations and actions regarding single-use plastic bags by using their structural, instrumental and discursive powers (Clapp & Swanston, 2009). "The relative weight of the various types of power held by these actors, including their structural presence in the economy, their instrumental power to lobby or litigate, and the traction of their discursive strategies in specific contexts, has enormous relevance for their ability to influence policy outcomes on this issue at both national and subnational levels (Clapp & Swanston, 2009, p. 316).

³ The planetary boundaries concept model challenges the infinite growth model, and defines 9 key boundaries such as climate change and land system change. Crossing one of these boundaries increases the risk of large-scale and potentially irreversible environmental changes on a global scale (Rockstrom et al., 2009).

According to several recent scholarly articles (Hale & Song, 2020; Leber, 2020; Prata et al., 2020; Silva et al., 2021) and a Greenpeace research brief (Schlegel, 2020), plastics industry officials in both Canada and the US used concerns regarding the COVID-19 pandemic to push back on reusable bag use and promote single-use plastics. For example, researchers have found that the Canadian plastics industry used the pandemic as an opportunity to tout single-use plastics over other forms of packaging as hygienically superior (Prata et al., 2020). During the pandemic, some consumers reported they have shifted from worrying about environmental impacts to preferring plastic packaging due to hygiene and health reasons (Prata et al., 2020). A recently published article importantly notes that in the United States, “taking advantage of these preferences, plastic industry lobbyists have raised doubts with governmental leaders concerning food safety, hygiene and cross-contamination when using reusable containers and bags during the COVID-19 pandemic. Although lobbyists from the plastics industry have capitalised on these concerns before, recent concerns over COVID-19 safety have then resulted in a reversal of policies to ban or reduce SUP and fee payments in some jurisdictions.” (Silva et al., 2021, p. 3).

Pressures: Factors Affecting Reporting on Environmental Issues

Journalism is a practice which remains at the heart of a working democracy, providing citizens with the information they need to be free and self-governing (McChesney, 2013). Humans will always require news, and journalism endures because it provides a needed entity – namely reliable, accurate and comprehensive information for citizens to make sense of the world (Kovach and Rosenstiel, 2014). While the medium for conveying news, via traditional or social media channels, and who constitutes a journalist – professional, citizen or both – may be changing, the elements of what constitutes good journalism remains constant. This includes the obligation to tell the truth, be loyal to its citizens, be verifiable, maintain independence from sources, be an independent monitor of power, provide a forum for public criticism, strive to keep significant topics interesting and relevant, keep news comprehensive and proportional, and allow for journalists to use their own moral compass (Kovach and Rosenstiel, 2014). As the once-separate print and broadcast mediums converge online, and as more Canadians obtain their news from social media sites (Government of Canada, 2020a), pressures affecting the creation of quality journalism, and environmental reporting in particular, are increasing. “Referring to the factors that could influence how a journalist frames an issue, Scheufele (1999, p. 109) names

societal norms and values, organizational constraints, pressure from interest groups, journalistic routines, and the journalist's ideological orientations" (Linstrom and Marais, 2012).

Power Imbalances

An economic power imbalance is exerting pressure on mainstream media⁴ and affecting its professional journalists' ability to report on issues in a robust, factually consistent manner, largely due to an economic and regulatory climate favouring platform business models (Srnicsek, 2016). For example, Canadians are increasingly accessing news through social media platforms, which share stories without compensation to news content creators (Government of Canada, 2020a). As a consequence, the quality of traditional media content is being degraded in regards to veracity and diversity of opinion, thereby eroding the reputation of professional journalism as a necessary enterprise (McChesney, 2013; Srnicsek, 2016).

In my study, I have chosen to focus on online news produced by mainstream media outlets for several reasons. The first being that during the pandemic, professional journalists touted themselves as the trusted, curated, and factual source of crisis information⁵ (See Appendix C and Appendix D). In addition, of particular interest in the study of environmental issues which rely on scientific information, online journalists have the ability to link to scientific studies and reports as a way to increase veracity and diversity in a news story. The study of the use of sources in online journalism is an evolving field, however. For example, empirical evidence points to the inaccuracy of the assumption that the ability to source more information in online articles will lead to more diverse voices and more balanced representation of issues (Van Leuven et al., 2018). The Van Leuven et al. study (2018) points to a need for more research including in the area of verification practices for online sources. In addition, while studies have shown an increased use of online sources, it is crucial to investigate how the use of these sources affects a journalist's relationship to various types of actors and how journalists and audiences perceive the credibility of online sources (Van Leuven et al., 2018). This area of study is of particular interest as I look into the use of linked studies as an online source, and how this practice may be used by claims-makers to affect the direction of a story; and whether the practice of linking to online studies leads to reliable, balanced and evaluated information. For example, the misrepresentation

⁴ Television, radio, newsprint, and news magazine outlets and their online counterparts.

⁵ Beyond the scope of my study, a potential area for research may include discovering ways that inaccurate crisis reporting in traditional media leads to misinformation proliferating on social media.

of scientific research to back up arguments for pro-plastic solutions to protect humans against COVID-19 in the US news media is documented in a Greenpeace research brief (Schlegel, 2020).

Sourcing and other journalist practices in online news is influenced by time and economic constraints. A growing economic inequity has several implications such as journalists having less ability to do tasks such as fact-checking (Gans, 2005; Hansen, 2019). The pressure of media downsizing is compounded when it comes to reporting on the environment because of the complexity of environmental issues, which can be invisible or move at a much slower pace than a news cycle (Hansen, 2019). Media convergence and the rise of digital media has also caused downsizing of environmental beats (Friedman, 2015). Less reporters specializing in the field and fewer resources leave journalists deskbound, and this practice allows for larger source and publicity campaign influence (Hansen, 2019)⁶. The literature indicates that a lack of newsroom resources has created a corresponding shift in the power balance between journalists and sources. Newsroom researcher, Herbert Gans (2005), uses the metaphor of dance to describe this shift: “Although it takes two to tango, either sources or journalists can lead, but more often than not, sources do the leading” (p. 116).

Journalistic Practice Norms

Traditional journalistic practices and values are being deliberately exploited by sources and claims-makers (Hansen, 2019). Hansen (2019) indicates that corporate influencers often have a low profile and put forward their arguments through a news scenario rather than making themselves overt sources. So, as author Robert Wyss indicates, it matters how a story is framed not just by the media but by a wide range of groups with vested interests (2019). In addition, while the century-old quest for objectivity, balance and source representation amongst journalists persists (Wyss, 2019), objectivity, that is abstaining from taking sides, has never been truly achievable (McChesney, 2013). According to leading environmental communications scholar, Robert Cox (2018), the norm of balance has recently begun to be criticized, especially in regards to environmental reporting. This criticism is due to the fact that the initial understanding and representation of environmental problems frequently originates in the realm of science (Hannigan, 2006), therefore, requiring different reporting practices. For example, a balance of

⁶ This deskbound practice was most likely increased during the pandemic due to social distancing measures.

scientific sources might equate hundreds of credible voices with one or two special-interest voices. This practice becomes misleading (Cox, 2018). “Journalists typically dealt with differences of opinion by making sure that all were represented, but now, the dilemma in writing about science has been how to evaluate those differences” (Wyss, 2019). In addition to misleading through balance, reporters often create story angles that favour particular themes and narratives at the expense of context and define news around a single scientific study (Nisbet & Scheufele, 2009). In addition, the journalistic notion of ‘newsworthiness’ may not fit with the requirements of effective environmental reporting. The attributes of newsworthiness, as outlined in *Reaching Audiences: A Guide to Media Writing*, are prominence, timeliness, proximity, impact, magnitude, conflict, oddity and emotional impact (Yopp et al., 2014), all of which have become second nature to journalists (Cox, 2018). The media plays an important role in educating us about the environment, but when it comes to environmental reporting, issues that do well are ones that catch the eye (Hannigan, 2006).

Underlying ideologies

A seminal study on environmental reporting by Anabela Carvalho (2007) argues that a given social and political order, or ideology, works as a powerful selection device in deciding what facts are relevant, and who is authorized to speak on a matter when it comes to deciding what is scientific news. The literature also indicates that the deficit model for scientific reporting, that is assuming that ignorance is at the root of social conflict over science, doesn’t produce effective environmental reporting (Nisbet & Scheufele, 2009). The deficit model implies a hierarchy between scientists and society, and also implies that science is too difficult for most people to understand and thus scientists can communicate only by simplistic popularization (Larson, 2011). The authority-orientation characteristic of news reporting (Hansen, 2019) can also interfere with accuracy in science reporting. A new model that respects differences in knowledge, values and perspectives is required (Nisbet & Scheufele, 2009). It has been noted that several scientific studies (Williams et al., 2011; Sinclair et al., 2018; van Doremalen et al., 2020) were inaccurately referenced during the pandemic, and used to create false claims about plastics and human health (Schlegel, 2020).

Crisis Pressures

Several studies report the challenges of accurate reporting during a crisis, and that the media plays a prominent role in this public discourse (Gerwin, 2012; Kim, 2016). Crises have

different stages, and how issues are framed can depend on the stage of the crisis (Pan, 2016). However, journalist best practices for conveying health information tend to dip during a crisis, with a content analysis study of mass media crisis communication by researchers Parmer et al. (2016) concluding that by and large the media does not provide people with enough information about knowns, unknowns, or recommendations for action. Importantly for this study, a crisis also opens up new opportunities for claims-makers to influence discourse. Recent literature indicates that the pandemic was seen as an opportunity for corporate advocates to increase their social capital, such as by promoting their involvement in creating personal protective equipment and converting factories to create ventilators (He & Harris, 2020), but was also used opportunistically to advance pro-plastic agendas (Hale & Song, 2020; Silva et al., 2021). Corporate opportunism is not new. For example, in the past, industry officials devised an anti-litter campaign to deflect attention away from actions they could take to mitigate waste towards actions required by individuals to address the issue (Plumer, 2006). Literature on corporate opportunism is particularly relevant to my study as it helps with understanding how pro-plastics advocates may have opened an opportunity to reframe the portrayal of their product in the news media. This observation leads to the next section of my literature review, which examines some of the ways that researchers have understood and theorized this kind of shifting of meaning through the social construction of environmental issues.

Theoretical Frameworks: Social Construction of Environmental Issues

“The social constructionist perspective helped move communication research on environmental problems out of journalism studies trapped in circular concerns with balance, bias and objectivity and proved a productive inspiration for attempts at grappling with sociological interpretations of the media’s role in public and political controversy about the environment” (Hansen, 2011, p. 9). For historical context, in the 1960s, a growing number of critics of positivism argued that multiple ways to view reality exist and that jointly constructed understandings of the world form the basis for shared assumptions about reality (Kuhn, 1970). In the 1970s, researchers, Spector and Kitsuse, posited a landmark and influential view that challenged the structural, functional approach to social problems, instead defining social problems as socially constructed. These weren’t static conditions but a sequence of events that developed on the basis of collective definition and debate (Spector & Kitsuse, 1973). In this

decade, the idea of the environment as a social construct concurrently developed (Hansen 2011; Dryzek, 2013).

In the 1980s, a pioneering study by Gamson and Modigliani (1989) argued that socially constructed cultural packages influenced the representation of nuclear power. Over time, debate continued amongst scholars over a realist vs. a social constructionist view of environmental issues, with realist scholars asserting that social constructionism gives too prominent a place to interpretive flexibility and denies the existence of environmental problems, while social constructionists argued that the goal of social constructionism was to treat claims as topics for analysis (Burningham & Cooper, 1999). Nonetheless, many scholars continue to view environmental issues and problems as socially constructed, acknowledging that how we approach an environmental issue is the result of the diverse ways we think about and interact with the environment (Hannigan, 2006; Hansen, 2011). This is the position I take in this study.

A social constructionist lens is a helpful way to study a social problem through the claims made, the claims-makers, and the process of claims-making (Best, 1989). This lens also aptly applies to looking at how claims about environmental issues are created and debated, and by whom. “[An environmental issue’s] progress varies in direct response to successful ‘claims-making’ by a cast of social actors that includes scientists, industrialists, politicians, civil servants, journalists and environmental activists” (Hannigan, 2006, p. 63). In the context of my study, the idea that every claim is contested and tends to generate a counter claim (Ibarra and Kitsuse, 1993), is also of importance.

A review of the literature suggests that the ways that we construct solutions to environmental problems is influenced by our dominant worldviews and ideology – which are often reflected in news media. For example, studies of Western environmental discourses such as a Meisner & Takahashi (2013) content analysis of Time magazine covers, show a dominant anthropocentric-ressourcist ideology. As noted by seminal environmental scholar, Lakoff (2010): “We separate self from other and conceptualize nature as other. This separation is so deep in our conceptual system that we cannot simply wipe it from our brains. It is a terribly false frame that will not go away” (p.77). Those who hold more of an ecocentric, interconnected or green consciousness worldview, such as renowned Brazilian Indigenous leader, Alton Krenak (2020), argue that we cannot continue with the flawed concept that humans are superior to other forms and as such are justified in exploiting them. Problematic worldviews in relation to the

environment are also noted in the philosophy of anthropocentrism (Boddice, 2011). Dominant worldviews affecting environmental discourses include mastery over nature, nature as object, nature as resource, and, according to Hansen (2019), because environmental issues are rooted in science, viewing scientists as arbiters of right/wrong and true/false. These and other examples of how news media reflect the social construction of claims affects how we prioritize or act upon those solutions (Gamson & Modigliani, 1989; Hansen, 2019). For example in my study, it may be that dominant worldviews underlying environmental solutions may have assisted claims-makers to more easily recraft the problem definition regarding plastics use and human health.

Claims representation is affected by the unfolding of a crisis. Klein's (2008) shock doctrine theory indicates that claims-makers use crises or existential shocks to a political system to facilitate the construction of new problem definitions and solutions. This helps to understand how a human-focussed existential crisis (pandemic) may have affected or superseded a different existential crisis (environmental pollution) within my study period. Communicative theories of issues dynamics also play a role in understanding the lifecycle of a crisis and how it can impact a claims-maker's communications within the media. A crisis can be divided into four categories: defining the issue; shaping the debates; limiting or containing the issue; and shaping regulations, standards and plans (Harrison, 2011, as cited in Mahoney, 2017). A claims-maker is less able to shape discourse in later stages of the crisis. Importantly, the theory of competitive framing effects underscores that "virtually all public debates involve competition between contending parties to establish the meaning and interpretation of issues. When citizens engage an issue... they must grapple with opposing frames that are intended by opinion leaders to influence public preferences" (Chong & Druckman, 2007, p. 100 as cited in Mahoney, 2017.) This understanding of the social construction of environmental problems in the context of the four stages of a crisis will help frame my study of how Canadian online news media shaped an evolving discourse about single-use plastics during the COVID-19 pandemic.

Approach to Research Design: Framing and Discourse Analysis

Framing is a well-established method to conduct news analysis, as it allows researchers to not just understand the salience of an issue, but to begin to look at how the media constructs meaning in a news story (Cox, 2018). The term 'frame' was first popularized by Erving Goffman in 1974 (as cited in Cox, 2018). However, it was scholar Robert Entman who advanced framing as a theory in the context of developing communication scholarship (as cited in Hansen, 2011).

Entman espoused a need to look at how frames become embedded in a text and how that influences thinking; and deepened the understanding of framing as having two key elements: salience and selection⁷ (Entman, 1993).

Entman also noted how actors or interests compete to dominate the text. Journalists frequently allow the most skillful media manipulators to impose their dominant frames on the news (Entman, 1993). Importantly, Entman says frames are central to defining problems. “Frames, then *define problems* – determine what a causal agent is doing with what costs and benefits, usually measured in terms of common cultural values; *diagnose causes* – identify the forces creating the problem; *make moral judgments* – evaluate causal agents and their effects; and *suggest remedies* – offer and justify treatments for problems and predict their likely effects,” (Entman, 1993, p. 52).

Over the decades many approaches to framing have developed, and, as yet, it is not a unified theory (D’Angelo, 2018). Rather, framing is conceptualized as an environment where multiple theories can develop. The literature also indicates that news frame analysis can be a pitched battlefield over methodological design whether it be qualitative or quantitative and whether the epistemological approach is, for example, sociological or psychological (D’Angelo, 2018). For example, framing analysis can be done with a semantic network approach, in which texts outside of news articles are incorporated in a study due to the facts that events don’t exist in isolation, that journalists make sense of and cover events as they are happening, and that articles are written long before we know how the story will continue (Baden, 2018). Other framing studies may be part ethnographic and focus on how a journalist’s news values inform articles (Boesman, 2018).

Of particular interest to my study, framing is an important way to understand the development of environmental communication and problem definitions. In fact, in the past few decades, concepts of framing have increasingly provided a model for analysing environmental communication (Hansen, 2011). To understand something complex, a person must have a system of frames in place that can make sense of the facts (Lakoff, 2010). Reasons why framing works for evaluating environmental communication as defined by D’Angelo (2018) include: much of framing and the activation (through vocabulary, metaphor, and choice of particular cultural

⁷ Salience refers to the quality of being particularly noticeable, while selection refers to the act of choosing a topic for inclusion.

resonances) start with the claims-maker, or issues advocate. In addition, prior knowledge, standing values and biased reasoning processes can lead to particular frames. Corner & Randall (2011) underscore that frames shape how we understand the environment and our place within it, the language we use, and the way we talk about it. Language use shapes our conception of environmental issues, and importantly, metaphors influence our perception of the natural world, and create numerous links between science and society (Larson, 2011). “The struggle over which frames should define our understanding of the environment is a central feature in the public sphere” (Cox, 2018, p.101). According to Cox, environmental communications frequently occupy a crisis frame and a care frame, and often as a dynamic and intertwined dialectic (Cox, 2018). In my study, problems may be variously defined as human health concerns or environmental concerns and compete within these frames⁸. Within my study, an economic frame may also be prominent, serving to promote or undermine an environmental discourse. According to author and activist Naomi Klein, viewing human progress through corporate capitalism creates tension when it comes in conflict with issues that are valued for non-capitalist reasons (Klein, 2008).

Some literature argues that environmental issues can be responsive to reframing attempts by different actors. According to authors O’Neil & Kendall-Taylor (2018) who work at the intersection of research and practice, the reframing of environmental issues can be done as an intentional attempt to change discourse and shape thinking around an environmental problem. Reframing involves a methodological approach which incorporates studying how an issue is understood and the existing values around it, and by conducting a detailed analysis of the news stories about the issue (O’Neil & Kendall-Taylor, 2018). The perception of single-use shopping bags has been subject to reframing by industry over time (Clapp & Swanston, 2009). When first produced, plastic bags were not generally accepted by the public, and their framing as a modern convenience was needed to gain acceptance of the product. Over time, framing techniques were employed to dissuade the implementation of reduced-use policies. This included reframing

⁸ While much of the literature shows framing analysis as an effective way to understand environmental discourse, others think that moving from an era of mass communication to a more fractured communications environment will make traditional framing analysis methods less useful unless scholars are more specific in and distinguish between types of framing (Cacciatore, 2016). A few studies also demonstrate that social media requires a new type of framing analysis (Borah, 2018; Voci, 2020). And while types of traditional media are converging in an online environment, these two studies highlight that understanding non-curated media as a different entity from traditional media is still applicable.

public discourse to promote the idea that as environmental choice, plastics can be recycled and reused (Clapp & Swanston, 2009).

However, not all scholars are as optimistic about the ability of actors to reframe issues. “There are limited possibilities for changing frames. New language employed must make sense in terms of existing frames” (Lakoff, 2010, p.72). In the case of single-use plastic bags, “industry’s discursive efforts have had only partial success in presenting a competing norm (recycling and reuse) in an attempt to prevent municipalities from seeking to promote anti-bag legislation” (Clapp & Swanston, 2009, p. 328). In addition, a successful reframing to enact a shift of a discourse around an environmental issue usually involves moving from seeing a problem only as something that requires individual action, to seeing it as requiring a structural, large scale policy change (O’Neil & Kendall-Taylor, 2018). However, representations in the media favor individual responses to environmental problems rather than those that call for major structural changes (Hansen & Machin, 2013). This ongoing debate about reframing efficacy will be of interest in my longitudinal analysis of reporting during a pandemic, both viewing the effects on an environmental discourse’s responsiveness to reframing, and whether any reframing is an ephemeral or longer-lasting phenomenon.

Discourse analysis is a methodological approach that examines the use of language within frames. According to Van Dijk, a seminal researcher in discourse analysis, news production is a form of discourse processing, making news stories a reconstruction of available discourses (Van Dijk, 1983). Focusing on news discourse requires a full analysis of its various levels, units, dimensions, modes and social contexts (Van Dijk, 1983). For example, in their study of framing packages, Gamson and Modigliani (1989) analyse the elements, values, metaphors, messengers, causal explanations, examples, solutions and use of fact and numbers. Critical discourse analysis reflects the transdisciplinary nature of discourse analysis, and aims to not just describe existing realities but also seeks to explain them (Fairclough, 2012). A number of seminal studies on environmental communications use critical discourse analysis (e.g. Carvalho, 2007; Gamson & Modigliani, 1989; McCright & Dunlap, 2003).

While critical discourse analysis helps understand the use of language within a frame and explain its meaning, frame analysis provides a method to help pinpoint the presence or absence of framing devices within a series of articles (e.g. Good, 2008; Meisner & Takahashi, 2013). In studies of communication and meaning-making, discourse and frame analysis can be combined:

“The in-depth discourse analysis of single exemplary texts may serve as the starting point of a larger frame analysis designed to increase the explanatory power and external validity of the study” (Lindekilde, 2014). This understanding will serve to shape my research design into two phases of analysis: 1) in-depth critical discourse analysis of individual news articles and 2) frame analysis of a series of news articles. This approach will help me examine argument construction and degrees of change in news discourse during the pandemic crisis.

Summary

This literature review aimed to inform my study, which tracks a shifting environmental discourse regarding single-use plastic bags during the pandemic. Key findings were generated in response to my guiding literature review questions. Those include understanding that plastics pollution is communicated as an environmental issue of increasing importance, that environmental problems are socially-constructed, that views of environmental issues are largely shaped through the media, and that many factors can contribute to the erosion of quality environmental and science reporting in the mainstream media landscape. Through knowledge gained in this review regarding environmental discourses and the importance of framing and critical discourse analysis, I have come to see that my study can be understood as an issue of competing problem definitions and solutions within a frame in relation to the response to two different crises. I have also concluded that a sequential approach based on critical discourse analysis and frame analysis of news coverage/discourse will form a solid methodological direction, enabling me to answer my research questions. Through this analysis, it is my aim to add to the literature regarding factors which may allow for environmental issues to be more readily reframed during a crisis, and to serve as a starting point for future research on this evolving and unresolved environmental issue. In essence, this literature review has pointed a way forward by providing sample methodologies that will inform my research design, as well as providing an understanding that how problem definitions and solutions within environmental discourses are constructed, shaped and framed within the media continues to be a subject of importance and ongoing concern.

Chapter 3: Methodology

Introduction

The pandemic year, 2020, offered a unique opportunity to understand the media's role reflecting and constituting the evolving communication about the perception of single-use plastic bags as an environmental concern. In order to better understand and critically evaluate the representation of this issue, this study aimed to answer the following research question (and sub-questions):

How did the Canadian online news media construct and represent a shifting discourse about single-use plastic bags during the pandemic year, 2020?

- a. *How were dominant perceptions and recommended actions regarding single-use plastic bags and their carryout alternatives portrayed over the pandemic year, 2020?*
- b. *Did the portrayal of single-use plastics bags and their alternatives change in relation to ban implementations, to emerging scientific or health information or in relation to crisis timelines? If so, how?*
- c. *How were plastics industry and environmental claims-makers and their claims regarding the perception of carry out bags and recommended actions represented over the course of the year, and what discursive practices and adherence to journalistic norms contributed to this representation?*
- d. *What underlying ideologies about humans' relationship with the environment and what ongoing power struggles were present or implied in the media discourse?*

This chapter provides an overview of my study's issues-based longitudinal research strategy, beginning with a discussion of suitability, feasibility and boundaries of this study of online news media discourse. I discuss the sequential, two-part approach that I developed for the study's design, as well as the underlying ontology and epistemology of the two methods I employed: critical discourse analysis and framing analysis. Next, I include an overview of my sampling strategy and a description of the data collection process. To provide an overview of my analysis techniques, I sequentially discuss critical discourse analysis (CDA) procedures, followed by framing analysis procedures. Finally, as this study relies heavily on the subjective role of the researcher, I discuss ways to address this limitation, as well as other limitations imposed by the research design.

Study Strategy

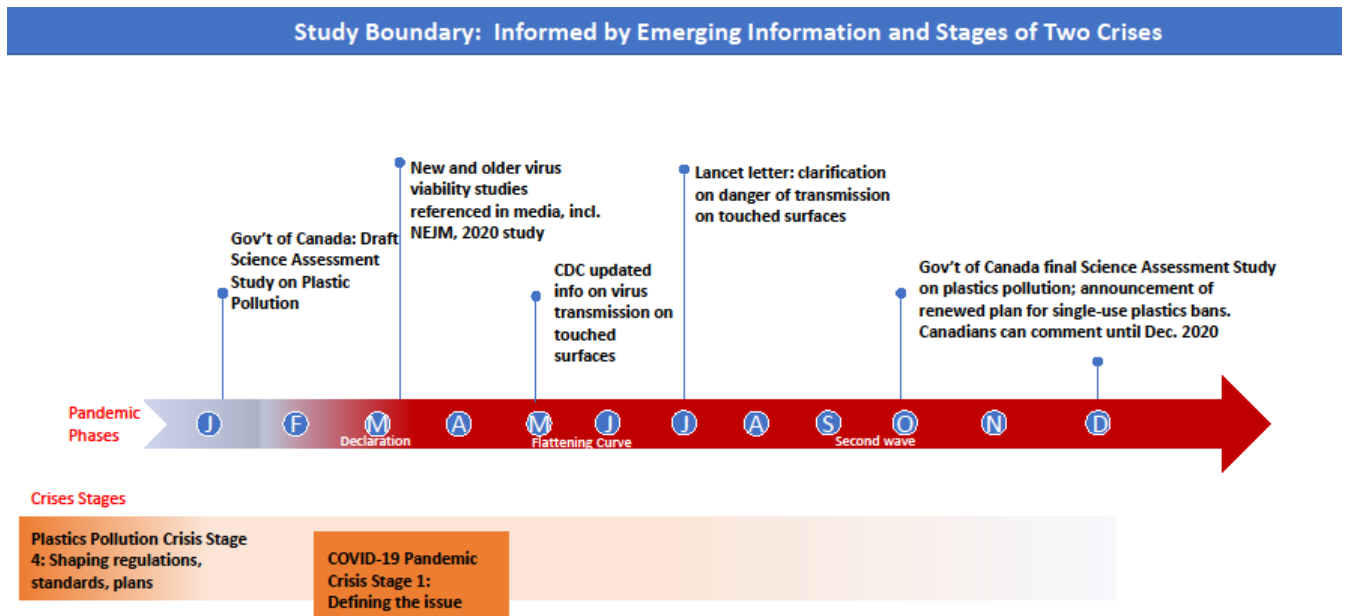
Setting

I have chosen an issue-based, longitudinal study strategy to guide my research, which is an appropriate and valid way to approach analysis of this media discourse for several reasons. An issues-based approach allowed me to focus on the media representation of single-use plastic bags, and in doing so, “unravel the complexities of a given situation” (Denscombe, 2017, p. 58). Looking at the representation of the issue over time allowed for a sustained consideration and understanding of mediated communication processes. Further, an issue-based study was a suitable method because this study’s research question (and sub-questions) aimed not just to highlight what goes on in a setting, but also to explain why, when and how these things occur (Denscombe, 2017).

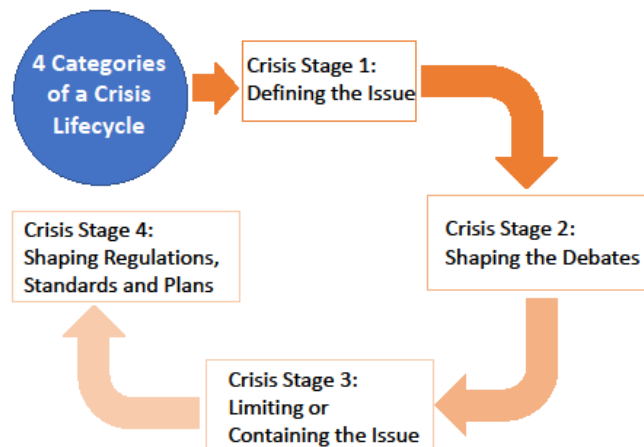
Understanding the setting for this longitudinal approach required a pilot mapping of the timeline used in the study to delineate key points of interest and justify the study’s temporal boundaries. The chosen temporal boundary, the full 2020 calendar year (January, 1 – December, 31), was selected because of a progression of announcements regarding a nationwide single-use plastics ban during that period, combined with particular events that impacted single-use plastics – most notably the emergence of the pandemic (see Figure 1).

Figure 1:

Study Temporal Boundary Justification



On this timeline it is noted that, pre-pandemic, the plastics pollution issue appeared to be in a later stage of a crisis lifecycle. The emergence of a new and separate crisis lifecycle, the onset of the pandemic, is also noted. The delineation of these crises stages is based on a communications model that categorizes a crisis lifecycle into four stages (Harrison, 2011 as cited in Mahoney, 2017) (See Figure 2).

Figure 2:*Categories of a Crisis Lifecycle*

When applied to the issues considered in this study, this crisis lifecycle helps to clarify the stages of the pandemic crisis and the plastics pollution crisis. It also provides a framework for understanding how an issue can gain more traction if it detaches from one crisis and reattaches to a crisis in an earlier stage of development.

Figure 1 presents the reporting of several major scientific studies and emerging health information that shaped the temporal boundary I chose to organize this discourse. In January 2020, the Canadian government released a comprehensive plastics pollution study⁹. This study, entitled the *Draft Science Assessment Study on Plastics Pollution* (Environment and Climate Change Canada and Health Canada, 2020), underscored the enormity of the issue of single-use plastics pollution, and was required for the government to be able to enact policy implementation. In March, a much-reported New England Journal of Medicine study of virus viability on materials and potential impacts on human health emerged (van Doremalen, 2020). By May, a Canadian Centre for Disease Control media statement clarified that surface touching “isn’t thought to be the main way the virus spreads” (CCDC, 2020). In July, at the flattening of the curve with Canada-wide Covid-19 positive cases at < 500 daily cases, a Lancet brief indicated that some previous research on virus viability on fomites was flawed, and reiterated claims that chances of transmission by surface touching was low (Goldman, 2020). By October,

⁹ Seven months earlier (June 2019) the Government of Canada announced it would pursue a nationwide single-use plastics ban, to be backed by evidence forthcoming in this comprehensive assessment study.

as transmission rates began to climb during the second wave of the pandemic, the Government of Canada released the final version of its Science Assessment Study of Plastics Pollution (Environment and Climate Change Canada, 2020) and announced a renewed plan for single-use plastics reduction and bans. Comments on this plan were open to Canadians until mid-December 2020.

Methodology

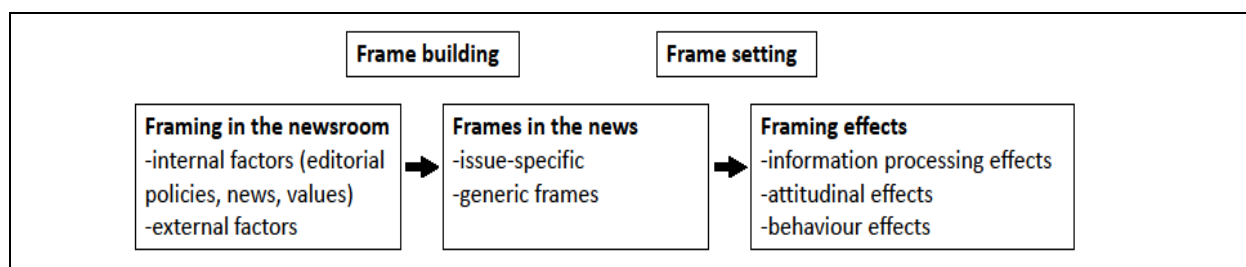
Sequential Approach: Two phases of discourse analysis

Because this study sought to examine how the media constructed and represented the issue of single-use plastic bags, and to then understand how that representation was framed over time, it has a two-part sequential design consisting of a critical discourse analysis followed by a framing analysis. The issue-based focus of this study naturally allowed for a combination of research methods, and “it actually invites and encourages the researcher to do so in order to get a holistic view” (Denscombe (2017), p. 58). This study followed the tradition of many other research studies, which integrate elements of discourse and frame analysis into single case studies and other research designs (Lindekilde, 2014). In this particular case, a two-part method is employed because while discourse analysis and framing analysis are based on similar ontological and epistemological assumptions, they serve different purposes. Discourse analysis essentially answers how text and discursive practices are used to bring an object into being; while framing looks at how these objects are then framed (Lindekilde, 2014). Said differently, the two methods are similar in that they are both used to investigate the relationship between text and broader contexts; however, CDA is a small-sample, in-depth investigation, aimed at understanding discourse construction, implied meanings, ideological assumptions and power struggles. Framing, on the other hand, provides the opportunity to look at how the perception of single-use plastic bags and their alternatives were presented over time. This two-part method, then, additionally addresses the concern that until recently, the element of time has largely been unaccounted for in existing literature on discourse analysis of texts (Carvalho, 2008). “Most studies of media discourse are like snapshots examining some news items in detail but covering a short time span (often only a day or a few days). While this may be relevant for some events, most public issues have a significantly long “life”, which is tied to representations in the media” (Carvalho, 2008, p. 164).

A sequential design further serves to investigate the concept of framing as a process (see Figure 3). Investigations into framing processes is an area of framing analysis that could benefit from more study: “Drawing on the integrated processing model of framing, future research would benefit from linking features of the production of news with the content (frame building) and/or content with studies of the uses and effects (frame setting)” (de Vreese, 2005, p.52).

Figure 3:

An Integrated Process Model of Framing (de Vreese, 2005)



Epistemological Perspective

This study takes a critical and constructionist approach to social/mediated reality – that it can reflect multiple understandings and representations created through discourse – therefore, a qualitative approach to understanding the data has been selected for both methods. As Lindekilde (2014) writes: “Both discourse and frame analysis are fundamentally social constructivist and interpretive perspectives” (Lindekilde, 2014, p.9). This study design operated on the understanding that “the meaning of a given empirical phenomenon varies and transforms over time and across different contexts” (ibid, p.9). In contrast, a quantitative approach generally reflects an underlying positivist paradigm, and as such would be less suited to answering my research questions. In the positivist paradigm, “the focus is generally on facts and figures relating to the causes and consequences of phenomena in the real world, and the approach tends to be associated with the use of quantitative data and statistics” (Denscombe, 2017, p.8). The epistemological underpinnings of this study reflect the idea that a researcher can know reality by investigating the social construction of discourses and understand how the discourse both reflects and constitutes reality. “Qualitative methods are valuable when we wish not to count or measure

phenomena but to understand the character of the experience” (Wood as cited in Linstrom and Marais, 2012, p. 26).

As a researcher, I am interested in not only understanding this communicative phenomenon, but also in uncovering and evaluating journalistic practices and power imbalances underlying the media representations of this issue. In this sense, the critical discourse analysis component of the study allowed for a normative and explanatory critique: “[CDA] is a normative critique in that it does not simply describe existing realities but also evaluates them, assesses the extent to which they match up to values, which are taken (more or less contentiously) to be fundamental for just or decent societies” (Fairclough, 2010, p.9). In the critical paradigm, it’s important to understand how meaning is constructed and then to evaluate that construction. “Knowing by criticism, then, means that the researcher not only reveals his or her subjective view, but also emphasizes that he or she has an obligation to expose social injustice and to become an advocate for social change” (Merrigan et al., 2012, p.39). As in the Marxist view expanded upon by Fairclough (2010) “changing the world for the better depends upon being able to explain how it has come to be the way it is” (p.10). This normative positioning guides my development and application of the study research design.

Sampling

Strategy

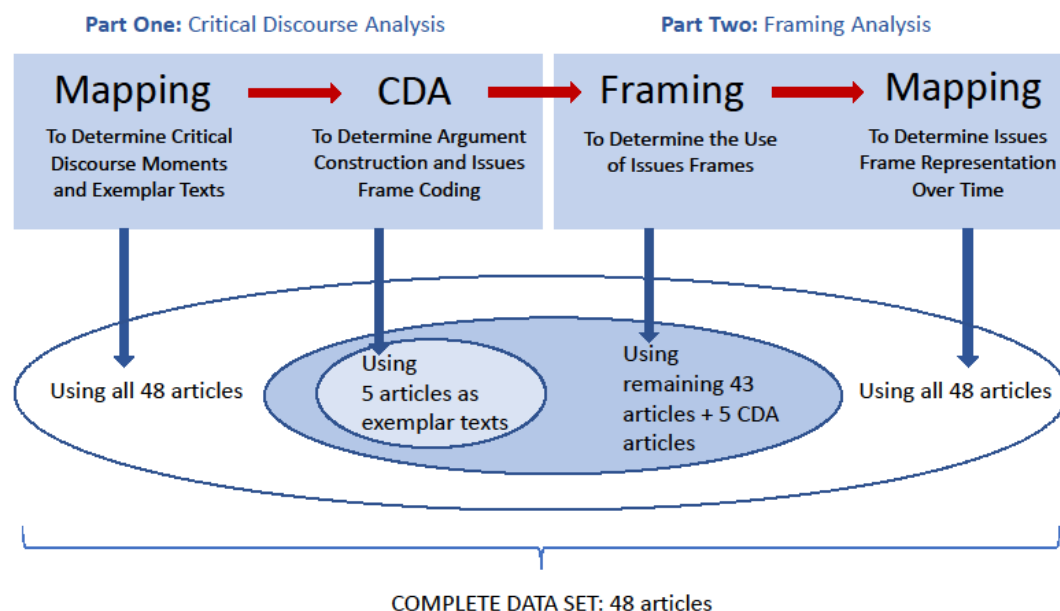
Because this study was an exploration of communication within a media landscape, documents, in the form of online news media articles, were the data collected. “Documents are an interesting record of a particular perspective of a phenomenon and could be used as a single data source for many qualitative studies (Mayan, 2009, p.82). Specifically, “they are useful for determining things such as value, interest, positions, political climate, attitudes and trends” (Mayan, 2009, p.82). A non-probability sampling strategy was chosen to produce an exploratory set of data, which were particularly suited to providing “the researcher a way to home in on people or events where there are good grounds for believing will be critical for the research (Denscombe, 2017, p. 42). This type of purposive sampling operates on the principle that we can get the best information through focusing on a relatively small number of instances, deliberately selected on the basis of known attributes (Denscombe, 2017).

This study’s sequential approach called for the collection and division of a single data set into two separate sub-groups for different forms of analysis. First, a small subset of exemplar

texts was collected for critical discourse analysis; and second, the entire set of texts was used for framing analysis (see Figure 4). Exemplar texts were chosen as examples of critical discourse moments, which are the “periods that involve specific happenings, which may challenge the ‘established’ discursive positions. Various factors may define these key moments: political activity, scientific findings, or other socially relevant events (Carvalho, 2008, p. 166). All samples were intentionally chosen on the basis of being particularly informative regarding the discourse of interest (Lindekilde, 2014), in this case, chosen for the representation of single-use plastics in the context of the COVID-19 pandemic.

Figure 4:

Study Design: Sampling Process for Data Set



Sampling Procedure

To begin the collection of the data set, I developed a search method during a session with a MACT librarian, which involved searching the Canadian Newsstream database using the term ‘plastic*’ and by selecting for individual online print publications that served Canadian cities which were known to be in the process of implementing plastics bans. The derived data set was too large to be feasible, however, and did not result in a representational national coverage. Additionally, it was ascertained that many of the regional articles in various local media publications were duplicate articles reprinted from the Canadian Press news service. With this

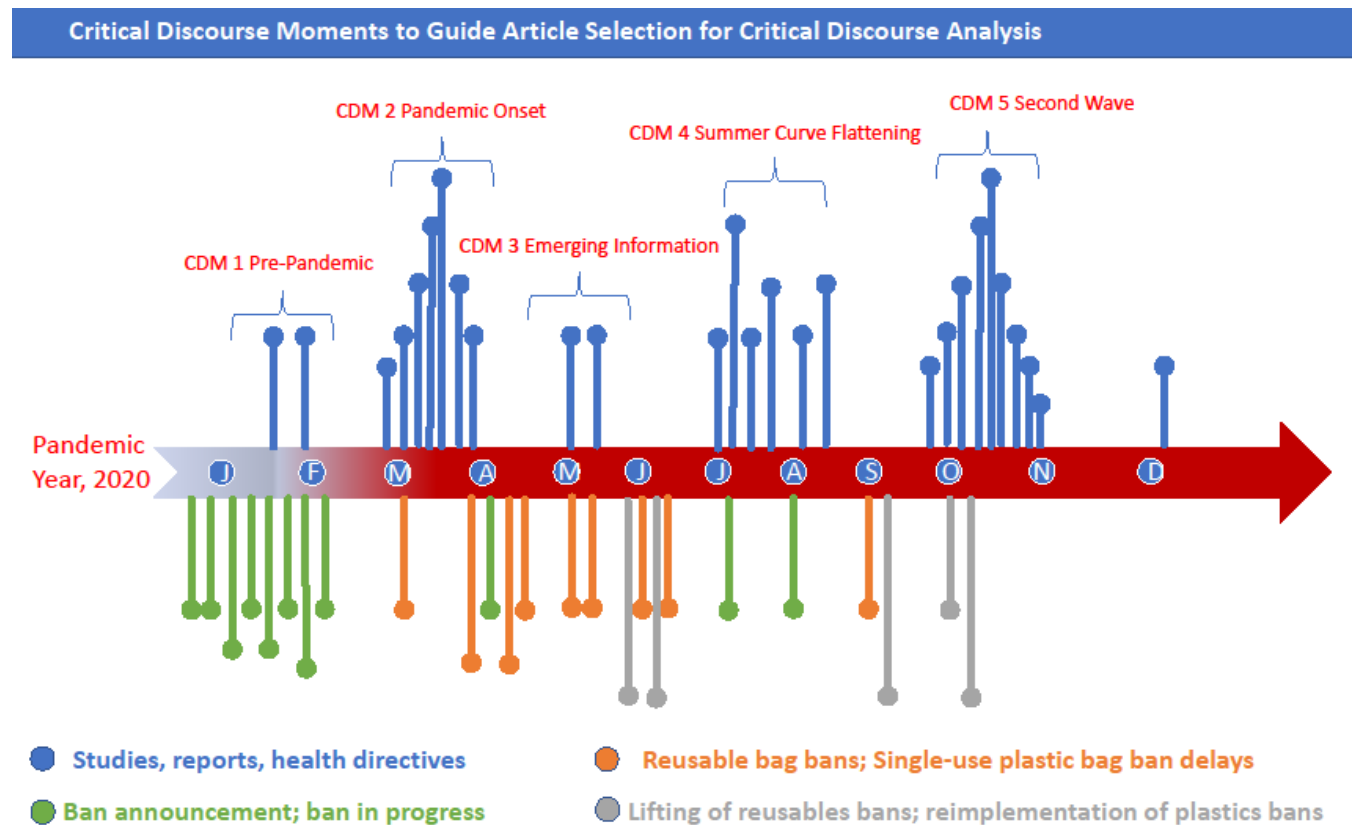
knowledge, and still searching for a more national representation, I focussed on online print articles by two publications: the Canadian Press (CP) News Service and the Canadian Broadcasting Corporation (CBC). Both CP and CBC have been in operation for many years, and have national and regional print-based coverage on online platforms¹⁰. By including both CP and CBC, I was also able to provide a wider representation of journalistic practices, as the two mainstream companies operate under different business models: CP is privately-owned, while the CBC is a publicly-funded corporation. The CBC provides media content direct to its audiences, while CP provides news to multiple mainstream media outlets. Additionally, an online format allows CBC to reprint CP news service stories in a way not previously possible in a broadcast environment. Taken together, the publications provided a representative and suitable way to answer my research questions.

CP stories were collected via the Canadian Newsstream database, and as recommended during a further MACT librarian consultation, CBC online articles were gleaned using the Eureka database. The initial resulting sample size, containing approximately 180 articles, was small enough to allow for a more in-depth review. This data set was narrowed to exclude articles not relevant to single-use plastic bags and bans in particular, such as those that referenced plastic water bottles and plastic waste recycling, and to eliminate duplicate articles that had previously been corrected or updated after initial online publication. This narrowing resulted in 48 articles for analysis.

To choose exemplar texts for critical discourse analysis from this set, I updated and added to my initial study temporal boundary map to more thoroughly and systematically map the occurrence of policy implementations. This included references to ban announcements, delays and reinstatements, and the emergence of studies regarding plastics pollution, environmental impacts and virus viability. I conducted this mapping by combing the 48 articles for references to these occurrences. From this mapping process, I determined several critical discourse moments that contained a cluster of new information, new announcements, or related to a particular moment of importance in the pandemic (see Figure 5).

¹⁰ This is representative of the current digital convergence of once-separate print and broadcast media in an online environment.

Figure 5:
Determining Critical Discourse Moments from Data Set



Critical Discourse Moment One was chosen because it was pre-pandemic, and centred on a major announcement of a nationwide single-use plastics ban. **Moment Two** was chosen because it occurred just after the pandemic was declared and at a time when some public health officials and retail stores were recommending against the use of reusable bags and recommending the use of single-use, predominantly plastic, bags. **Moment Three** was chosen as it represented a time when new information was published, which diminished the concern about touched surfaces as a means of virus transmission. **Moment Four** was chosen as it represented a flattening of the curve during the pandemic, and of ban delay announcements, including a delay of the nationwide plastics ban. **Moment Five** was chosen because it represented the onset of the second wave of the pandemic as well as a renewed commitment to the nationwide single-use plastics ban (see Appendix F for a version of this map, which includes a complete listing of corresponding studies, reports, directives, ban announcements, bans, ban delays, and lifting of bans).

After choosing these Critical Discourse Moments, I re-examined the articles clustered around these moments in order to select exemplar texts for my critical discourse analysis. I

looked for an exemplary article from each moment that was more than 500 words, was predominantly about the perception of single-use plastic bags and related actions such as instituting or delaying bans, or that was predominantly about an alternative such as reusable or paper bags in relation to the use of single-use plastic bags. Each article needed to reference at least two key stakeholder voices and claims from the scientific/academic, environmental, retail, consumer, industry, government and/or healthcare communities regarding single-use plastics in relation to environmental or health concerns.

After collecting five representative exemplar texts, I was left with 43 additional articles to use for my broader framing analysis, creating a total sample framing set of 48 articles (see Appendix G for a full list of analysed articles). These texts for framing analysis needed to contain excerpted information about plastic bags and bans or their alternatives, as well as related recommended actions, and could occur at any point throughout the full calendar year. All collected samples were stored on my password-protected computer¹¹; however, as these documents are freely available to the public, no ethical concerns about the storage of this data were noted.

Part One: Critical Discourse Analysis

Strategy

I conducted a critical discourse analysis of the five exemplar texts, encompassing entire online news articles, with individual words and phrases forming the units of analysis. Through this in-depth analysis, I looked for “why certain types of arguments are chosen over others in a particular context” (Lindekilde, 2014, p. 5). Through the unpacking of the text, this method was employed to uncover how the plastics issue was “challenged or reproduced by particular texts and discursive practices in a battle over dominance in defining social reality as it is unfolding” (Lindekilde, 2014, p.11). Conducting this discourse analysis led to a refinement and better understanding of how to conduct the framing analysis, with the emergence of certain themes regarding dominant perceptions and corresponding recommendations of single-use plastic bags.

Procedure

The text for each article was deconstructed for analysis and coding, using a model created from elements of Fairclough’s Three-Dimension Model, as outlined in Lindekilde (2014). Using

¹¹ The data file naming protocol used: Id #, date, stage of pandemic, publication name, article name.

three categories derived from the Fairclough model, my analysis was organized into a study of discursive units (word choice, grammar, textual composition and literary tropes), discursive practices (the text's production) and social practices (impact on larger societal discourse) (See Table 1). Including these three categories allowed for an analysis that considered shifting articulations of genres, discourses and styles in text and in orders of discourse (Fairclough, 2010). As Lindekilde (2014) indicates, these categories can help understand the connections between the discursive practices and the wider social and cultural developments and change.

Table 1:

Adaptation of Fairclough's Three Dimension Model for CDA

Three-Dimensions Model Adapted from Fairclough		
Discursive units The characteristic of particular texts in terms of:	Discursive practices The text's production	Social Practice Impact of the text on the order of discourse
Wording: (what nouns, verbs, adjectives etc. and why these)	Where does the text come from?	Is it reproduction or challenge?
Grammar: (what tense and person and why?)	How was it produced?	Hegemonic: how does discourse relate to power struggle/power relations?
Textual composition/genre: (what style of reporting and argument)	How and where was it distributed?	What are underlying ideologies/attitudes?
Literary tropes: (metaphors, metonymy etc. and why?)	How is it meant to be consumed? Who reads it?	What are underlying values appeals/motivations?

To begin article analysis, I separated out each line of text and noted any discursive units of interest, such as rhetorical strategies employed, metaphors of note and key word choices. For the next pass of the text, I coded for particular discursive practices and journalistic norms evident in the text. This included noting the reporter's beat, the length of the article, where it was published as well as examining the use of the online format and accompanying hypertext. Adherence to balance and objectivity were also observed. Regarding social practices, I coded for any underlying power struggles amongst represented claims-makers, as well as predominant worldviews evident in the text.

Once I had thoroughly analysed each text, I began sorting the codes, looking for broad themes generated by the study of the discursive units. As I did this sweep and summarization, I looked for and linked both the micro and macro aspects of the discourse and noted any requirements to re-evaluate the text. This summarization was also a bridging step, where I began to note that the framing of the perception of single-use plastic bags and the alternatives reusables and paper was shifting as I moved through the calendar year. As such, I began to see that looking at the framing of the perception of single-use plastics bags and their alternatives (paper and reusable bags) over time would be a valuable way to understand the reporting of shifting perceptions as well as corresponding shifting recommendations for action such as to ban or not to ban plastic bags and/or their carry-out alternatives.

Part Two: Framing Analysis

Strategy

Essentially, a framing analysis was employed to “understand how one ideology can be used to frame the same phenomenon in different (and at times contrasting) ways,” (Lindekilde, 2014, p. 8), and to see how some related actions stemming from changing perceptions gained resonance over time, and in relation to emerging virus information and pandemic stages. The model was informed by a Clapp and Swanston (2009) study which analysed the shifting perception of plastic carryout bags over time, moving from harmful to benign and back to harmful, and which examined industry’s power in relation to that shift and the subsequent implementation of required actions. This study largely looked at the shifting norms of plastic bags by analysing international relations documents such as government documents and policies, but also included media coverage. The model of analysing shifting perceptions and shifting remedies was also informed by Entman’s (1993) four framing attributes, focusing on the attribute *suggesting remedies* to “offer and justify treatments for problems and predict their likely effects” (Entman, 1993, p. 52). The unit of analysis for framing did not need to include entire articles, rather focussed on framing elements regarding the perception of single-use plastic bags and their alternatives in paragraphs or article excerpts.

Procedure

The framing analysis model and sample codes were formed during critical discourse analysis, and were refined iteratively as I conducted the framing analysis. For example, as my analysis began, I found that I needed to code for perceptions of single-use plastic bags as well as

the carryout bag alternatives, paper and reusables. This was ascertained after understanding that the perception of single-use plastic bags is often conceived in relation to changing perceptions of the two carryout alternatives. The framing analysis involved several steps. First, I analysed and coded for the dominant perception of each carryout option (plastic bag, reusable bag, paper bag) to determine whether it was perceived as harmful/beneficial to human health; harmful/beneficial to environment; or benign. To better visualize the findings, I colour-coded and mapped these dominant perceptions of the carryout bag types found in each article onto my pandemic timeline. Second, I coded for the dominant claims-maker in each article that made claims regarding the dominant perception of each of the three carryout bag types. For easier visual analysis, I put these claims-maker findings into a colour-coded chart (see Appendix H). Third, I coded for reported dominant recommended actions, such as ban, plan to ban, delay a ban, remove a ban etc., in relation to the three carry out bag types in each of the articles (see Appendix I to view the coding list).

Study Limitations

As a qualitative approach makes study replication and generalizability difficult, a goal of this study's design was to increase credibility and transferability. To do so, I created a transparent and detailed description of my sample collection and analysis methods (the 'audit trail' presented in the above section). In addition, I aimed to increase credibility by using a two-stage approach in my data analysis. CDA has the potential for high internal validity, while a broader framing analysis helped to increase external validity. I considered content analysis but was less interested in quantifying how the plastics issue was reported in the media, and more interested in the implied meanings and changing perceptions within the article set. "The more the text relies on subtle and intricate meanings conveyed by the writer or inferred by the reader, the less valuable content analysis becomes in revealing the meaning of the text" (Denscombe, 2017, p. 314). While a two-stage analysis allowed for increased reliability, it also led to a more complex methodology and resulted in more complex, interconnected findings. I compensated for this scope broadening by focusing my discussion of the findings on key areas of interest, and pointing to areas which could serve future research projects.

The researcher's role is subjective and central in discourse analysis, especially within the critical paradigm, which has consequences for a study's objectivity. Discourse analysts "must use existing knowledge about society, culture, politics, etc. and analyse the data with certain

necessary preconceptions about the meanings contained in the data” (Denscombe, 2017, p. 318). While I have pro-environmental values and bring life experience as a communications professional and former journalist, I have created a clear and detailed description of my methods in order to confirm my openness to alternative and competing explanations of the data.

The framing analysis of my study design has limitations due to the use of inductive frames as opposed to deductive frames. Criticisms of an inductive method include that there is no easy coding scheme; it’s easier for researchers to find evidence of what they’re looking for; and there is a tendency for scholars to develop a unique set of frames for every study (Linstrom and Marais, 2012). However, a deductive frame analysis using set news frame analysis wouldn’t serve to answer my research question about a specific issue; and precedence has been set with seminal studies (Entman, 1991; Gamson & Modigliani, 1989), which use inductive frames for issues analysis. To ensure intercoder reliability, it would have been best to have a second reviewer for the both the CDA and especially for the framing analysis. Because journalists strive for balance in articles, differing perceptions of plastics and their alternatives were present in many articles, and it would have been beneficial for a second reviewer to confirm my evaluation of the dominant perception and dominant recommendations for action. While I have attempted to be guided by natural boundaries for this study, beginning with the Government of Canada’s release of a draft science assessment on plastics pollution in January and ending with the government’s publication of the final version of this report, the ongoing nature of the pandemic could disrupt or upend the larger conversation about single-use plastics consumption. At the time of writing, the pandemic’s end is in sight, and people have largely learned that touched surfaces are not a major source of transmission; however, new COVID-19 variants have the potential to invalidate these claims.

Summary

This longitudinal, issue-based research design aimed to explore argument construction as well as the framing of the shifting perceptions of single-use plastic bags and their carryout alternatives, reusables and paper, over the pandemic year, 2020. With the pandemic ongoing, and with a nationwide single-use plastics ban still not implemented, this study has the possibility of contributing to further inquiry. More broadly, this critical examination of the role of the Canadian online news media in reflecting and constituting a larger societal conversation about

TO BAG THE BAN

single-use plastic bags may pragmatically inform practicing journalists, consumers of journalism, and environmental communicators alike.

Chapter 4: Findings

Introduction

Through a two-part analysis, consisting of a critical discourse analysis of five exemplar texts and a framing analysis of a larger set of 48 texts, my study's aim was to answer the research question: ***How did the Canadian online news media construct and represent a shifting discourse about single-use plastic bags during the pandemic year, 2020?***

- a. *How were dominant perceptions and recommended actions regarding single-use plastic bags and their carryout alternatives portrayed over the pandemic year, 2020?*
- b. *Did the portrayal of single-use plastics bags and their alternatives change in relation to ban implementations, to emerging scientific or health information or in relation to crisis timelines? If so, how?*
- c. *How were plastics industry and environmental claims-makers and their claims regarding the perception of carryout bags and recommended actions represented over the course of the year, and what discursive practices and adherence to journalistic norms contributed to this representation?*
- d. *What underlying ideologies about humans' relationship with the environment and what ongoing power struggles were present or implied in the media discourse?*

While I first conducted a critical discourse analysis, followed by a framing analysis, I present the data not in relation to this sequencing, but in relation to how findings from both analyses answer my four sub-research questions. Therefore, the first section of my data presentation documents findings related to the portrayal of dominant perceptions and recommended actions regarding each of the carryout bag options within the article set. The second section presents information on how these dominant perceptions and recommended actions relate to policy implementation, emerging information and the pandemic itself over the calendar year. Third, I present findings regarding dominant claims-makers and related discursive practices and journalistic norms. In the final data presentation section, I describe my findings regarding the presence of power struggles and underlying ideologies in the text. I then conclude with a discussion of the impacts of the study's limitations on the findings.

Data Presentation

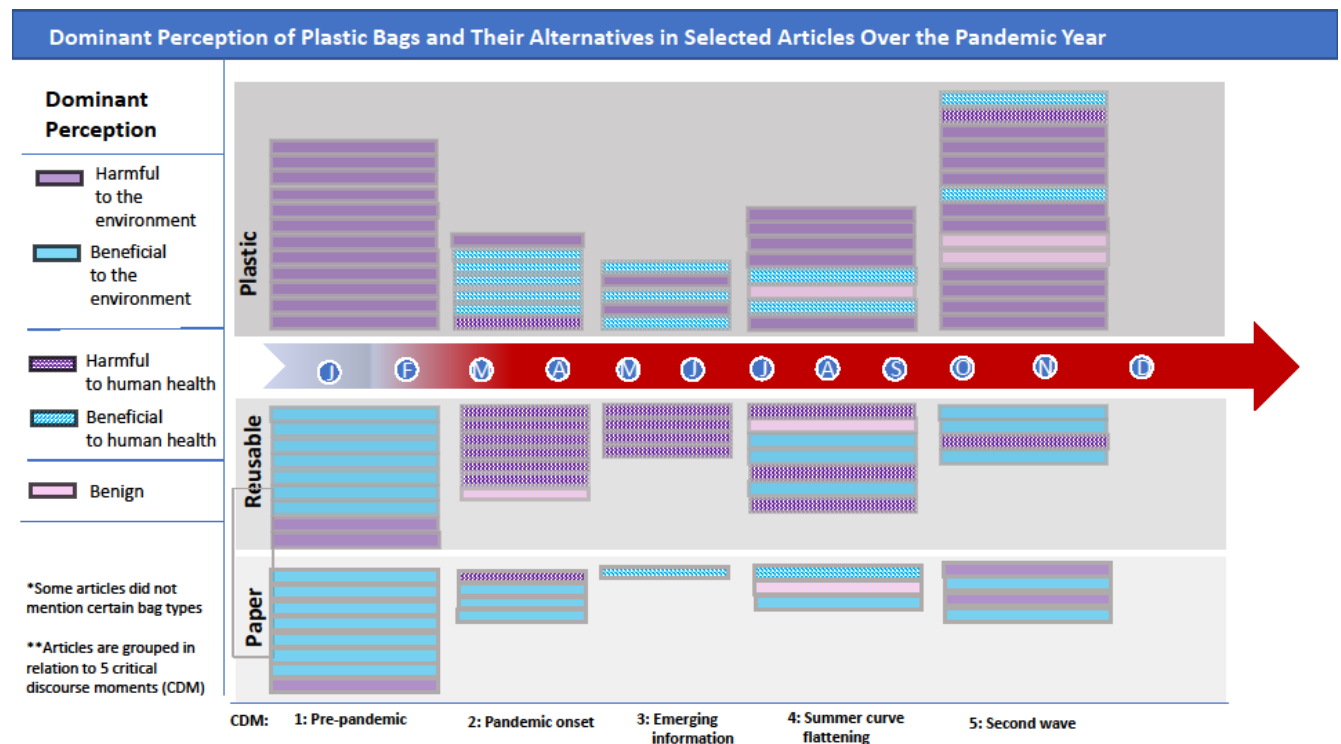
Dominant Perceptions and Recommended Actions

The following section includes a presentation of the data and findings relating to *Research Question A: How were dominant perceptions and recommended actions regarding single-use plastic bags and their carryout alternatives portrayed over the pandemic year, 2020?*

The findings are organized according to the critical discourse moments identified earlier in this study (See Figure 6). For each of these five critical discourse moments, I first provide an overview of articles analysed through framing analysis, followed by a presentation of the findings from a critical discourse analysis of one exemplar text.

Figure 6:

Dominant Perceptions of Plastic Bags and their Alternatives in Selected Articles Over the Pandemic Year, organized by Critical Discourse Moments



Critical Discourse Moment One: Pre-pandemic

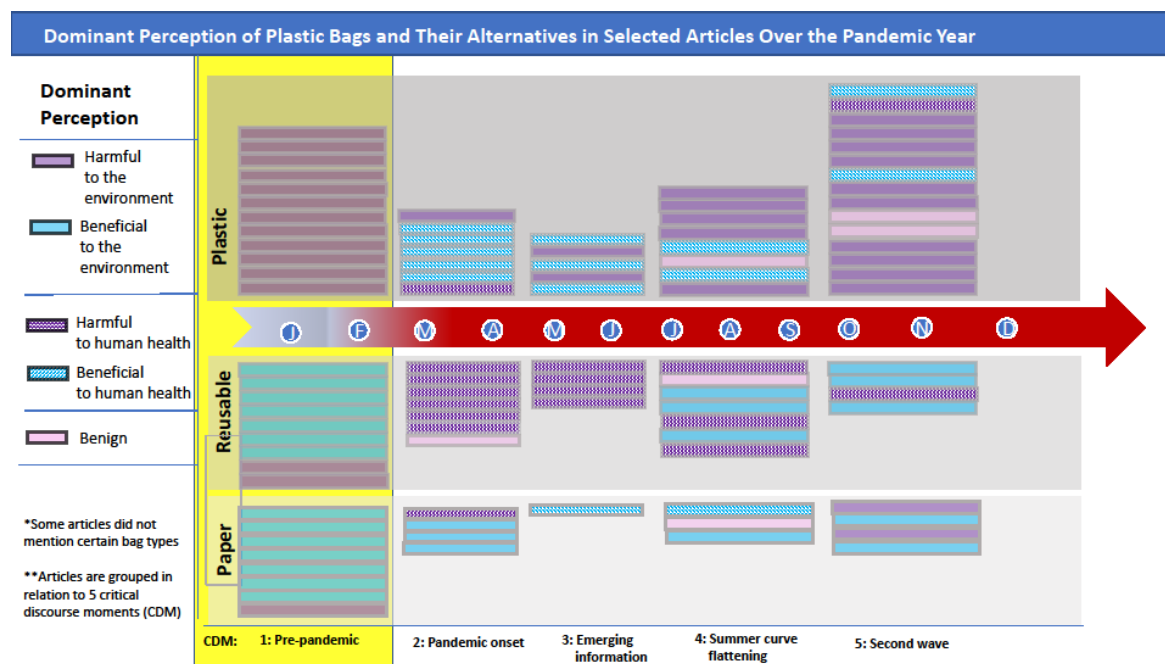
Critical Discourse Moment One encompasses the pre-pandemic time period, January/February 2020. To analyse, I conducted a framing analysis on 12 texts, and critical discourse analysis on one exemplar text (see Appendix G for a full list of analysed articles).

The Framing of Dominant Perceptions and Recommended Actions.

As seen in Figure 7, which highlights the framing of dominant perceptions in CDM One, a framing analysis of the 12 articles indicated that plastic bags were entirely portrayed as harmful to the environment during this time period. Within the perception that plastic bags are harmful to the environment, a few articles cited firsthand impacts to wildlife, while the majority cited the end-life, nonrecyclable harm of plastics filling up the landfills. Reusable bags and paper bags were predominantly portrayed as beneficial to the environment, with two outlier articles portraying them as a harm to the environment. One of these articles represented the plastic's industry claim that both paper and reusable bags require more energy to create, and a second included the industry advocate claim that reusable bags are not recyclable. Regarding the framing of recommended actions, overall, in this set of articles, the predominant recommended action is to plan to ban plastic bags (see Appendix I to view the coding list). It appears that when a carryout is perceived as a harm to the environment, planning to act rather than immediate action is recommended. One of the main considerations for planning to ban rather than imposing immediate bans were economic and human-centred: businesses, as well as consumers, needed time to adapt.

Figure 7:

Dominant Perceptions of Plastic Bags and their Alternatives in Selected Articles Over the Pandemic Year, focusing on CDM One



Critical Discourse Analysis of an Exemplar Text.

To more fully understand the construction of perceptions and recommended actions portrayed in media texts included in Critical Discourse Moment One, I conducted a critical discourse analysis of one exemplar text. *Single Use Plastics ban coming in 2021 after report concludes there is evidence of harm*¹² is a 668-word article written by the Canadian Press news service, and published on the CBC news website as an online print article on January 30, 2020. This story was written in response to the federal environment minister's announcement of the release of a draft environmental assessment report required for the implementation of an eventual nationwide single-use plastics ban. This pre-pandemic article contained information pulled from this report, documenting the amounts and effects of plastics pollution. It underscored the effects on wildlife, as well as the need to give time to businesses to adapt, and contained a link to a CBC TV video excerpt of the announcement, but contained no links to studies or the report.

By analysing the discursive units in this article in detail, several themes in relation to the perception of single-use plastics and portrayals of required action emerged. First, the reporting underscored that despite an existential threat to wildlife, a ban on plastics didn't need to be urgently implemented, and a plan to act was an action in and of itself. This was exemplified in the article with the main claims-maker, federal environment minister Jonathan Wilkinson, repeatedly using the phrase "we are moving towards" a ban. The nationwide ban has no set date, and the list of banned items was "still being worked out" despite a previous announcement of a future ban in June 2019. The minister's statement which "insisted the government is not going to wait *several* years" doesn't give confidence of a firm deadline, and reflects "waiting", which is a passive way to implement change. Words and phrases such as 'phase in period' also indicated a lack of urgency. The environment minister is quoted as saying that the public wants quick action, and animals are depicted as needing quick solutions. And yet, a lack of concrete action is reported as a natural or expected outcome.

In this article, an equal amount of space was given to the discussion of both the existential threat to wildlife and the inconvenience and aesthetic impacts on humans, which presented the notion that the impacts deserved equal consideration. Also, the reporter used graphic exemplars of wildlife with high symbolic value to illustrate the existential threat. Whales are washing up on beaches with their guts full of plastic; a starving turtle is clogged with plastic.

¹² Link to article: <https://www.cbc.ca/news/politics/environment-canada-report-plastics-ban-1.5445611>

TO BAG THE BAN

And yet, following this, human considerations such as acting on pollution for aesthetic reasons are recounted; litter is on our “beaches, in parks, in lakes and even in the air”. Action is also tempered by the need to consider human inconveniences with phrases such as “businesses need to be given time to adapt”. Throughout the article, economic impacts were considered when describing the cost of reports, costs of recycling, cost of repairing/reusing vs. throwing away. The final paragraphs of the article contained economic considerations for action, describing various countries not as ethical or environmental actors but highlighted their role as “leading economies”. In addition, the list of potential products to be banned require only minimal behavioural change within our current economic system. The article indicated a need to recycle better, not reduce or reconsider our consumer habits. In relation to recommended action, policy implementation was depicted as a main behaviour change tool. A focus on individual action was exemplified in the story’s lead, which described plastics pollution as ‘garbage’, a term usually associated with end products from individual use. The potential banned products are for use by individuals, including straws, bags and takeout containers. The list of waste items choking animals such as “flip flops” belong to individuals. A section talking about the ineffectiveness of recycling highlighted individual impacts. It’s easier for people to “throw away” goods/wrappings. As such, in this article, the blame for pollution rested on individuals not industry.

Critical Discourse Moment Two: Pandemic Onset

Critical Discourse Moment Two encompassed the time period of the onset of the pandemic, March/April 2020. The framing analysis was conducted on 7 articles, with one exemplar text analysed using critical discourse analysis.

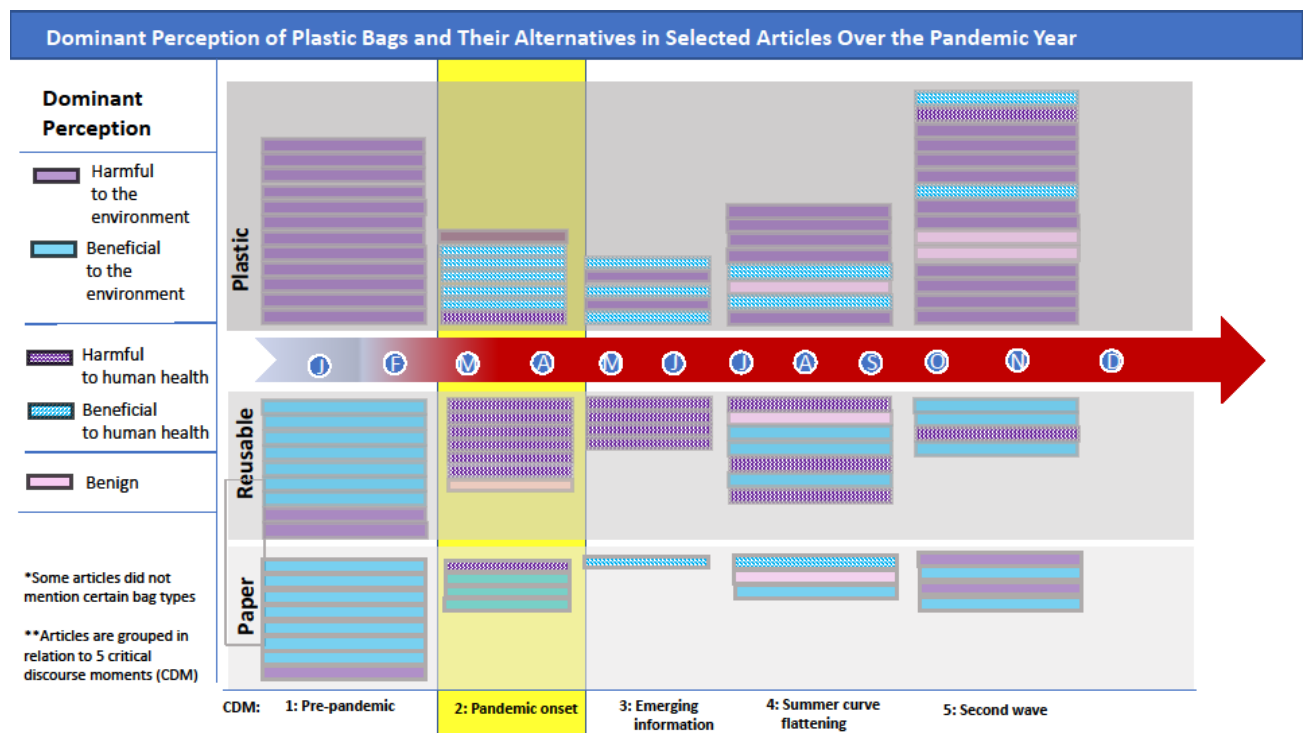
Framing Analysis of Dominant Perceptions and Recommended Actions.

As seen in Figure 8, a framing analysis of the seven articles in CDM Two, indicated that the perception that single use plastic bags and reusable bags shifted from its relation to the environment to its relation to human health. In this time period, single-use plastic bags were predominantly portrayed as beneficial to human health, helping to stop the spread of the COVID-19 virus. As a single-use item, plastics bags were seen to be safer than bringing materials from home into stores. While not commenting on single-use, one article in this time period showed that multi-use plastic may be harmful to humans because the virus lived as long or longer on plastics than other tested materials, and cited in a well-referenced article first published in the

New England Journal of Medicine (van Doremalen et al., 2020). In addition, in a second article, plastics were briefly mentioned as harmful because they fill up landfills. Overall, in this set of articles, reusable bags were predominantly presented as being harmful to human health because of the inability to know if they have been cleaned. Paper bags received little mention but were referred to in BC public health guidelines, which recommended stores provide “clean carry out bags” for their customers¹³. The predominant recommended action regarding carryout bags and their alternatives in CDM Two is that stores should stop accepting reusable bags and provide single-use alternatives. In some cases, it was recommended that fees be dropped for plastic and paper bags. In one instance, the predominant recommended action in relation to reusables was that they could be safe to use if washed, but this was portrayed as an unacceptable solution, which could not be guaranteed in the zero-risk environment of the time.

Figure 8:

Dominant Perceptions of Plastic Bags and their Alternatives in Selected Articles Over the Pandemic Year, focusing on CDM Two



¹³ While single-use carryout options are predominantly plastic, paper also falls within this category. In one article, cardboard was mentioned as being able to host a virus, although for a shorter period of time than other cited materials. Fabric was not analysed.

Critical Discourse Analysis of an Exemplar Text.

To understand the construction of the portrayal of dominant perceptions and recommended actions at a more detailed level, I employed critical discourse analysis of an exemplar text from the pandemic onset, Critical Discourse Moment Two. *Should you use a reusable shopping bag? Government, stores have different answers*¹⁴ was a 851-word article written by a CBC consumer watchdog reporter for the CBC online news website. The article contained one photo of a grocery store sign banning the use of reusable bags, and linked to a study by the New England Journal of Medicine that was frequently cited by media outlets at the time (van Doremalen et al., 2020). This article about virus viability on surfaces was published a few weeks after the global pandemic was declared, and at a time when touched surfaces were still a great concern as a potential way for the COVID-19 virus to spread. This article provided an overview of the various reasons why it was acceptable to ban reusable bags and promote single-use plastic bags, along with some less-strongly-argued rebuttals that reusable bags weren't a major concern for contamination. Disallowing reusable bags and offering single-use bags as a replacement was reported as a preferred option for several reasons: reusables may pose an existential threat to humans, people are fearful, shoppers need convenient solutions, these solutions should be policy-based and primarily be the responsibility of the consumer. Within this article, this point-of-view was primarily advanced by an individual citizen, a retail association spokesperson and specific retailers.

In the article, reusable bags were perceived as a hazard to human health. The story's lead stated "there are concerns about just how clean those bags are" implying at the outset that the amount of contamination present is a matter of degree; it is a given that they are at least somewhat dirty. The sentence's passive phrasing also implies many concerns and concerned parties. Further in the article, a medical officer says he isn't *as concerned* about reusable bags, using language in a way that casts doubt at a time when people want zero-risk. The medical officer said: "I don't see there's any *substantial* risk..." also implying there is some risk. For balance, it is reported that one retailer continues to allow reusable bags to be packed by consumers rather than offering plastic bags. However, the way this option is reported – describing the care of reusable bags as if they were a toxic substance, serves to frame this retailer's approach as onerous: "The company suggests keeping reusable bags clean by washing

¹⁴ Link to article: <https://www.cbc.ca/news/canada/nova-scotia/reusable-shopping-bag-covid-19-1.5518765>

TO BAG THE BAN

them frequently, drying them completely, cleaning where you place the bag, and storing them in a cool place.” In addition, reporting this advice placed the responsibility for safety back on the shopper. By emphasizing the concerns of a shopper through lead paragraph placement and through direct quotes, the reporting established the perception that those who use reusable bags are not thinking about others at a time when collective action was required. A quoted shopper said: “To me it’s a no-brainer that you would even think of bringing something like that into the store.” This shopper further added as an admonishment to those who use reusable bags: “Manage your hygiene. Think where you’ve been.” Reusable bags were associated with an ever-present risk that could not be fully mitigated. A retailer was quoted as saying “It’s not possible to *guarantee* that *every* customer’s personal bags have been properly sanitized, which could pose a risk.”

Regarding the need for action in this article: When human health is at stake the need for action is urgent, and as such, action can be based on comfort level, opinion and a lowered threshold for required evidence. Within this article a variety of opinions are reflected regarding the safety of reusable bags. These reasons, however, are not all based on sound evidence. A spokesperson for the Retail Council of Canada acknowledged that some studies are industry-driven, and yet it was not clarified which studies were reputable and which were not. “Fact is, there are a lot of competing scientific studies that are out there. Some are funded by those that have an agenda and then there are the studies that are more reliable so we’ll leave it to our members to make sure those determinations as to what their comfort level is.” Rather than parse for validity, comfort level is cited as a reason to continue banning bags. While an infectious disease specialist downplays the risk of reusables as a major concern, her quote emphasized that we need to pay attention not just to evidence but to how people feel: “Grocery bags have people upset.” In most instances, evidence presented by experts in the article were qualified as opinions or were loaded with phrases that implied uncertainty. For example, a health official said “I don’t think this is a major issue.” The reader could be left wondering if the evidence pointed out that it is still somewhat of an issue. In addition, phrases in the article such as “Canadians struggle with changes” implied that humans deserve the most convenient solutions that don’t tax them emotionally.

The reporting also reflected the idea that when considering solutions to a human health concern, economic solutions are acceptable. First, the article highlighted concerns and opinions

of shoppers, retailers and retail council as those that need to be addressed. A proposed solution to make it easier and safer for humans was the waiving of fees for single-use plastics. Yet, the article makes no reference to the environmental impacts of this policy. Even in instances where shoppers could bring in and pack their own reusables, the decision to bring these toxic substances into stores was left as their choice.

Critical Discourse Moment Three: Emerging Information

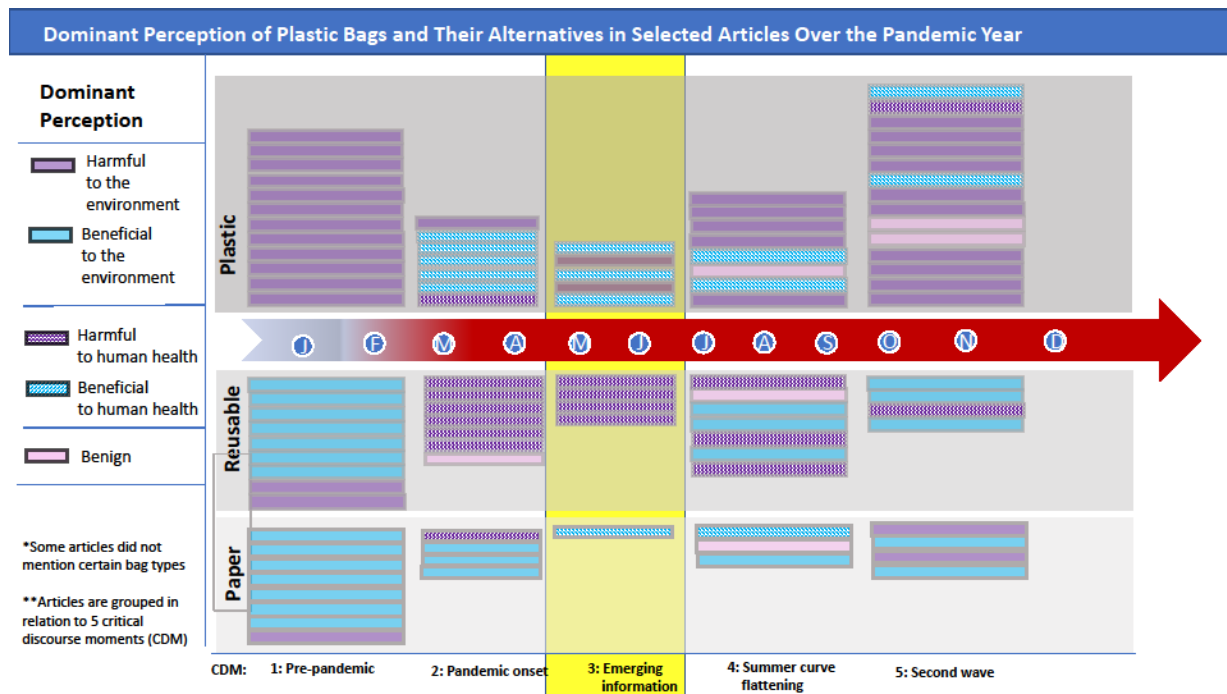
Critical Discourse Moment Three encompassed the time period of May/June 2020. The framing analysis was conducted on 5 articles, with one exemplar text analysed using critical discourse analysis.

Framing Analysis of Dominant Perceptions and Recommended Actions.

As seen in Figure 9, in the 5 articles grouped in CDM Three, the perception that plastics are harmful to the environment began to re-emerge in the reporting; however, their perception did not revert to pre-pandemic portrayals. In some articles, plastic bags were still portrayed as beneficial to human health, and reusable bags were still entirely perceived as being harmful to human health. Within these articles, reusables are mostly banned for safety and sanitary reasons, but were also banned, not for safety in and of itself, but to make shoppers feel more comfortable. Paper, for the most part, didn't figure in the media conversation at the time, except in relation to fees being waived for its use at some stores. Single-use items, which previous to the pandemic were less preferable, were seen as safer and more sanitary than multi-use items. The predominant recommended actions within CDM 3 were still to stop using reusable bags, and to delay single-use plastic bag bans that were in progress.

Figure 9:

Dominant Perceptions of Plastic Bags and their Alternatives in Selected Articles Over the Pandemic Year, focusing on CDM Three



Critical Discourse Analysis of an Exemplar Text.

To understand the construction of the perceptions and recommended actions regarding single-use plastic bags, I used critical discourse analysis to examine the text from CDM 3, *Plastics bans, environmental monitoring get short shrift during the pandemic*¹⁵. This 835-word article was written by a Canadian Press news service reporter, with this version appearing on the National Post website. It contained one photo of a person carrying multiple plastic bags, and no links to studies. It was published May 23, 2020 at a time when many provinces were easing initial lockdowns and after health information from Centres of Disease Control indicated that the likelihood of virus transmissibility via touched surfaces was low. Essentially, this article listed the ways in which environmental concerns were upended during the pandemic, with the banning of reusable bags from stores used as an exemplar. A main theme emerging in this article in relation to perceptions and recommended actions is that the urgency for action was high for human health issues, and less urgent for environmental issues. As a given, this article

¹⁵ Link to article: <https://nationalpost.com/pmnn/news-pmn/canada-news-pmn/plastics-bans-environmental-monitoring-get-short-shrift-during-pandemic>

underscored that protecting the existential threat to human health necessitated the delay or halting of environmental initiatives or potential activities harmful to the environment. As a part of this reporting little evidence or justification for these quick actions was given, nor were alternatives to the way they were implemented explored. In the article, the federal minister of the environment talked of the desire to eventually reinstate bans by stating that the government “remain committed” to bans. However, the lack of concrete timing and phrases such as “some policies are being delayed a bit” downplayed both the seriousness of the issue and urgency for action. Reusable bags were largely reported as continuing to pose an unacceptable risk to humans. For example, near the story lead, the potential harm of reusable bags was once again highlighted by quoting BC public health guidelines, “Customers should not use their own containers, reusable bags or boxes.” And, the final five paragraphs of the article concluded with a claim that casts doubt about reusable bag safety. In those concluding paragraphs, the president of the Chemical Industry Association of Canada employed carefully crafted rhetoric to highlight or promote the idea that a shift regarding people’s perception of single-use plastics had indeed occurred: “What I would say has changed is people, as a result of COVID, have a much better appreciation of the benefit of plastic as a sanitary material.”

A second petrochemical spokesperson highlighted the safety of using plastic for food coverings and for medical treatment to help prevent COVID-19 making it more difficult to argue against single-use plastics in general. A spokesperson for Greenpeace called the banning of reusables a “panicked response”, and yet this environmentalist is reported on within a pro-plastics frame regarding reusable bags risks. She uses the phrase that reusables are “less likely” to be contaminated. The inability to mitigate all risk around reusables, in fact, assists the industry’s argument that plastics are safer. The environmentalist also alluded to the misconstruing of information in the oft-cited New England Journal of Medicine article (van Doremalen, 2020) and an industry-aligned study (Williams et al., 2011), and yet no information was reported to help the reader evaluate those claims. Required individual actions in relation to using or not using bag options were once again highlighted, with reporting reflecting that individuals are responsible and culpable in the fight against plastic. Regarding environmental claims, the article mentioned the resulting pollution caused by the overturning of environmental initiatives, but argued from a human-centric and economic point-of-view. Plastics are harmful because they are overwhelming recycling depots, and are winding up in human-made landfills.

And once again, the individual is largely held responsible, in that their action of consuming and throwing out plastics is the root cause of the issue. The fact that humans need convenient options and need their fears appeased in relation to carryout options was reported as a given.

Critical Discourse Moment Four: Summer Curve Flattening

Critical Discourse Moment Four encompassed the time period, July – September, during the summer flattening of the curve when restrictions were somewhat loosened across Canada, and people were figuring out how to coexist with the threat of the virus. The framing analysis was conducted on 9 articles, with one exemplar text analysed using critical discourse analysis.

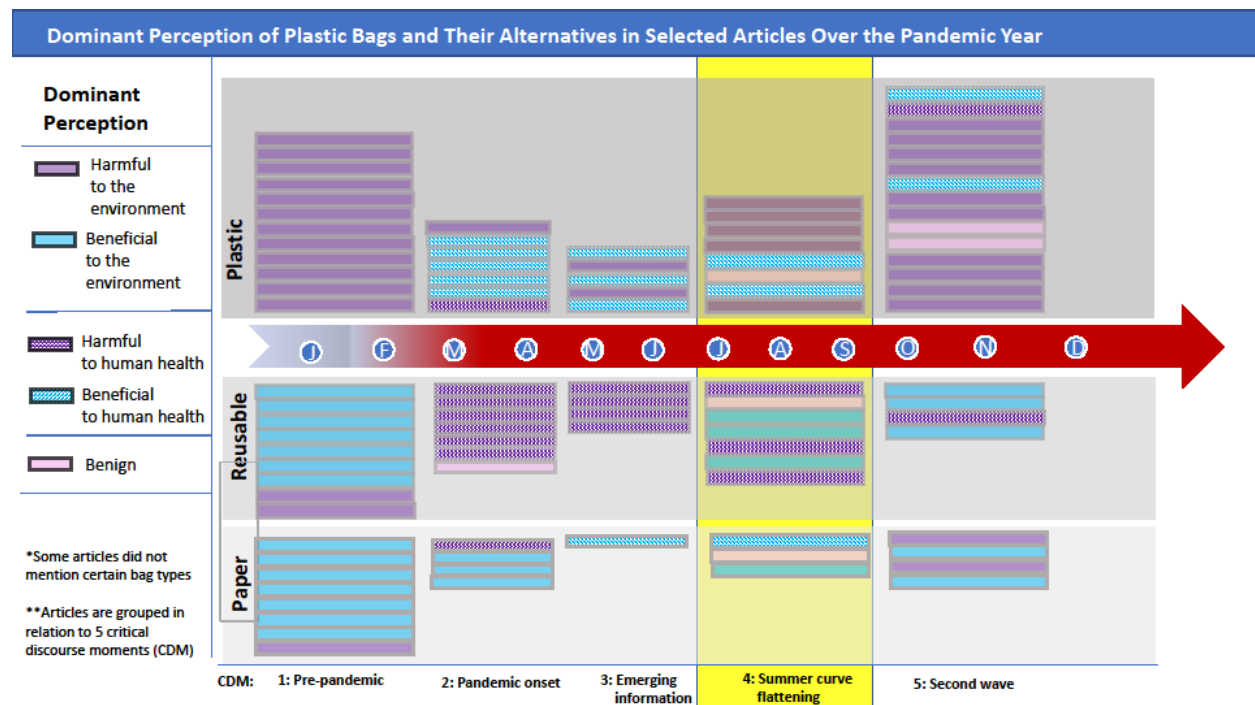
Framing Analysis of Dominant Perceptions and Recommended Actions.

As seen in Figure 10, the framing analysis of the nine articles grouped in CDM Four indicated that single-use plastic bags were once again predominantly perceived as harmful to the environment. To a lesser degree, plastics also continued to be portrayed as being beneficial to human health. Reusable bags were again being partially perceived as beneficial to the environment, and yet the perception that they continued to pose a concern for human health lingered. In some cases, reusables were portrayed as benign – neither harmful nor especially beneficial to humans or the environment. In this time of fluctuating perceptions, paper bags received less mention but were perceived as being beneficial to human health due to their single-use nature, and as beneficial to the environment due to compostability. Interestingly, while in some cases, impacts on wildlife were cited as reasons for single-use plastics bags being considered harmful, the main claim regarding that perception had more to do with economic impacts such as non-recyclables filling up landfills and/or overwhelming recycling depots. This finding may have had to do with the number of claims-makers who worked in the field of waste management. Within these articles, the acknowledgement of environmental concerns returned; however, that was still reported as a claim of less concern than the risk to humans.

Recommended actions within these articles continued to be to delay bans, and in some cases to plan for the re-implementation of bans at future undetermined dates. While experts and studies showed that the safety concerns of touched surfaces were not a concern, the role of plastics as a sanitary alternative and the uncertainty surrounding the cleanliness of reusables lingered. It was, however, acknowledged that single-use is not a best option in an ideal world. As single-use plastics made people feel safer, action on implementing bans was not reported as urgent.

Figure 10:

Dominant Perceptions of Plastic Bags and their Alternatives in Selected Articles Over the Pandemic Year, focusing on CDM Four



Critical Discourse Analysis of an Exemplar Text.

To further understand the construction of these perceptions and recommended actions in relation to carryout bag options, I used critical discourse analysis to examine the text, *The fight against single-use plastics has been sidelined by COVID-19 but activists aren't giving up*¹⁶. This 944-word article was written for the CBC online news on August 15, 2020. It contained four links to related CBC stories, and two photos of storeowners, one of the federal environment minister and one of an environmental spokesperson. In summary, this article portrayed the delay of the federal plastics bans as a legitimate action. However, as plastics piled up, it was also reported that it was time to start planning for pro-environmental actions, but only as people felt comfortable. The main claims-makers contributing to this claim were low-waste storeowners, the federal environment minister and environmental spokespersons. Once again, a lack of urgency required for environmental initiatives was noted.

The passive structure of the article's lead "Federal government's single-use plastics ban has been delayed by the pandemic" left out responsibility for the delay, and negated a

¹⁶ Link to article: <https://www.cbc.ca/news/canada/toronto/single-use-plastics-covid-1.5683617>

requirement for justification for this delay. Further in, the article reported that plastics pollution was up 250-300%, which seemed to indicate a need for swift action. And yet, the claims-makers in the article – both government ministers and environmentalists, were portrayed as satisfied that at least people were thinking about, or planning to act environmentally again. The environmental spokesperson was quoted as being “really excited” that the government announced that it was “working on a plan”. After the article’s metaphor “plastics use skyrocket”, environmentalists were quoted as saying “it’s time to start thinking seriously about plastic waste again” and were portrayed as “hopeful” and “heartened”. Anti-waste activists were portrayed as not only being satisfied that the government was planning future action, but also that they themselves were planning future action. For example, the activists were reported to be planning to meet to “think of ways to engage people in thinking about their waste again.”

Solutions presented underscored agreement that a human crisis deserves priority, but also that solutions don’t need to be interconnected with the environmental crisis. In this article, low-waste storeowners and environmentalists made claims for a re-implementation of a plastics ban, but following paragraphs highlighted their understanding of the inevitability of inaction due to the human health crisis. After highlighting how pre-pandemic, people wanted environmental action on plastics, the subhead then states with finality “That all changed this spring.” This statement implied that protecting the environment is something good to do, but can be re-prioritized. In one instance, evidence regarding the health harms of reusable bags was refuted, but human comfort was still acknowledged as a reasonable factor in regards to the future uptake of reusables. Even an environmental spokesperson acknowledged that people can’t move quickly and may not embrace reusables just yet. The move away from reusables was described as a “retreat” needed because of “widespread fears”. Another subhead in the article asked: “Is the public ready?” Implied in the reporting: if they are not, then we shouldn’t act.

Critical Discourse Moment Five: Second Wave

Critical Discourse Moment Five encompasses articles written in the time period October – December during the start of the second wave of the pandemic. A framing analysis was conducted on 15 articles in this period, with a critical discourse analysis of one exemplar text.

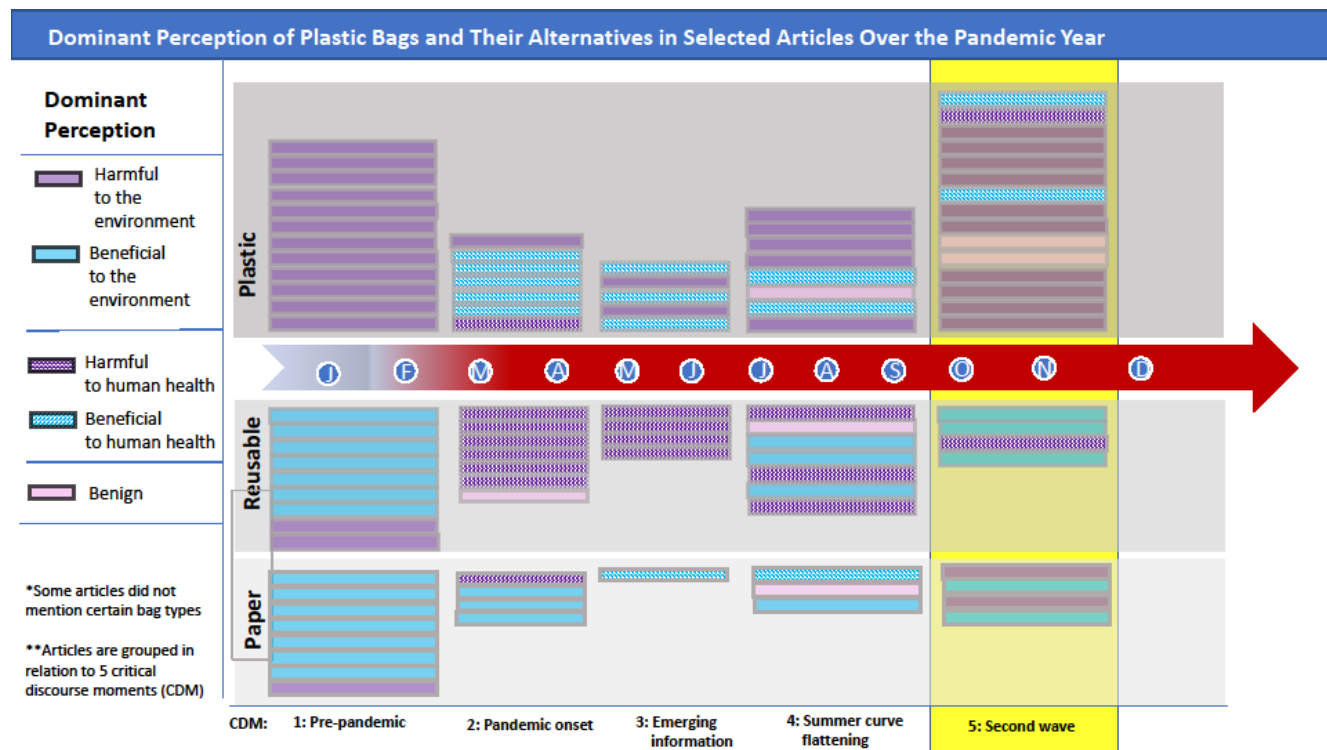
Framing Analysis of Dominant Perceptions and Recommended Actions.

As shown in Figure 11, within a framing analysis of the 15 articles grouped in Critical Discourse Moment Five, all three carryout options were predominantly perceived as harmful or

beneficial in relation to the environment. In a few instances, plastic bags were still being perceived in relation to humans, as a lifesaving material and as necessary for jobs. In one instance, single-use plastic bags were perceived as a harm to human health, with microplastics being raised as a human health concern. Reusable bags were largely perceived as beneficial for the environment, but in one case continued to be portrayed as harmful to human health. Paper bags were portrayed equally as beneficial for the environment due to compostability; but also harmful to the environment because of the energy required to create them. In this time period equal consideration was given to planning to ban plastics, alongside some more urgent calls to ban them more immediately than the government timeframe. The reasons for action in these articles varied, and included reasons such as its bad for the economy to throw away rather than recycle, and microplastics may be harmful to humans, with a main concern that plastics are harmful because they are not recyclable. Those who called for the halting of single-use plastic bans reasoned that the solution was more and better recycling of plastics.

Figure 11:

Dominant Perceptions of Plastic Bags and their Alternatives in Selected Articles Over the Pandemic Year, focusing on CDM Five



Critical Discourse Analysis of an Exemplar Text.

To understand the construction of perceptions and actions in relation to the reporting of single-use plastic bags and their carryout alternatives in CDM Five, I conducted a critical discourse analysis of the article, *Why a plastic bag ban could lead to unintended environmental consequences*¹⁷. This 1182-word article was published October 9, 2020 on the CBC online news website by a CBC political reporter, with files from the Associated Press. In summary, this article presented a fresh angle on the announcement story – reporting on possible detrimental environmental consequences created by the increased use of alternatives to single-use plastics. By analysing the discursive units in this article, several themes in relation to the perception of single-use plastics and portrayals of associated recommended action emerged. A first theme, which was noted in CDM One, was that alternatives to plastics have worse environmental consequences than plastic. For example the article led with a pro-plastics viewpoint: “The federal government’s plan to ban grocery store plastic bags could significantly cut down on plastic trash but also lead to not-so-friendly environmental consequences if people turn to alternatives like paper bags, experts and studies suggest”. Within the word choice in this lead, one finds uncertainty around plastics harm – a ban “could” cut down trash; jargon usage of “not-so-friendly” to reduce seriousness; and the non-specific, hedging phrase “experts and studies suggest” as a way to set up the article’s subsequent pro-plastic claims.

To make the case, the reporting referred to several studies. It first referenced a 2011 paper for the Northern Ireland Assembly that presented the claim it takes four-times more energy to produce a paper bag than a plastic one. To verify the claim, the article linked to a BBC media story about this research paper. It was not noted that this study’s data referred to countries with different resource economies and practices. In addition, clicking on the link revealed that the study was not a research paper (as reported) but a briefing note. Finally, the reporting focused on energy used to produce paper, when the issue with plastics is its recyclability and end life in the environment. Next, the article referenced a study conducted by a school of economics in Australia, which looked at the use of paper and plastic bags in California after a single-use plastics ban. Citing the referenced study, which is not linked, the article noted results that the increased use of paper bags, which weigh more than plastic, increased shipping costs and, therefore, caused greater environmental pollution. In addition, the study’s author is quoted as

¹⁷ Link to article: <https://www.cbc.ca/news/canada/plastic-grocery-bag-ban-environment-1.5755723>

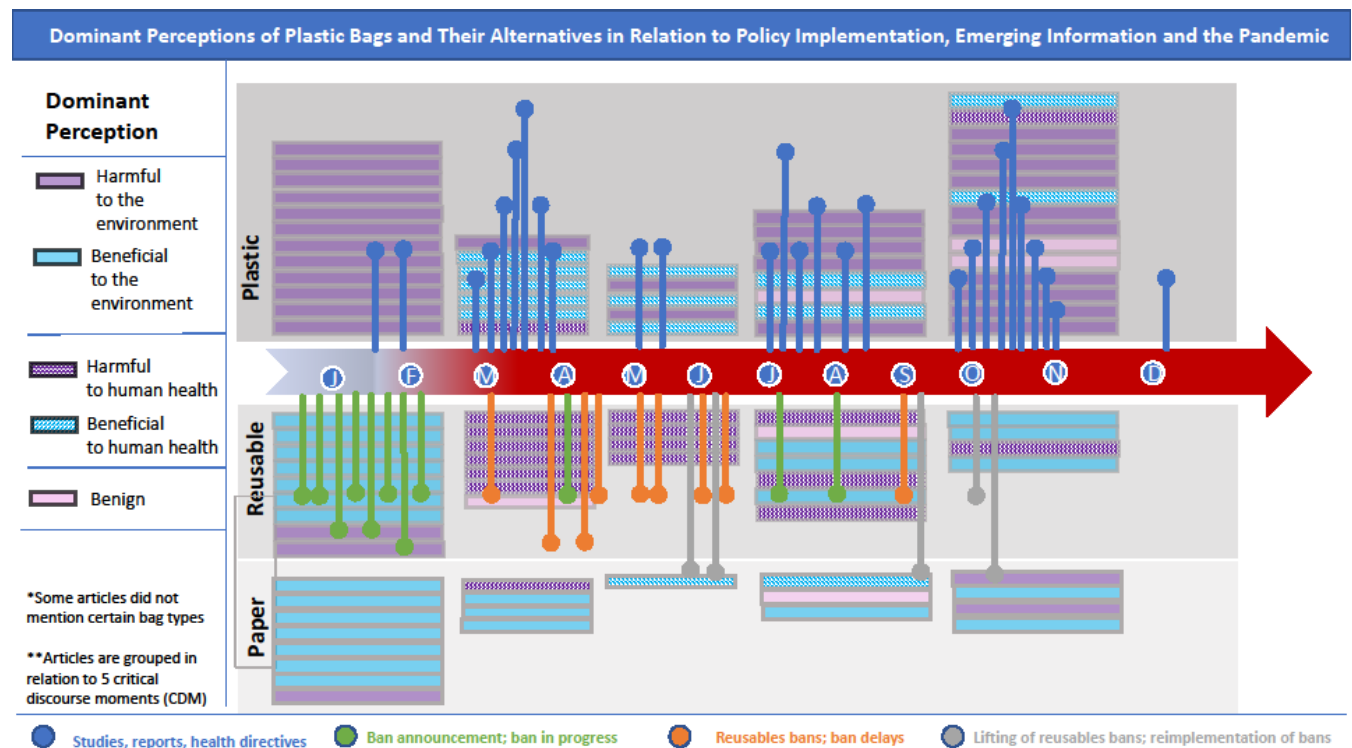
arguing that plastics aren't single-use because they're used to line garbage bags, and that bans led to increased sales of larger plastic garbage bags. While flipping between whether plastics are good or bad due to their single-use or multi-use functions, the article did not include comments on addressing plastic's end-of-life issues. The news article then linked to a 140-page report by Recyc-Quebec, which also showed that heavy paper bags have a worse environmental impact than plastic due to shipping. It is not noted that this report was produced by Polytechnique Montreal's Department of Chemical Engineering. The final two studies referenced in this article, but which are not linked, once again circled back to reusable bag safety, and took up the final seven paragraphs of the story. The first study was reported to back an economic argument that reusable bags are a poor alternative to plastic because they must be used 131 times for their environmental manufacture to have less impact than plastics. Finally, the Williams et al. study (2011), which was referenced in the media at the pandemic onset, was referenced again, returning to the issue of reusables and human health. In the final paragraphs, one of the study's authors used phrases such as "potential bacteria carriers" and "few people wash them" to discredit the bags. He also reintroduced the then-debunked claim that touched surfaces are a virus transmission danger around the store and at the checkout counter: "That's where any kind of public health would kind of amplify, because that's places where everybody touches. People spread out and all come back to one place, the checkout counter." Like the virus itself, the danger of reusable bag contamination sounded like an inescapable hazard. Interestingly, the study was not linked nor evaluated in the article. As a counterpoint, the idea that single-use is a flawed consumer-focused concept briefly appeared in this article. Not as prominently espoused, this concept is sandwiched mid-article, taking up two paragraphs. In addition, this environmental spokesperson's claim was set up in a way that fed into the industry rhetoric, which is looking to place blame on materials other than plastics for pollution. The environmental spokesperson admitted that "everything has unintended consequences."

Emerging Information and Policy Implementation in Relation to Crisis Timelines

The following analysis and findings were derived from the mapping of different moments of policy implementation, emerging information and studies employed during my Critical Discourse Moment selection. They relate to Research Question B: *Did the portrayal of single-use plastics bags and their alternatives change in relation to ban implementations, to emerging scientific or health information or in relation to crisis timelines? If so, how?*

Figure 12:

Dominant Perceptions of Plastic Bags and Their Alternatives in Relation to Policy Implementation, Emerging Information and the Pandemic



Each of the articles in the data set was combed for references to studies, reports and health directives; ban announcements and bans in progress; reusable bag bans and plastic bag ban delays; and the lifting of reusable bag bans and reimplementation of plastics bans. These references were then mapped onto the pandemic timeline (See Figure 12). Through this mapping, I found that in pre-pandemic **Critical Discourse Moment One**, much of the reporting related to the release of the Government of Canada’s Draft Science Assessment Study on Plastic Pollution. During this time period, the reporting also centred on multiple municipal and provincial level bans in various stages of planning and implementation. In **Critical Discourse Moment Two**, the onset of the pandemic, reusable bags bans were implemented by stores. The reporting at this time period also included a plethora of studies regarding human health and the danger of touched surfaces, virus viability, and public health guidelines regarding touched surfaces. During **Critical Discourse Moment Three**, studies emerged regarding the reduced risk of touched surfaces. However, at this time nationwide, provincial and municipal ban delays were being reported, as well as the re-implementation of reusable bag use by two retail outlets. In

Critical Discourse Moment Four, the summer flattening of the curve, one of the analysed articles referenced a letter written by a group of more than 100 physicians supporting the safety of reusable bags, and a letter in the journal, *The Lancet*, reaffirmed touched surfaces were not a concern (Goldman, 2020). In addition, studies about the environmental harms of paper bags surfaced. While not at pre-pandemic levels, two single-use plastics bans in Yukon were reported as implemented during this period. In **Critical Discourse Moment Five**, the second wave, reporting largely centred around the publication of a final version of the Government of Canada Science Assessment Study of Plastic Pollution. This document was open to public comment until mid-December. During this period, a few more single-use plastics bans were re-implemented but not at the pre-pandemic scale seen in Critical Discourse Moment One (see Appendix F for full listing of bans, studies and emerging information).

In relation to the crisis timeline, most of the announcements regarding the planning and implementation of single-use plastics bans occurred pre-pandemic, when the plastics pollution crisis was in a later stage of a four stage crisis lifecycle (see Figure 2). In this final stage, known as Shaping Regulations, Standards and Plans, the opportunity for the changing of perceptions from outside sources is limited (Harrison, 2011, as cited in Mahoney, 2017). From the mapping, it became apparent that the onset of the new pandemic crisis in Critical Discourse Moment Two disrupted the plastics pollution crisis. In stage one of the pandemic, a stage known as Defining the Issue, the opportunity for influencing perceptions increased, thus influencing the shaping of regulations, standards and plans regarding plastics pollution.

Dominant Claims-makers, Discursive Practices and Journalistic Norms

The following findings relate to Research Question C: *How were plastics industry and environmental claims-makers and their claims regarding the perception of carry out bags and recommended actions represented over the course of the year, and what discursive practices and adherence to journalistic norms contributed to this representation?*

Dominant Claims-makers

During the framing analysis, I coded for dominant claims-makers as they related to the dominant perception of single-use plastic bags, reusable bags and paper bags (see Appendix H). I charted all claims-makers, but due to project constraints, my analysis focused on environmental and industry advocates. Industry advocates generally only overtly appeared in media stories regarding perceptions of carryout bag options at times of major policy announcements. For

example, the claim that paper is harmful to the environment was raised overtly in CDM One by industry, but not again over the course of the calendar year. Surprisingly, at the outset of the pandemic, I found that pro-plastic claims and the claim that reusable bags are harmful to human health were not represented by overt industry sources, such as chemical and plastics industry spokespersons. Rather, it was political, retail, health expert, waste management and academic experts who made these dominant claims. Environmental advocates were seldom the dominant claims-makers for or against plastic. For example, environmental advocates appeared once in CDM One as the dominant claims-maker regarding the claims, plastics are harmful and reusable and paper bags are beneficial. The environmental voice was absent from CDM 2 and 3, but resurfaced in one article in CDM 4, and in two articles in CDM 5. It should be noted that over the study period, the claim plastics are harmful, was mostly advanced by political and retail claims-makers, and overall environmental advocates were not as prominent as political and retail claims-makers in any of the time periods.

Discursive Practices and Journalistic Norms

Through the critical discourse analysis of five exemplar texts, I found that certain discursive practices and adherences to journalistic norms influenced the construction and presentation of claims-makers and their claims. First, an adherence to the journalistic value of balance, and representation of several opposing voices, was prevalent in all of the texts. However, while various voices were present, their claims were not given equal placement or equal weight within stories. For example, claims made by environmental voices were often reported as rebuttals to more prominent pro-plastic claims made by industry or by retail owners or shoppers. The journalistic norm of leading a story with a human interest exemplar contributed to this lack of balance. For example, at the onset of the pandemic, at a time when the public relied on the media to provide information to decide how to act, an example article led with directly-quoted, unvalidated, fear-based claims from a shopper regarding reusable bags. This, in turn, shaped a non evidence-based approach to critical public health information about whether or not to use plastic bags. This approach may have also had to do with the journalistic propensity to communicate science through simplistic popularization (Larson, 2011). While striving for balance and hence objectivity, a prevalent use of opinion in the place of fact was noted. Consumers, retail owners and even academic and health experts' opinions outside of their area of

expertise were sourced and directly quoted. These opinions and claims were often left unevaluated.

While online journalism affords a new opportunity to provide additional source material and studies to better inform the public, the linking to outside sources and studies was uneven in most of the exemplar texts. For example, in an article predominantly about an important report conducted by the federal government, the actual study was not linked. In other articles, media stories about studies were linked rather than the studies themselves. Most of the studies were linked without mention of the study's potential biases, as evidenced in an article which relied on several plastics industry-promoted studies without any mention of this fact. In one case, results from a reputable study (van Doremalen et al., 2020) were incorrectly employed to validate claims regarding the hazard presented by reusable bags. This New England Journal of Medicine study of virus viability on various surfaces (van Doremalen et al., 2020) showed that the SARS-CoV-2 virus lasts longer on plastic. Fabric was not studied at all. The safety of reusable bags was, in fact, questioned in another widely-cited industry-associated study (Williams et al., 2011), which recirculated at pandemic outset. While having more to do with the claims made in this article, this Williams et al. study's validity was not evaluated, nor was the study linked. Regarding resources available to conduct online journalism, typos in several of the articles may have been an indication of the speed and/or lack of time or resources available.

Power Struggles and Worldviews

The following findings presentation relates to Research Question D: *What underlying ideologies about humans' relationship with the environment and what ongoing power struggles were present or implied in the media discourse?*

An anthropocentric underlying ideology, viewing humans as separate from nature and humans as above nature, was noted in all of the examined texts. This ideology informed the shaping and reporting of a decreased urgency to act when a crisis was environmental rather than human-related. This worldview also underlay solutions to the human and environmental crises, which were separate and not interconnected. In addition, human-related economic considerations tended to be more reported on than ethical considerations. Regarding power struggles, a need for political advocates to appease industry, and to a lesser extent, citizens, was evident. This appeasement often conflicted with environmental action. Citizen and industry power struggles were evident in the solutions reported, which tended to put the onus of action on the individual.

This emphasis also showed in political policy implementation, which focused on individual action vs. industry action. This struggle underscores an ongoing societal question regarding who really needs to be regulated and who really needs to act to address environmental crises. The analysis also showed the internal power struggle within politicians who appeared to want to act to protect the environment but were influenced by the notion that humans and economic concerns supersede environmental concerns.

Analysis Limitations

Several limitations in my study should be noted. First, both qualitative critical discourse analysis and inductive framing analysis are subjective pursuits. To compensate, I created several visual depictions of my methodology, analysis and findings, and appended article lists and code lists, allowing for replication and verification. As I conducted my analysis, the scope of the project produced limitations on my sample size. A wider sample may have produced better representation of the issue, and potentially more ability to generalize the findings. I compensated for this limitation with a thorough purposive sampling procedure. A two-part analysis led to greater external validity, but this method also opened up many possible avenues of analysis, leading to many and complex findings, which could not all be explored. For example, I narrowed what could have been a more in-depth analysis of the myriad claims-makers present in the texts. A second coder would have increased inter-coder reliability, and would have been especially beneficial to my analysis for several reasons. First, the journalistic goal of achieving balance through the depiction of several viewpoints made the selection of dominant perceptions and related actions subject to interpretation, and at times difficult to ascertain. I compensated for this by conducting several re-evaluations of the texts and my findings. Second, as I have strong opinions about single-use plastic bag consumption, another coder could have also recognized bias in my interpretations of the data. To account for this, I was constantly mindful of “the need to approach the data with an open mind” (Denscombe, 2017). The ongoing nature of the pandemic itself and the still elusive nationwide single-use plastics ban meant that a more natural boundary for this study was not achievable. However, it is my hope that this research could form the basis of a continued study of this communicative phenomenon.

Summary

Pre-pandemic, single-use plastics bags and their carryout alternatives were largely viewed in regards to their relation to their impact on the environment, with plastics

overwhelmingly perceived as harmful, while the alternatives paper and reusable bags were viewed as beneficial. At pandemic onset, this perception shifted so that single-use plastic bags and their alternatives were framed in relation to their impact on human health, with plastics viewed as beneficial and reusable bags as harmful. The perception of plastics as harmful to the environment resurfaced later in the year, but not to the extent seen pre-pandemic. In addition, later in the year, the harms of reusable bags in relation to human health subsided but did not disappear from the mediated conversation, even well after studies showed that touched surfaces were of little concern in relation to COVID-19 virus transmissibility. The findings also demonstrate that the representation of certain claims-makers and their claims through discursive practices, adherence to journalistic norms and underlying worldviews can impact a discourse shift. In the next chapter, I discuss these findings in relation to my literature review, to impacts on environmental policy and action, and additionally, indicate areas for further research.

Chapter 5: Discussion

Introduction

While environmental issues are usually much longer and slower-moving than the typical news story cycle (Hansen, 2019), the pandemic offered a unique opportunity to study a more rapid shift of the representation of an environmental issue in the media. This ability to track a faster-shifting environmental discourse led to the development of my primary research question: *How did the Canadian online news media construct and represent a shifting discourse about single-use plastic bags during the pandemic year, 2020?* In this chapter, I discuss my findings in relation to this research question, my literature review and impacts on current knowledge. It is important to understand not just that a shift occurred, but how it occurred. As such, this discussion includes an examination of my findings in relation to changing problem definitions and solutions, claims-maker influence and the opportunistic uses of shocks to a political system to exact change. The role of discursive practices, journalistic norms and underlying worldviews in the shaping of the reporting is also explored. The chapter concludes with a discussion of areas for future research.

Discussion

According to communications scholar, Robert Entman, the way we frame problem definitions gives rise to how we frame solutions (1993). This assertion aligns with findings from my study, which demonstrated that reported recommended actions changed in relation to the shifting perceptions of the carryout options over the course of the year. For example, pre-pandemic, many single-use plastics bans at multiple government levels were reported in various stages of implementation. At pandemic onset and for months afterwards, at a time when environmental considerations almost entirely slipped from the mediated discussion, ban stoppages and delays were reported. Later in the year, bans began to be re-implemented but were not reported at pre-pandemic levels. In short, the perception of plastic bags and their carryout alternatives fluctuated over the course of the year, with the onset of the pandemic functioning as the main disruption allowing for that shift.

So, how then, did this shift happen? Critical discourse analysis allowed for a deep understanding of what was implied in the text, as well as helped to uncover what was missing. It is not particularly noteworthy that human health concerns became paramount at the onset of the pandemic. What is striking is the proposed solutions which then arose from those concerns. Why

was the main solution to the perceived danger of touched surfaces – across public health messaging, at retail outlets and in the mediated discourse – to promote single-use plastics and to ban reusable bags? Why were solutions tied to plastic bags in particular? Even if reusable bags were more of a sanitary issue than other items from home such as clothing and purses, myriad solutions that did not require the promotion of single-use plastics and the demotion of reusables were available, such as wiping down surfaces and asking people to keep their belongings in their cart.

At a time when decisions to protect human health were being made quickly and without the ability to wait for copious evidence, the uptake of a pro-plastics response appeared coordinated across stakeholders in the public sphere from retail owners to public health official responses. While this study does not aim to prove the assertion that pro-plastics advocates spread messaging across these spheres, this practice has been noted by other scholars (Hale & Song, 2020; Silva et al., 2021). In addition, a Greenpeace research brief (Schlegel, 2020), documented the role industry advocates had influencing the perception of reusable bags in American media at the onset of the pandemic. Of interest, studies promoted by pro-plastics advocates to American media outlets also surfaced in the Canadian media articles that I examined, notably the Williams et al. study (2011). These findings point to a concern raised by scholar Herbert Gans (2005): “Although it takes two to tango, either sources or journalists can lead, but more often than not, sources do the leading.” My study contributes to evidence that claims-makers use crises or existential shocks to a political system to facilitate the construction of new problem definitions and solutions, as argued in *The Shock Doctrine* (Klein, 2008). In my study, this practice appears to have allowed pro-plastics claims-makers to take advantage of the pandemic crisis. In doing so, they attempted to shift the media frame of a plastics pollution crisis towards a public health crisis. After all, pre-pandemic, the plastics pollution crisis appeared to be in a final stage when larger scale policy implementation takes place, and outside stakeholders have less influence on outcomes (Harrison, 2011, as cited in Mahoney, 2017). By being attached to a new crisis, in its developing stages, stakeholders had more ability to influence the defining of problems (and their proposed solutions).

The presence of claims-makers within the mediated discourse is of particular interest. At the onset of the pandemic, a shock allowed for a larger perception shift, and yet, pro-plastics and anti-reusable claims were, for the most part, not overtly presented by industry advocates in the

media articles at this time. A lack of an overt presence in reporting does not equate to a lack of influence, however. In fact, this study aligns with a claim put forward by Hansen (2019), who indicates that corporate influencers often have a low profile and put forward their arguments through a news scenario rather than making themselves overt sources. It should be noted that pro-plastic industry advocates were infrequently quoted over the course of the year, with more presence in articles as overt sources during times of major policy implementation. Reasons for their presence at times of major policy announcements is not entirely clear; it may be due to my study's sample size, to certain rhetorical strategies, or for some other reason. I suggest this is an area requiring more research.

Certain discursive practices and adherences to journalistic norms allowed for the advancement of claims regarding the harms of reusable bags and the benefits of plastics. For example, in my study many of the proposed solutions required action on the part of individuals, which accords with a study which notes that journalists prefer to report on solutions that require individual rather than industry-led action (Hansen & Machin, 2013). My findings also demonstrated that the desire to present a balance of voices did not always lead to best reporting practices, with represented claims-makers not always being the best match for the claim being put forward. For example, shoppers and retail owners advanced scientific claims. In recent years, the norm of balance has been criticized, (Cox, 2018) especially in relation to science-reporting where claims do not have equal validity and are not based on competing opinions. Findings from my study underscore the idea that different journalistic practices are needed when it comes to science-related reporting (Hannigan, 2006). This type of science-based reporting relating to both the pandemic and the plastics pollution crisis calls for a more robust evaluation of claims, not simply a balance of claims. In addition, the journalistic practice of creating story themes around a single scientific study (Nisbet & Scheufele, 2009) aided the potential push of studies to media outlets by claims-makers with an agenda, such as is documented in the Greenpeace research brief (Schlegel, 2020).

While online journalism presents an opportunity to provide audiences with added layers of information and the ability to more easily conduct their own research, this practice is only effective if the linked materials are evaluated and serve to back an article's claims. As seen in my study, the practice of linking to studies in and of itself does not equate to reliability, and as such, findings from my study align with the notion that the use of sources in online journalism is an

area requiring further research (Van Leuven et al., 2018). While studies were linked in articles in order to back claims of the harms of reusable bags, a review of literature indicates that “a preference for use of single-use-plastics over reusable alternatives is actually not sustained by the scientific literature, when considering proper hygiene and sterilisation procedures to eliminate SARS-CoV2 viability” (Silva et al., 2021, p. 6). The online environment coupled with a lack of resources may have also influenced the reporting in my study. For example, none of the exemplar texts were written by a reporter specifically holding an environmental beat. In addition, a need for quick turnarounds due to a lack of resources or due to the nature of immediate deadlines in online reporting were evidenced with the uneven linking of articles, and articles published with several typos. It was also interesting to note that the CBC was able to use CP news content in a way previously unavailable in a purely broadcast environment (as evidenced with the CBC reprinting of a CP article in CDM One), a practice leading to a further narrowing of reporter and media outlet voices.

These findings as related to journalistic practices can serve to inform environmental communicators about the importance and increasing influence of sources provided to the press; and of the influence that counter-claims-makers can have on the media. Second, it reminds journalists of the need to be mindful and evaluative when accepting sources from claims-makers and when linking to said sources. After all, especially in a pandemic, it is critical to ensure that citizens are receiving the information they need to make safe choices. As indicated by Kovach and Rosentiel (2014), what constitutes good journalism remains constant, and it includes the need to be verifiable and to maintain independence from sources. My study also serves to remind citizens that mainstream media may not be the arbiters of reliable, evaluated information as proclaimed; and that quality journalism needs to be properly supported to increase this reliability. The need for reliable media is especially important during an emerging crisis. According to Parmer et al. (2016), by and large the media doesn’t provide people with enough information during a crisis about knowns, unknowns or recommendations for action.

In addition to journalistic practices, how journalists frame an issue is dependent on many factors, including societal norms and values and the journalist’s own ideological orientation (Lindstrom & Marais, 2012). In my study the reporting reflects and constitutes a uniformly anthropocentric worldview, with ideas of humans as separate and superior to nature underlying the mediated messages. One assumes that, as a society, if more of us held ecocentric or

interconnected green consciousness worldviews, such as those espoused by renowned Brazilian Indigenous leader, Alton Krenak (2020), the problem definitions and solutions within this study could have been entirely different. Understanding the power of underlying ideologies is essential as this study allows us to see that the importance we place on certain problem definitions, solutions and subsequent recommended actions, are influenced by the way we think about, and the way we construct our relationship to the environment. An anthropocentric worldview sets up a power struggle between human concerns and environmental concerns, when in fact, these are interconnected concerns and deserve interconnected solutions. Until we see that an existential threat to the environment is a threat to ourselves, anti-environment claims-makers will most likely be able to shift discourses away from environmental concerns by focusing on human concerns as separate or needing extra attention. This pervasive anthropocentric way of thinking can lead to what was evidenced in my findings – in the texts, even environmentalists agreed that we needed to allow actions harmful to the environment – for the sake of humans. A human-centred focus was also iterated in the prevalence of economic-focussed rather than ethically-focussed problem identification and reported solutions. In this respect, my study aligns with the finding from a study completed in the summer of 2020 that concluded: “With public health now being of utmost priority, along with close monitoring of economic and social impacts, the implications of COVID-19 in the environment remains largely undervalued (Silva et al., 2021, p. 2).

In my study, an imbalance of discursive power between claims aligning with environmental advocate views and those aligning with industry advocates was apparent, and included evidence of a power struggle between political policy implementation and the plastics industry’s function as employers, powerful lobbyists and as powerful sources in the mediated landscape. Industry, while not always overtly represented as sources quoted in media, nonetheless, were able to advance their claims and shift larger societal perceptions of carryout materials. Further research of this timeline could uncover whether this shift was ephemeral or long-lasting, and whether any of the human health claims in relation to single-use plastics and reusable bags remain in the larger societal conversation going forward. In my study it appears that, as the year progressed, the shift back to environmental perceptions of carryout bags largely but not completely, returned. However, one can also see continued claims regarding harms to human health posed by reusable bags being advanced. In addition, recommended actions and

related policy implementation have not returned to pre-pandemic levels. Whether having to do with the pandemic timeline or as a deliberate strategy, pro-plastics advocates' counter-claims against plastics alternatives were many and varied, nimbly shifting according to known information and opportunities. This was surprising but effective, and counter to the rhetorical strategy of devising and sticking to one strong argument rather than several. Of course, the pandemic itself, which is ongoing, may impact the results of further study. Past studies have shown that in the case of single-use plastic bags, "industry's discursive efforts have had only partial success in presenting a competing norm (recycling and reuse) in an attempt to prevent municipalities from seeking to promote anti-bag legislation" (Clapp & Swanston, 2009, p. 328). And while perceiving carryout options through the frame of human health appeared effective to industry advocate claims-making in my study, this frame has the potential to be less effective for pro-plastics advocates, and perhaps more effective for environmental communicators going forward, due to emerging evidence about the effects of microplastics on human health. In addition, literature indicates that a successful reframing to enact a shift of a discourse around an environmental issue usually involves moving from seeing a problem only as something that requires individual action, to seeing it as requiring a structural, large scale policy change (O'Neil & Kendall-Taylor, 2018). So far, increased plastic bag use for human health has remained reliant on individual action.

This study does not intend to criticize specific journalists or media outlets, and focuses not on practices that are performed well, but on those that require a more critical evaluation in light of the study's purpose. It is understood that the media was working under added pressures during the emergence of the pandemic, and at breakneck speed to find and incorporate new and changing information. The findings do not uncover any deliberate intentions on the part of journalists to bias towards one claims-maker group over another, or to mislead audiences. While it appears likely that sources promoting a pro-plastic shift in regards to human health were produced and fed to the media, a rival explanation could be that journalists found these sources on their own. In addition, it is only assumed that these particular journalists were increasingly deskbound during the pandemic, and that they felt compelled to find novel stories in relation to the pandemic. A larger study could have allowed for the interviewing of specific journalists, and potentially industry and environmental advocates, increasing the validity of my findings.

It bears repeating, that much of what is now known about virus transmission was unknown at the time of the pandemic onset. During that period, we simply didn't know how transmissible the virus was on touched surfaces; many people were taking measures such as using hand sanitizer after all transactions and washing all foods from the grocery store. Once evidence of decreased risks of touched surfaces found its way into general public knowledge, other behavioural and psychological factors such as hygiene theatre¹⁸ may have contributed to a prolonged increase of single-use plastics consumption. This rival explanation accords with the human desire to mitigate all risk at a time of uncertainty, and the desire to take control of any aspect of an existential threat, no matter how small. That said, I was surprised by my findings which indicated that months after the knowledge about virus transmissibility on surfaces was known, reusables bags were still being framed as harmful to human health.

Summary

As discussed, the findings from my study demonstrate that the online media discourse regarding single-use plastics evolved over the year, with the pandemic serving as an opportune moment for certain claims-makers, notably those that held pro-plastics views, to alter perceptions of single-use bags and their carryout alternatives. My findings align with a previous study regarding the changing perceptions of single-use plastic bags over time, *Doing away with plastic shopping bags: international patterns of norm emergence and policy implementation* (Clapp & Swanston, 2009). That study documented how the plastics industry, from the inception of plastics bags, used its various types of power – economic, lobbying/litigation, and discursive strategies to change the perception of the bags in the minds of consumers. As noted by the authors, this ability to initially shift from viewing plastics bags as a harm to having them seen as a benign modern convenience had “enormous relevance for their ability to influence policy outcomes on this issue at both national and subnational levels” (ibid, p. 316). My study documented single-use plastic bag ban implementations being halted or delayed during the pandemic, with reusable bags being banned from stores at the same time that a perceptions shift occurred. In addition, policy changes and delays persisted even after new information about a decreased danger of touched surfaces was publicized.

¹⁸ Hygiene theatre refers to the conceptual error that people continue with the appearance of action, in this case cleaning, to create a sense of protection, even if the act is known to no longer be evidenced based (Thompson, 2021).

Due to our society's largely anthropocentric worldview, and due to certain journalistic practices, this shift was able to occur more readily. This worldview makes our society as a whole more responsive and ready to act to solve a human-centred crisis than an environmental crisis, and to deal with the crises as separate rather than interconnected entities. However, because the shift to a decreased use of reusables and corresponding increase use of plastics was predicated on the actions of individuals, it appears that while it may have some lingering effect, the shift may not, in the end, be permanent.

Chapter 6: Conclusion

Introduction

As we emerge from the pandemic, many people hope for a renewed and more robust focus on policies and practices that address environmental crises. To actualize, this desire must be followed with action. “While it is undoubtedly true that this disaster can provide a window of opportunity for promoting sustainability transitions in consumption and production—which are desperately needed to prevent other similarly dramatic crises brought on by climate change—this goal can only be achieved with deliberate planning and carefully designed strategic communication in the public sphere” (Bodenheimer & Leidenberger, 2020). To conduct a “green restart”, the Bodenheimer & Leidenberger (2020) study suggests that communications need to make a connection between the covid-19 pandemic and unsustainable behaviours, explain that continuing unsustainable behaviour could cause further crises of a similarly debilitating scale as the COVID-19 pandemic, and employ post crisis communication strategies. In relation to this, my study also gives shape to the idea that a deeper understanding of past communication of environmental issues is essential to understanding how to fortify communications going forward. To conclude this study, I summarize key findings, place these findings in context, and finally discuss the findings in relation to directions for future research.

Findings Summary

Findings from my study indicate that the construction and framing of the perception of single-use plastic bags and related recommended actions regarding their use shifted over the course of the pandemic year, 2020. This shift was abrupt and involved a quick uptake. Pre-pandemic, single-use plastics bags and their carryout alternatives, were largely viewed in regards to their relation to their impact on the environment, with plastics largely perceived as harmful. At pandemic onset, this perception shifted so that single-use plastic bags and their alternatives were perceived in relation to their impact on human health. And, while the pandemic onset was an obvious time to focus on human health, it was not a given that solutions at retail stores needed to be pro single-use plastic and anti-reusables. Reported recommended actions changed in relation to the shifting perceptions of the carryout options over the course of the year. Pre-pandemic, all kinds of single-use plastics bans were reported in various stages of implementation. At pandemic onset and for months afterwards, ban stoppages and delays were reported. Later in the year, bans

began to be re-implemented but were not reported at pre-pandemic levels. To date, the nationwide single-use plastics ban still has no confirmed implementation date. Associated key findings from this study include that the overlapping of a human-related crisis onto an environmental crisis has a profound impact, including that claims-makers can take advantage of this shock to detach the issue from an environmental crisis, and re-attach it to a human health crisis and thereby redefine problems and solutions. This appeared to then allow for a shift in discourse about policy implementation. It appears that the linking of sources and studies give online journalists the ability to provide more information to readers and to back up claims. However, if this linkage is not accompanied by the time, resources and inclination to evaluate the source material, then it affords source contributors the ability to lead article construction. It is interesting to note that pro-plastics claims-makers didn't need to be overtly quoted in stories around the onset of the pandemic, but that these claims were advanced through linked studies as well as through other claims-makers such as retail owners. Finally, the idea that shifts related to larger policy change are more enduring than shifts in discourse that advocate for individual action is reflected in my study.

On a broader scale, underlying anthropocentric worldviews are apparent in the construction of the media articles, evidenced by the quick shift from environmental to human-related concerns, and the accompanying greater magnitude of urgency for action. It is also evident in the power struggle and political will to move quickly on human-related issues vs. environmental concerns. The shift to perceiving single-use plastics in relation to human health may in future assist environmental communicators if the linkage of microplastics and human health concerns gains more evidence. Environmental communicators should approach this with caution and be mindful, however, of operating within a frame set by pro-plastic advocates and within an anthropocentric worldview, as was often the case in this study. Environmental advocates' claims were minimized in the studied articles, as for the most part they acted as counter-claims-makers with less space devoted to an expansion or verification of their claims.

Findings in Context

Emerging studies show that increased plastics use as a result of the pandemic will be a long-term global issue, and will be a subject that requires continued scrutiny. As Silva et al. (2021) point out, "it is imperative to re-think the undertaken measures during COVID-19 to minimise the negative consequences in a future outbreak scenario" (p.5). The authors of this key

study indicate that a different approach going forward will require promoting sustainable behaviours through better communication, and ultimately improving communication by decision-makers to the public, and through better science communication to citizens. In addition, they advise that “raising awareness over plastic waste and contamination should not be interrupted nor reversed, as it required long-term efforts to result in behavioural changes, which may be lost due to disruption or contradictory information” (Silva et al., 2021, p.5). A key component to guarding against a future interruption or reversal regarding single-use plastics also includes fortifying the mediated discourse so that it promotes environmental concerns, even in times of human-related crises.

My study was limited in scope and limited by an artificial boundary due to the ongoing nature of the pandemic, and the as-yet-to-be-announced nationwide ban on single-use plastics. It is my hope that this study could serve as a starting point for a larger study on the issue, and in that way contribute to the larger concern of creating more effective and durable communication of environmental concerns in the news media. Specific areas for future research include examining the use of scientific sources and studies in online journalism. A semantic network approach to a framing study could also allow for the examination of text provided by industry claims-makers to political, retail, media and other related stakeholders. It is critical to more thoroughly examine how an apparent coordinated approach to the reframing of particular solutions that promoted plastics and demoted reusables could so readily take place.

Future Direction

As the pandemic continues, and with the plastics pollution crisis far from resolved, the focus of this study will require more research. For example, a future study could extend this study’s timeline, or an examination could be broadened to encompass the 2020 shifting and demotion of other related environment discourses. For example, through the study of publication rates of scientific articles during the pandemic, authors Silva et al. (2021) noted a drop in articles related to environmental concerns as compared to those related to human health, concluding that the disruption of environmental issues by human-related concerns was not an isolated event. As such, the apparent fragility of environmental discourses could be addressed through many angles, and taken together could provide a broader picture on how to move forward on communicating more urgent action, and to finding better, more interconnected solutions.

Summary

A renewed demand that environmental crises receive equal attention and action as other crises and human-centred concerns will involve many shifts in thinking, behaviours and actions. For example, shifts that need to occur include a rethinking of consumerism and of our single-use culture, addressing the proliferation of misinformation regarding science and the environment, building a more robust and better-resourced journalism model, and continuing to search for better ways to communicate environmental topics, which due to their longer-lasting nature tend not to fit readily into news cycles. Because even once the pandemic is long over, the planet will still be in crisis. In the future, environmental communicators will need to effectively face powerful counter-claims-makers, work on new platforms, and undoubtedly respond to other human-related crises in order to save the natural environment— which includes and is not separate from us – from ongoing planetary threats such as plastics pollution.

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Appendix A: Sample Signage at Halifax Superstore

There are concerns around just how clean those bags are



[Yvonne Colbert](#) · CBC News · Posted: Apr 02, 2020 1:17 PM AT | Last Updated: April 2



A sign posted in the Atlantic Superstore on Barrington Street in Halifax on March 31 says the store is only using plastic bags. (Carsten Knox/CBC)

(Knox, 2020).

Appendix B: BC Ministry of Health Information Bulletin

Guidance to retail food and grocery stores operating during COVID-19

Updated on March 30, 2020

Information Bulletin

Victoria

Sunday, March 29, 2020 1:45 PM

As the challenges caused by the COVID-19 outbreak continue to shift, the B.C. government and Dr. Bonnie Henry, provincial health officer (PHO), are taking unprecedented measures to slow the transmission of COVID-19, including in the retail food and grocery store sector.

Recently, Henry issued an order under the Public Health Act prohibiting the gathering of people in excess of 50 people at a place of which a person is the owner, occupier or operator, or for which they are otherwise responsible. Employers in the retail food and grocery store sector are asking for clarity about what this means for them.

Retail food and grocery stores play an essential service in every community by ensuring safe and reliable access to food, supplies and other provisions.

Many retail food and grocery store owners have asked whether or not the PHO's order prohibiting mass gatherings of 50 or more people applies to them. While this order does not directly apply to the retail food and grocery industry, the spirit of the order should be followed. This means that, for example, in large grocery stores where it is feasible to have more than 50 people present at one time, it is permissible to do so provided that appropriate physical distancing can be maintained.

A link to specific guidance is available in the Learn More section. Key considerations include:

- enhancing the premise's sanitation plan and schedule, and ensuring staff are practising proper hygiene. This includes frequent hand washing, only coughing or sneezing into an elbow, and avoiding touching one's face;
- placing hand sanitizer with a minimum of 60% ethyl alcohol in dispensers near doors, pay stations and other high-touch locations for customer and staff use;
- ensuring washrooms are always well stocked with liquid soap and paper towels, and that warm running water is available;
- **providing clean carry-out bags for purchased food and grocery products; customers should not use their own containers, reusable bags or boxes;**
- **posting signs at each check-out indicating that no customer packaging is to be used or placed on check-out counters;**
- ensuring cones or tape markers are in place every two metres to provide customers with visible queues that support physical distancing;
- using physical queue-line controls, such as crowd control cordons at entrances and in check-out lines outside the stores;
- do not sell bulk items, except via gravity feed bins or where staff dispense the bulk items;
- self-isolation can end 14 days after the last contact or return to Canada if you have not developed symptoms; and

TO BAG THE BAN

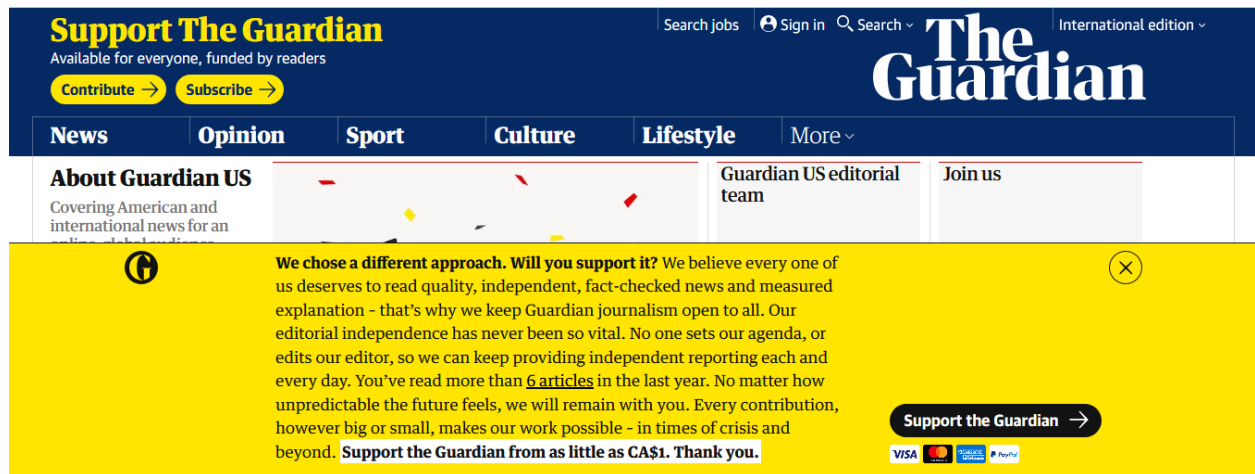
- with or without a history of travel, if you have respiratory symptoms that can be managed at home, **self-isolate at home for at least 10 days after onset of symptoms.** After 10 days, if your temperature is normal and you feel better, you can return to your routine activities.
 - Coughing may persist for several weeks, so a cough alone does not mean you need to continue to self-isolate for more than 10 days.

Employers should reassess their work environment every day and keep updated with the information posted on the Province's website: www.gov.bc.ca/COVID19

The B.C. government is doing everything it can to help contain the spread of COVID-19. The safety of British Columbians remains its top priority.

(BC Ministry of Health, 2020).

Appendix C: The Guardian as a Source of Fact-Checked News



(Guardian, 2020).

Appendix D: Globe and Mail Ad: Trust André Picard

joined other invited guests. His vice-presidential running mate, Senator Kamala Harris said that "RBG," as she is known by many, cleared a path for women like her.

let Mr. Trump announce her. His third justice, if confirmed, would be sure to move the court rightward on health care, abortion and other pivotal issues. A

one and Senate Democratic Leader Chuck Schumer stood under grey skies as Mr. Ginsburg's casket made the short procession from the court's steps where it had been on public view for sev-

A military honour guard, Mr. Ginsburg's casket inside Election-season political ripples through the conversations this week. Notices sent after being invited.

"Journalism gives people the information they need to make smart choices—and as someone who covers public health, I feel strongly that's something that can make a real difference."

Amidst the COVID-19 pandemic, André Picard is steadfast in his dedication to keeping Canadians informed with reliable, up-to-date coverage. A 33-year veteran at The Globe, he has a wealth of invaluable experience that drives his journalism. He was named Canada's first "Public Health Hero" by the Canadian Public Health Association and he's an eight-time National Newspaper Awards finalist. André's reporting on Canada's tainted blood saga with The Globe, won the Michener Award for Meritorious Public Service Journalism, a years-long effort that resulted in more than \$3 billion in compensation for victims.

At a time when healthcare journalism is more important than ever, you can trust André to provide you with accurate reporting that helps keep Canadians healthy, safe and informed.

Find André's column and reporting at [tgam.ca/Picard](https://www.theglobeandmail.com/picard)

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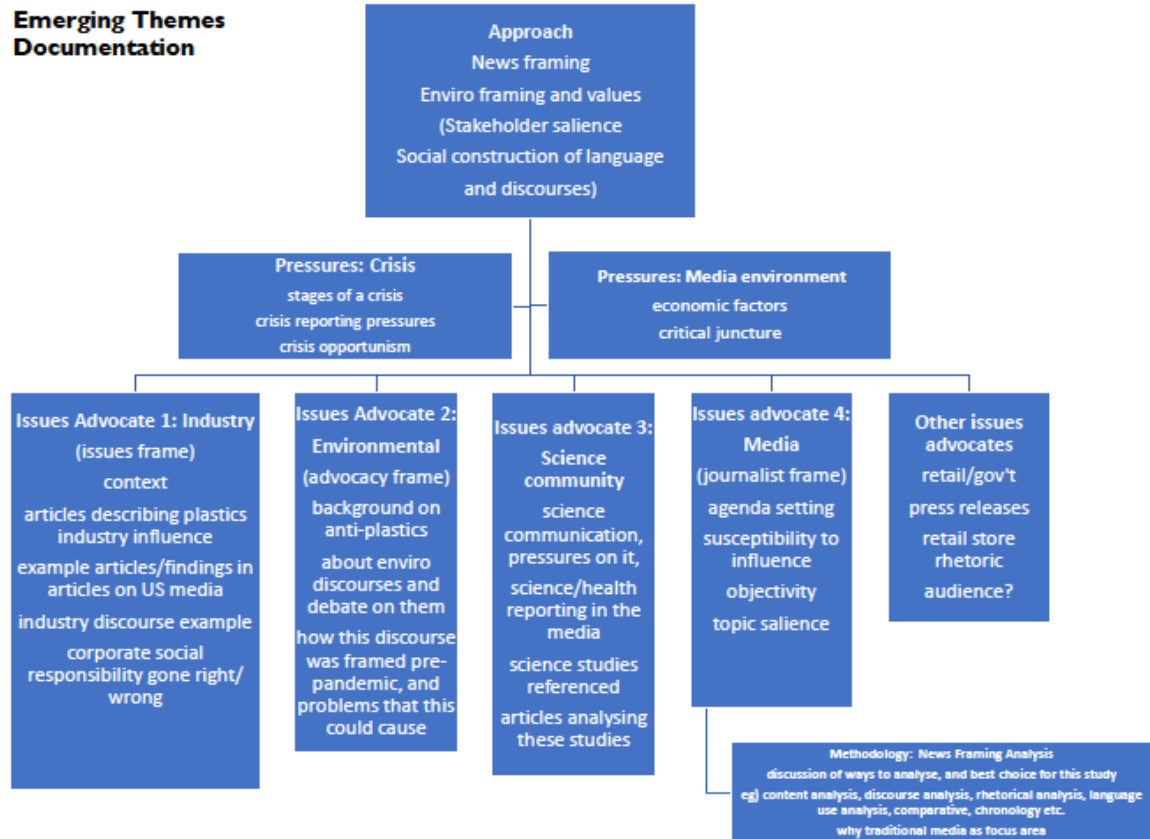
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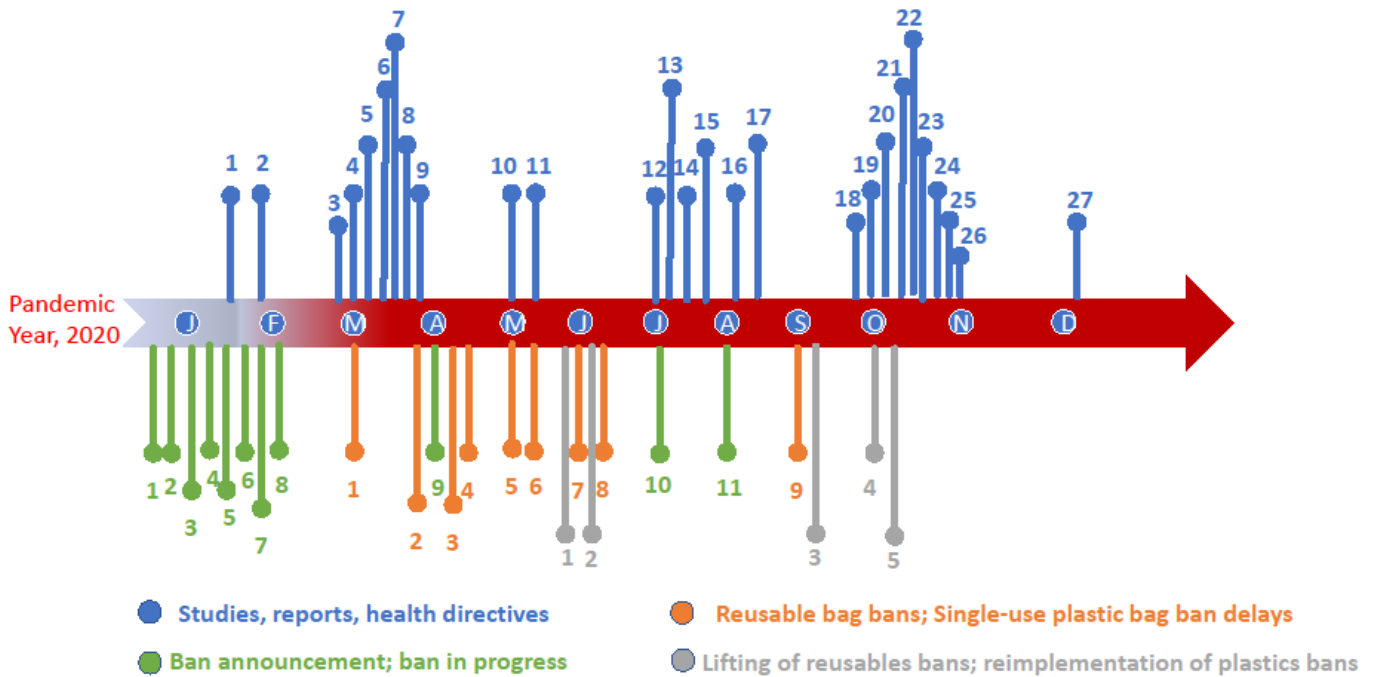
(Globe and Mail, 2020).

Appendix E: Emerging Themes for Literature Review



Appendix F: Listing of Studies, Reports, Health Directives, Ban Announcements, Delays and Re-implementations

Single-use Plastics Information Pulled from Sample Data Set



TO BAG THE BAN

Studies, Reports, Health Directives

1. Gov't of Canada (2020). Draft Science Assessment Study on Plastic Pollution
2. Department of Fisheries and Oceans (2020). Plastics in Province of NL Report
3. van Doremalen, N., Bushmaker, T., Morris, D. H., Holbrook, M. G., Gamble, A., Williamson, B. N., Tamin, A., Harcourt, J. L., Thornburg, N. J., Gerber, S. I., Lloyd-Smith, J. O., de Wit, E., & Munster, V. J. (2020). Aerosol and surface stability of SARS-CoV-2 as compared with SARS-CoV-1. *The New England Journal of Medicine*
4. Moriarty L. et al. (2020). Public Health Responses to COVID-19 Outbreaks on Cruise Ships - Worldwide, February-March 2020. *MMWR Morb Mortal Wkly Rep.* 2020 Mar 27; 69(12), 347-352. doi: 10.15585/mmwr.mm6912e3.
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6. References to Public Health Agency of Canada and US Center of Disease Control, recommending cleaning surfaces; avoiding touching surfaces
7. Yamagishi, T., Kamiya, H., Kakimoto, K., Suzuki, M. & Wakita, T. (2020). Descriptive study of COVID-19 outbreak among passengers and crew on Diamond Princess cruise ship, Japan, 20 January to 9 February 2020. *Eurosurveillance*
8. World Health Organization. (2020). Modes of transmission of virus causing COVID-19: implications for IPC precaution recommendations: scientific brief, 29 March 2020. <https://apps.who.int/iris/handle/10665/331616>
9. Reference to BC Ministry of Health and Canadian Centre for Disease Control guidelines for avoiding touched surfaces
10. Gov't of Canada Draft Science Assessment Study on Plastic Pollution comments collection delayed
11. Updated Canadian Centre for Disease Control guidelines, which reduces concerns about touched surfaces and virus transmission
12. Dr. Beth Mason, CEO of the Verschuren Centre at Cape Breton University study team on virus-killing plastic packaging
13. Goldman, E. (July 3, 2020). Exaggerated risk of transmission of COVID-19 by fomites. *The Lancet*.
14. Lau, W. et al. (2020) Evaluating scenarios toward zero plastic pollution. *Science*. 369(6510), p. 1455-1461.
15. Reference to public letter from more than 100 scientists and medical professionals saying reusables are safe
16. World Health Organization (2020) Transmission of SARS-CoV-2: implications for infection prevention precautions
17. Center for International Environmental Law, Impact of plastic production on world
18. Reference to Gov't of Canada (2020). Draft Science Assessment Study on Plastic Pollution
19. Gov't of Canada discussion paper, Proposed integrated management approach to plastic products to prevent waste and pollution. <https://www.canada.ca/en/environment-climate-change/services/canadian-environmental-protection-act-registry/plastics-proposed-integrated-management-approach.html>
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21. RecycQuebec (2017). Environmental and Economic Highlights of the Results of the Life Cycle Assessment of Shopping Bags. https://www.bagtheban.com/wp-content/uploads/2019/02/Quebec_ENGLISH-LCA-Full-Report.pdf
22. Reference to University of Sydney School of Economics study on plastics ban in California
23. Reference to a British study showing cotton totes have to be used 131 times before better for environment than plastic bag
24. Williams, D., Gerba, C. P., Maxwell, S., & Sinclair, R. (2011). Assessment of the potential for cross-contamination of food products by reusable shopping bags. *Food Protection Trends*, 31(8), 508-513.
25. Lebreton, L. et al. (2018). Evidence that the great Pacific garbage patch is rapidly accumulating plastic. *Scientific Reports*. 8, 4666. <https://doi.org/10.1038/s41598-018-22939-w>
26. Reference to CUSMA trade agreement
27. Gov't of Canada: Draft Science Assessment Study on Plastic Pollution comments close

Ban announcement; ban in progress

1. Municipal bans in progress: Chilliwack, Colwood, Port Moody, Richmond, Rossland, Esquimalt, North Van, Saanich, Sooke, Kamloops, Nanaimo
2. BC province-wide ban announcement, stemming from CleanBC Plastics Action Plan
3. Sobeys' grocery chain announcement: ban on offering plastic carry out bags
4. Plastics bans reported in place: Most NB retail outlets, such as the NB Liquor Distribution Board outlets
5. Fort Frances, ON municipal ban prohibits stores from giving out plastic bags
6. Prince Albert SK announcement of impending plastics ban
7. Announcement of impending nationwide single-use plastics ban
8. Victoria, BC ban set for Jan 1 2021; Surrey impending announcement even though prov. ban coming
9. Dawson City, YK ban announcement
10. NL province-wide ban implementation date announcement for July 1/20
11. Ontario's single use plastics ban passes first reading

Reusables bans; single-use plastics ban delays

1. Tim Hortons bans reusables
2. Save-On-Foods grocery chain bans reusables
3. PEI drops fees for single use bags at stores
4. NL and Labrador single-use plastics ban delay
5. Moncton, Dieppe, Riverview NB delay pl bag ban from July 1 to Oct 1
6. Nationwide ban is delayed
7. Regina SK announces ban, but implementation delayed until after pandemic
8. London Drugs, Save on foods ban of reusable bags continues
9. NS delays provincewide ban set to start in Oct 2020

Lifting of reusables bans; reimplementing of bans

1. BC Liquor Distribution Board lifts ban on reusable bags
2. BC Ministry of Health provincial guidelines advising against reusables is lifted
3. Moncton, Dieppe, Riverview ban reimplemented after delay
4. NS to reimplement ban on Oct 31st 2020
5. Reannouncement of impending nationwide single-use plastics ban

Appendix G: Complete List of Articles Used for Critical Discourse and Framing Analysis

CDM And article #	PUB	DATE	HEADLINE
1	cbc/c p	Jan 30	Single-use plastic ban coming in 2021 after report concludes there is evidence of harm
2	cbc	Apr 2	Should you use a reusable shopping bag? Government, stores have different answers
3	cp	May 23	Plastics bans, environmental monitoring gets short shrift during pandemic
4	cbc	Aug 15	The fight against single-use plastics has been sidelined by COVID-19 – but activists aren't giving up
5	cbc	Oct 9	Why a plastic bag ban could lead to unintended environmental consequences

FRAMING ARTICLES			
#	PUB	DATE	HEADLINE
1	cbc	Jan 4	Plastics offensive: Several BC municipalities eager for bag bans as province conducts review
2	cbc	Jan 10	Sobeys urges customers to think reusable as bag ban approaches
3	cbc	Jan 15	Fort Frances, Ont. Moves to ban single use plastics
4	cp	Jan 28	City council in Prince Albert, Sask., votes to give plastic bags the boot
5	cbc	Jan 29	Retail plastic bags will be banned in NL starting July 1
6	cbc	Jan 30	Should Quebec ban all plastic bags? The Retail Council of Canada thinks so
7	cbc	Jan 30	Sobey's removing plastic bags from its stores on Friday
8	cp	Jan 30	Sobey's to eliminate plastic bags, but 'Sobeys bag' lives on in Atlantic Canada
9	cp	Jan 31	Plastics ban can't be instant, restaurants warn Ottawa
10	cbc	Feb 1	Banning the bag a great step, but it's a speck of NL's plastic pollution, says researcher
11	cbc	Feb 26	Province isn't moving quickly enough, so Surrey plans its own plastic bag ban
12	cbc	Mar 25	The riskiest surfaces for coronavirus and how to clean them

TO BAG THE BAN

13	cbc	Mar 25	How to safely shop for groceries in a global pandemic
14	cbc	Mar 29	No reusable bags, says BC Health officials
15	cbc	Apr 13	Early signs of decrease in garbage, despite increase in COVID-19 protective measures
16	cbc	Apr 16	Paper or plastic? Grocery stores have different pandemic approaches
17	cbc	Apr 26	Bye-bye single-use plastics: new bylaw in effect in Dawson City
18	cbc	May 12	Moncton-area municipalities delay single-use plastic bag bylaw restrictions
19	cp	May 19	Canada's new climate targets, plastics ban likely to be delayed due to pandemic
20	cbc	May 29	Regina has voted out plastic bags but COVID-19 is delaying their demise
21	cbc	June 14	Reusable bags slowly return to BC stores as plastic ones used during pandemic pile up
22	cbc	July 2	Single-use plastic bags all but disappear from PEI's waste system in 1 st year of ban
23	cbc	July 10	Cape Breton researchers working on virus-killing plastic packaging
24	cbc	July 11	Why it may be harder to catch COVID-19 from surfaces than we first thought
25	cbc	July 22	Plastic-free amid a pandemic? It might not be possible, but it's worth a try
26	cbc	July 24	Strong efforts to reduce plastic could still leave 710 million tons in the environment by 2040, study suggests
27	cp	Aug 17	Simple substitutions for single use plastic
28	cbc	Sept 18	Province could push ban on single-use plastic bags past October deadline
29	cbc	Sept 28	Shoppers, retailers ready for new plastic bag bylaw in Moncton, Dieppe, Riverview
30	cbc	Oct 6	Yukon moves to ban single-use bags
31	cbc	Oct 7	Liberals' 2021 single-use plastic ban includes grocery bags, takeout containers
32	cbc	Oct 7	Ottawa to unveil list of single-use plastics to be banned next year
33	cbc	Oct 7	Ban on single-use plastic won't trash Alberta's recycling hub plans, Ottawa insists
34	cp	Oct 7	Plastics industry says its products are not 'toxic', urges gov't to rethink label
35	cbc	Oct 9	How will NL comply with the 2021 single-use plastic ban? Look to Gros Morne for guidance
36	cbc	Oct 9	Canada's single-use plastics ban 'long overdue' but more is needed to keep oceans clean, expert says

TO BAG THE BAN

37	cp	Oct 10	Unilateral ban on single-use plastics ignores spirit of USMCA, experts say
38	cbc	Oct 13	Proposed plastics ban a boon for forest products sector, researcher says
39	cbc	Oct 13	How to prepare for the proposed 2021 single-use plastic ban
40	cp	Oct 19	'Toxic' label will spur research into impact of plastics on human health, experts say
41	cp	Oct 20	Single-use plastic items to be banned in Canada
42	cbc	Oct 30	Nova Scotia's plastic bag ban starts today. Here's what you should know
43	cp	Nov 6	US Companies threaten to use CUSMA to fight Canada's plastics ban

Appendix H: Dominant Claims-maker and Dominant Claim (Perception) in Articles Grouped by Carryout Bag Type and Critical Discourse Moment

Plastic Bags	Critical Discourse Moment One: 12 Articles	Dominant Claims-maker	Number of Articles	Predominant Claim (Perception)
		Political	6	Plastic is harmful
		Retail	4	Plastic is harmful
		Business	1	Plastic is harmful
		Academic expert (enviro)	1	Plastic is harmful

Plastic Bags	Critical Discourse Moment Two: 7 Articles	Dominant Claims-maker	Number of Articles	Predominant Claim
		Political	1	Plastic is harmful
		Health Expert	1	Plastic is harmful
		Health Expert	3	Plastic is beneficial
		Retail	1	Plastic is beneficial
		Waste Management	1	Plastic is beneficial

Plastic	Critical Discourse Moment Three:	Dominant Claims-maker	Number of Articles	Predominant Claim
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TO BAG THE BAN

	5 Articles	Political	2	Plastic is beneficial
		Political	2	Plastic is harmful
		Retail	1	Plastic is beneficial

Plastic Bags	Critical Discourse Moment Four: 8 Articles (*1 no overt plastics mention)	Dominant Claims- maker	Number of Articles	Predominant Claim
		Political	1	Plastic is harmful
		Academic Expert (enviro)	1	Plastic is beneficial
		Academic Expert	1	Plastic is benign
		Academic Expert (enviro)	1	Plastic is harmful
		Retail	1	Plastic is beneficial
		Retail	2	Plastic is harmful
		Waste Management	1	Plastic is harmful

Plastic Bags	Critical Discourse Moment Five: 15 articles	Dominant Claims- maker	Number of Articles	Predominant Claim
		Political	5	Plastic is harmful
		Plastics Industry	1	Plastic is benign
		Plastics industry	2	Plastic is beneficial
		Academic Expert	1	Plastic is benign

TO BAG THE BAN

		Academic Expert (enviro/ecology)	1	Plastic is harmful
		Environmental Expert	1	Plastic is harmful
		Business	1	Plastic is harmful
		Non-profit research (forestry)	1	Plastic is harmful
		Waste Management	2	Plastic is harmful

Reusable Bags

Reusable Bags	Critical Discourse Moment One: 9 Articles	Dominant Claims-maker	Number of Articles	Predominant Claim
		Plastics Industry	2	Reusables are harmful
		Retail	5	Reusables are beneficial
		Academic expert (enviro)	1	Reusables are beneficial
		Consumer	1	Reusables are beneficial

Reusable Bags	Critical Discourse Moment Two: 7 Articles	Dominant Claims-maker	Number of Articles	Predominant Claim
		Academic expert	1	Reusables are harmful
		Health expert	2	Reusables are harmful
		Consumer	1	Reusables are harmful

TO BAG THE BAN

		Waste Management expert	1	Reusables are harmful
		Retail	1	Reusables are harmful
		Health expert	1	Benign

Reusable Bags	Critical Discourse Moment Three: Articles	Dominant Claims-maker	Number of Articles	Predominant Claim
		Political	1	Reusables are harmful
		Plastics Industry	1	Reusables are harmful
		Retail	2	Reusables are harmful

Reusable Bags	Critical Discourse Moment Four: 7 Articles	Dominant Claims-maker	Number of Articles	Predominant Claim
		Health expert	1	Reusables are beneficial
		Retail	2	Reusables are harmful
		Academic expert	1	Benign
		Political	1	Reusables are beneficial
		Political	1	Reusables are harmful

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		Consumer	1	Reusables are beneficial
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Reusable Bags	Critical Discourse Moment Five: 4 Articles	Dominant Claims-maker	Number of Articles	Predominant Claim
		Political	2	Reusables are beneficial
		Retail		Plastic is harmful
		Waste management	1	Reusables are beneficial
		Academic expert	1	Reusables are harmful

Paper Bags

Paper Bags	Critical Discourse Moment One: 8 Articles	Dominant Claims-maker	Number of Articles	Predominant Claim
		Plastics industry	1	Paper is harmful
		Retail	5	Paper is beneficial
		Shopper	1	Paper is beneficial
		Academic expert (enviro)	1	Paper is beneficial

Paper Bags	Critical Discourse Moment Two: 4 Articles	Dominant Claims-maker	Number of Articles	Predominant Claim
		Retail	1	Paper is beneficial

TO BAG THE BAN

		Health expert	2	Paper is beneficial
		Academic expert	1	Paper is harmful

Paper Bags	Critical Discourse Moment Three: 1 Article	Dominant Claims-maker	Number of Articles	Predominant Claim
		Political	1	Paper is beneficial

Paper Bags	Critical Discourse Moment Four: 3 Articles	Dominant Claims-maker	Number of Articles	Predominant Claim
		Waste management	1	Paper is beneficial
		Political	1	Paper is beneficial
		Academic expert	1	Paper is benign

Paper Bags	Critical Discourse Moment Five: 4 Articles	Dominant Claims-maker	Number of Articles	Predominant Claim
		Political	1	Paper is harmful
		Political	1	Paper is beneficial
		Non-profit research (forestry)	1	Paper is beneficial
		Academic expert	1	Paper is harmful

Appendix I: Framing Coding Table

CODES		
Material	Dominant Perception	Dominant Recommended Action
Plastic Bags	Harmful to the environment	Use them
Reusable Bags	Beneficial to the environment	Plan to ban
Paper Bags	Harmful to human health	Stop accepting them now
	Beneficial to human health	Ban them now
	Benign	Delay an existing plan to ban
		Stop an existing ban
		Reinstate ban
		Reinstate plan to ban
		Stop charging fee for their use
		Start charging fee for their use