

A Computer-Based Text Analysis of Al Jazeera, BBC, and CNN News Shares on Facebook: Framing Analysis on Covid-19 Issues

SAGE Open
January-March 2022: 1–13
© The Author(s) 2022
DOI: 10.1177/21582440211068497
journals.sagepub.com/home/sgo


Aftab Hossain^{1,2} , Juliana Abdul Wahab²,
and Md. Saidur Rahman Khan¹

Abstract

This study is a comparative text analysis of Al Jazeera English, BBC News, and CNN on the Coronavirus pandemic. Only the text-based news from April 13 to April 20, 2020, were collected from the official Facebook pages of the respective news organizations. Based on the framing theory, the computer-based text analysis using MAXQDA software was used to conduct the research. The study found how these internationally recognized media outlets frame their news using word frequency, the combination of multiple words, and semantic relationships among the news published on their Facebook pages. A total of 105 news were selected out of 185 and 89,465 words were analyzed to observe how they framed the Novel Coronavirus crisis. Six individual frames were found and the results revealed four similarities and two differences among the frames. The similarities and differences were discussed based on different approaches to framing including proximity and political agendas.

Keywords

communication studies, communication, social sciences, new media, communication technologies, mass communication, media ethics, media and society, global communication, journalism

Introduction

The pandemic Novel Coronavirus known as the Severe Acute Respiratory Syndrome (SARS)-Cov-2 also known as Covid-19 had its global breakthrough in January 2020 after it was identified in a wet market in Wuhan, China in December 2019 (Liu et al., 2020; Xiang et al., 2020). After the breakout, different governments tried to reduce the infection mostly with strict movement control or lockdown. Covid-19 had a great impact on society, nature, and governance (Cyranoski, 2020; Yao, 2021). Every country had a significant impact on this worldwide virus attack. The most affected nations are still the United States of America, Italy, Spain, the United Kingdom, France, Germany, China, Turkey, India, Indonesia, and many more.

Not only the public health and medical system, but the world economy is also facing a greater challenge (Jones et al., 2021; The Economist, 2020). People from dynamic work backgrounds are suffering from lower-wage payments and job insecurity (Deutsche Welle, 2020) while Binder (2020) thinks that the economic encounter due to Coronavirus is creating a certain fear in the macroeconomics. Transportation sectors in global and regional perspectives are in their lowest-income state.

Given the global natural health crisis, the global media's role in framing the crisis becomes an important issue now (Ong'ong'a & Mutua, 2020; Ophir, 2019). During this timeline, people are following news updates regularly from online sources. According to Ong'ong'a and Mutua (2020) protuberant news sources like Al Jazeera, BBC and CNN are highly followed news sources and maintain their social media platforms with high accuracy. They have been updating news concerning Covid-19 regularly. News organizations hurried in to cover the disease spread, focusing on various facets of the pandemic. At this point, news framing was crucial not only in molding public discourse about the pandemic but also in communicating disease outbreak management strategies.

If we take a look at their Facebook page, they have been updating their pages on a regular note from their online

¹Daffodil International University, Dhaka, Bangladesh

²Universiti Sains Malaysia, Pulau Pinang, Malaysia

Corresponding Author:

Aftab Hossain, Department of Journalism and Mass Communication,
Daffodil International University, 102 Shukrabad, Dhaka 1207, Bangladesh.
Emails: aftab.hossain@gmail.com; aftab.jmc@diu.edu.bd



domains. This study focuses on the Facebook pages of these renowned news source platforms that they have published and shared Covid-19 news. The importance of the framing issues not only connects the impact of Covid-19, but the indirect impact also lies in global media positioning (Rana et al., 2020). Though, the global media coverage and representation of this fatal disease emergence and transmission is likely to differ by region. It is, therefore; important to investigate these variations to decide if cultural and proximity variations played a role in how the outbreak was portrayed in the media of respective countries and regions (Crabu et al., 2021; Xi et al., 2021). For instance, the cultural framing among the news organization during health crisis were identified during the SARS health crisis (Oh & Zhou, 2012; Wallis & Nerlich, 2005).

Therefore, this study compares the Qatar government-based news organization—Al Jazeera media network, British Broadcasting Corporation (BBC), and US-based Cable News Network (CNN)’s framing of SARS-Cov-2 issues through their Facebook pages. These organizations are chosen for the following reasons;

Firstly, there are a large number of news providers that cover regional and international news providers, Al Jazeera, BCC, and CNN are well-recognized global media outlets. In many dimensions, they are the most recognizable brands in news from the global context. All these news networks have been standing up to their glorifying history (Sadig & Petcu, 2019). Al Jazeera is serving for almost one and a half-decade, while CNN is in the business for 40 tears and BBC will achieve its century mark in a couple of years (Al-Rawi, 2017b; Robertson, 2021). Therefore, these news brands are the most appropriate brands for comparison in global news and reporting issues (El Ali et al., 2018).

Secondly, there is some rationale to differentiate these news organizations. Al Jazeera, BBC, and CNN’s orientation and proximity is an important fact is being notified. All of these organizations’ origins and orientations are connected with their different political relationships, proximities, and news interests are affecting them from different perspectives. The Arab world is reflected in Al Jazeera’s perspective because of Qatar based origin (Al-Rawi, 2017b) where Mainland China, Taiwan, and Honk Kong are connected to UK based news network BBC (Arif & Hayat, 2018; Freedman, 2019) and Canada has a direct border with USA (origin of CNN). On the other hand, due to geopolitics, China and the USA has different point of view on Taiwan (Roden, 2003; Sutter, 2003). It is possible to frame issues in the Novel Coronavirus crisis time where the dynamics play a pivotal role.

Thirdly, as all of these news sources have their Facebook pages where they post their published news where we considered their online webpage version as well as Facebook page as an archive. The comparison of their framing on a precise issue during a specific period is feasible to study. This simplifies the process to have access to their archival materials, where their television footage is difficult to arrange

because BBC only archives their recent footage, and Al Jazeera has their native version. Getting to their direct website-based news does not connect with their social media page post sharing.

Social Media and News Organizations

Social media are being the primary source of information for people around the globe for the past decade. It is the best possible way to reach a greater number of people due to its easy accessibility. People depend on web-based news sources due to the mobility factor. As an aftermath, the circulation of printed versions is getting lower day by day (Kriebel & Moore, 1980; Miller & Kelly, 2017). On the other hand, more people are connecting to news sources through the internet.

In this context, people are more dependent on news sources based on various social media platforms in their regular life (Navarro & McKinnon, 2020). As per the user-based social media, Facebook is the highest used social media platform in the world (Phua et al., 2017). So, most numbers of SNS users are based on the Facebook platform. A platform like Facebook plays a pivotal role to disseminate information in a short time. So the news source or news-based organizations have been using social media platforms like Facebook to reach potential readers (Beam et al., 2018). In this research, we tried to attempt to analyze the news from the social media platforms where Al Jazeera, BBC, and CNN shared their news. We collected their official “Facebook page” news shares or postings from their Facebook homepage, where they have published news related to COVID–19.

Framing Theory

News reporting became more like storytelling with factual representation rather than just presenting information to people (Gamson, 2015). The storytelling issue can be defined with a correlation with framing (Cormick, 2019). According to de Vreese (2005), communication is not only a non-static process but rather a vibrant process that involves frame emerging or frame-building and frame-setting. Framing is the process where journalists define an event or a specific issue in such a way where the news guides the reader’s understanding (Afzal & Harun, 2020; Andsager, 2003). Consequently, analyzing framing; during the process, framing is responsible for the messages by the news producers, the understandings of how media structures the information, and how the people perceive the message and information (Kapuściński & Richards, 2016; Mason, 2019).

The media framing process involves creating meaning in media (Choi, 2018). Entman (1993) said media professionals frame incidents or reports in action to illustrate gaps in their characteristics or levels. Framing affects the way we understand what’s happening around us, with the way how issues are being framed and constructed for our consumption. These media products affect our understanding of the world to

varying degrees, and thus, the information causes misconceptions through unbalanced or biased reports (Saleem, 2007). In their Propaganda Model Herman and Chomsky (2012) explained how cultural, economic, ideological, and political influences hinder media professionals. In a theoretical context, journalistic ideals of objectivity, neutrality, and fairness are conceivable but they tend to be unfeasible. Practices in the media environment often affect when communicating salience in a text. These factors influence the way a story is presented to an audience, how it shapes reality (Estupinan, 2017). One of the most used ways to content analysis in the process of communication is frame analysis. The idea of frame, which refers to an intrinsic component applied to structural elements and therefore conveys some interpretation trends (Gamson & Modigliani, 1994), provides a framework for evaluating how specific portrayals are created and subsequently uncovering the context's important meanings. This goes beyond the notions of good or bad, negative or positive, and highlights the role of the news media in detecting issues, diagnosing triggers, making moral judgments, and suggesting remedies (Entman, 2013, p.5). The underlying ideological orientations and hidden hypotheses of news material can therefore be discovered via frame analysis, which is something that popular bias analysis fails to do (Hackett, 1984).

Framing theory focuses on the essence of a parallel issue rather than a specific topic. The core concept of framing theory is; the media emphasizes some particular events and while publishing, they put them into a field of meaning on their own (University of Twente, 2004). Frame analysis is one of the main approaches for the inspection of content in the communication process. The concept frame, referring to the integral component applied to structural features and thus conveying some patterns of interpretation (Gamson & Modigliani, 1994), provides a framework by which to evaluate how particular depictions are constructed and then uncover the essential meanings of the context. This extends beyond the concept of favorable or unfavorable, negative or optimistic, and emphasizes the role of news media in identifying problems, diagnosing triggers, making moral decisions, and proposing solutions (Entman, 2004, p 5). Frame analysis is then able to uncover the underlying ideological orientations and hidden hypotheses of news content which the popular bias analysis fails to address (Hackett, 1984).

Semetko and Valkenburg (2000) mentioned there are five general categories of framing. They are known as; conflict frame, human interest frame, economic consequences frame, morality frame, and responsibility frame.

The sponsors of the frame play a vital role during the frame building. Kanaker et al. (2020) have simplified these frames into conflict, human impact, economics, morality, and responsibility in framing. Additionally, they also mentioned, the sponsors of the news play a vital role in framing. From the source of the news to the reporter and editor all play a key role during framing an issue (Kee et al., 2012).

The reasons were supported by (Strömbäck et al., 2008) as they bring up the sociopolitical reasons for framing. The sponsors of news may change the angle or slants to give a frame in the news. The impact of political, social, and economic issues also plays a pivotal role in news framing. At times, due to the mentioned reasons, the media intentionally neglects or rejects issues, sources, and stakeholders (Cavaca et al., 2016).

During the Covid-19 pandemic Poirier et al. (2020) identified the quantifiable words and word clusters and the different framing themes among the seven Canadian news organizations. Additionally, Lee (2014) found the news framing among the international media based on the news count and numerical data. Also, the cultural framing by the UK media was identified While a study on YouTube based news channel revealed that the framing in social media platform is noticeable (Rooke, 2021).

To conceptualize the context, social media platforms of the news organizations are their stronghold to connect a large number of readers globally. So, their social media editors select news among the overall news to publish on their social media sites (Wasike, 2013). So if they frame their news while publishing, then a particular group of readers can go to fetch their relevant news continuously. Thus the readership can increase as the people are following the Covid-19 issues on a regular note. This study shows how Al Jazeera, BBC, and CNN frame their stories in publishing the selected news on their Facebook pages that are followed by millions of their followers. So if the readers follow their Facebook pages, they will find the news that was framed by these news organizations. This news gets the global pull and is shared on Facebook and other social media platforms to get the attention of the governments and authorities regarding social, political, and economic issues. The study focuses on this framing done by the news sponsors for the audience to read and react.

There are two approaches to analyzing the framing theory. Inductive and deductive approach. The inductive approach starts with broadly defined frame assumptions and attempts to classify all possible frames. Whilst the deductive method starts with stronger preconceptions. It predefines certain frames and examines how these frames appear in the news (Semetko & Valkenburg, 2000). To upsurge the study's objectivity, this research used the inductive approach to create a possible frame after the data is collected.

Framing and Social Media News

Social media is a common platform for all news media. They have Facebook pages to share their news stories to reach more people via social media. The media organizations produce several news in a day where not every news gets its place in their social media platforms. As news media has different social media platforms, they have to choose what will

be shared by their social media management team and what will not. In this case, the social media pages of Al Jazeera, BBC, and CNN select the news from their website and share the selected news on their social media platforms. This reflects their news framing angles in sharing on their Facebook pages.

Computer-Based Text Analysis

The text analysis is based on the guidance of Bauer and Gaskell (2011). Which refers to the text analysis from the written texts of the news contents. The Content Analysis usually deals with written textual content but related techniques can be extended to pictures or sounds. There are two kinds of texts: texts made during the study process, such as transcripts of interviews and observation procedures; and texts already created for some other reason, such as newspapers or corporate documents. Content Analysis's classic materials are written texts which were already used for other reasons. All those texts, however, can be controlled to provide answers to the questions of the study.

The computer-assisted text analysis is based on the concept of text analysis. Popping (2000) defined text analysis as, "a research technique for making replicable and valid inferences from text to their context." According to this definition, computer-assisted text analysis can be defined as the software-based research technique with the essential involvement of computers to make replicable and valid inferences from the transcript to the context of the study (Tian & Stewart, 2005).

Computer-assisted Qualitative Data Analysis Software (CAQDAS) is also known as Content Analysis Software to perform a content analysis of textual and visual documents (Hamborg et al., 2019). To reduce a large amount of data review, this software helps to review the findings from pictures, videos, and text formats. To get assistance from the documents they help to build the codebooks from the segments and the list of keywords so the researchers have to review a fewer number of documents by themselves (Hamborg et al., 2019). Also in most cases, this software helps the coders to find the document patterns, frequency, and list of combined words (Hamborg et al., 2019).

The application of computer-assist qualitative data analysis is not new but the first successful data was initiated in the 1960s when a mainframe computer was used to count words and phrases (Popping, 2000). Since then the process has developed till now and it's been developing frequently. Computer-based text analysis can be taken as "more objective" compared to the manual text analysis system (Tian & Stewart, 2005). With the help of the Maxqda software, the qualitative data analysis of the news from different sources did not need to be pre-read as well as the researchers did not need to have pre-specification of data categories, pre concepts of ideas, and knowingly or

unknowingly imposed presupposing (Kuckartz & Rädiker, 2019).

If we talk about reliability, then the computer-assisted text analysis method is more reliable due to its automated fixed algorithm. Whenever any researcher in the world works with the same data, the result would be always the same. So, there is no doubt or question about the reliability of this process (Chandra & Shang, 2019; Kuckartz & Rädiker, 2019). Also, this computer-assisted text analysis can be very efficient in research especially in text analysis. It is a very efficient process to analyze data because a large number of data is difficult and time-consuming for any researcher but using the software can do it in minutes (Cypress, 2019). This type of analysis is also useful to study framing analysis. Thematic text analysis is an assumption that the produced text is an intention of the text producer through the frequency of text usage in themes. Also, this indicates as the ideal tool to present the occurrences and importance of the themes in texts (Brown, 2018; Popping, 2000; Xiong et al., 2019).

In content analysis, there are two general categories. The conceptual approach and the relational approach. The conceptual approach is also known as the thematic approach selects the data and examines it by quantifying the numbers and tally where the relational approach is almost similar but it goes in-depth of the quantity of the data. The qualitative analysis of the relationship between words and the semantic and meaningful relationships between words is focused here. If there is no relationship between the "cluster words" then the words are intentionally avoided (Busch et al., 2005). Computer-based text analysis is a form of study that has been applied to any field of studies especially studying the journalism area (Franzosi, 1995). In recent studies, computer-based framing analysis was successful to determine the framing analysis, so this study aims to find out the framing analysis of the Al Jazeera, BBC, and the CNN by using the systematic approaches of computer-based content analysis (see: Czibik et al., 2016; Franzosi, 1995; Greussing & Boomgarden, 2017; Young et al., 2018).

This study is aimed to find how Al Jazeera, BBC, and CNN frames the SARS Cov-2 crisis on their official Facebook page. This study is based on computer-assisted manifest textual analysis as this method is more appropriate for this type of study with a large number of data (Bauer & Gaskell, 2011). As per the benefits of the inductive method of manifest textual analysis mentioned above; the research will try to find the texts found in the shared text-based news items from the links of the Facebook pages of Al Jazeera English, BBC News, and CNN on Covid-19. This study will also compare the framing process of Al Jazeera English, BBC News, and CNN. The research questions of the study are:

RQ1: Is there any framing of Al Jazeera English, BBC News, and CNN on Covid-19 on their Facebook page?

RQ2: How did they frame the issues on Covid-19?

Table 1. List of Top 30 (Thirty) Word Frequencies.

SL	Al Jazeera word frequency			BBC word frequency			CNN word frequency		
	Word	Frequency	Percentage	Word	Frequency	Percentage	Word	Frequency	Percentage
1	corona	292	2.47	corona	249	1.79	corona	309	2.04
2	country	114	0.97	people	181	1.3	test	207	1.36
3	people	104	0.88	home	117	0.84	health	153	1.01
4	case	99	0.84	government	101	0.72	state	153	1.01
5	government	91	0.77	care	97	0.7	people	151	1
6	death	75	0.64	health	89	0.64	trump	92	0.61
7	pandemic	71	0.60	death	83	0.6	work	80	0.53
8	home	69	0.58	uk	76	0.54	usa	72	0.47
9	test	68	0.58	work	75	0.54	public	67	0.44
10	report	62	0.53	lockdown	68	0.49	make	66	0.44
11	lockdown	59	0.50	time	67	0.48	country	65	0.43
12	week	57	0.48	make	65	0.47	home	64	0.42
13	health	56	0.47	week	65	0.47	governor	63	0.42
14	state	55	0.47	worker	62	0.44	pandemic	63	0.42
15	usa	53	0.45	hospital	60	0.43	call	60	0.4
16	spread	50	0.42	state	59	0.42	vaccine	60	0.4
17	year	45	0.38	test	53	0.38	order	59	0.39
18	make	44	0.37	country	50	0.36	death	58	0.38
19	percent	44	0.37	case	44	0.32	week	57	0.38
20	time	44	0.37	nhs	43	0.31	code	56	0.37
21	work	41	0.35	outbreak	43	0.31	time	56	0.37
22	city	38	0.32	social	43	0.31	patient	54	0.36
23	numb	38	0.32	pandemic	42	0.3	reopen	53	0.35
24	outbreak	38	0.32	back	41	0.29	case	51	0.34
25	rise	38	0.32	place	41	0.29	official	51	0.34
26	news	36	0.31	numb	40	0.29	social	50	0.33
27	world	36	0.31	show	40	0.29	distance	49	0.32
28	trump	35	0.30	report	39	0.28	plan	48	0.32
29	infection	34	0.29	year	39	0.28	company	46	0.3
30	official	33	0.28	child	37	0.27	stay	46	0.3

Method

Content analysis is known as the systematic approach of examining and categorization written texts (Chuang et al., 2015). It is one of the widely known fundamental approaches of humanities and social sciences research. Using a computer to analyze data is not a new approach. There are some advantages to analyzing data with a computer. Things like counting word frequency, finding similar words, and a combination of the word to determine the output. After that, a researcher can work with the liberty to get the findings. As West (2001) mentioned, using a computer to analyze data for content analysis is more reliable because it would give the same result to anyone anywhere. Historically, content analysis is a time-consuming method. But the involvement of the computer reduces the time of analyzing data (Hymes & de Sola Pool, 1961).

In this study, the researchers have developed the method of using both the conceptual approach of content analysis and the relational approach of content analysis (Busch et al., 2005) to analyze the news from these news organizations.

The frequency detection of the words represents the conceptual approach (Table 1) and the word clusters represent the relational approach (Table 2) of the content analysis (Carley, 1990).

In this section, the sample, data collection process, and the data processing process are described. Also, we will explain how the data has been collected from the Facebook pages of Al Jazeera English, BBC News, and CNN. Then the process of data analysis is also clarified here.

Sample Selection and Timeframe

The samples were tracked and downloaded from the official Facebook pages of Al Jazeera English (Al Jazeera English, 2012) BBC News (BBC, n.d.), and CNN (Cable News Network, 2020). The news from the Facebook pages of the respective global news organizations was tracked and downloaded with the keyword connected to Novel Coronavirus/COVID-19/SARS Cov2. The dates were chosen from April 13 to April 20, 2020, when the outbreak reached its peak in the

Table 2. List of Top 30 (Thirty) Word Clusters.

SL.	Al Jazeera word clusters			BBC word clusters			CNN word clusters		
	Word combination	Frequency	Percentage	Word combination	Frequency	Percentage	Word combination	Frequency	Percentage
1	corona case	28	0.48	care home	41	0.64	social distance	44	0.63
2	corona pandemic	24	0.41	social distance	29	0.45	public health	34	0.49
3	death toll	23	0.40	protective equipment	16	0.25	White House	30	0.43
4	South Korea	16	0.28	test positive	12	0.19	health code	26	0.37
5	test positive	15	0.26	intensive care	11	0.17	home order	25	0.36
6	crow member	14	0.24	face mask	10	0.16	Corona pandemic	17	0.24
7	social distance	11	0.19	personal protective	10	0.16	antibody test	16	0.23
8	corona outbreak	10	0.17	personal protective equipment	10	0.16	health care	15	0.22
9	health ministry	10	0.17	prime minister	10	0.16	Corona patient	13	0.19
10	news agency	10	0.17	Prime Minister	10	0.16	test kit	13	0.19
11	White House	10	0.17	absentee ballot	9	0.14	QR code	12	0.17
12	cruise ship	9	0.15	healthcare worker	9	0.14	contact trace	11	0.16
13	Donald Trump	9	0.15	key worker	9	0.14	Donald Trump	11	0.16
14	24 hour	8	0.14	Capt Tom	8	0.13	President Donald	11	0.16
15	Home Office	8	0.14	Captain Leotta	8	0.13	President Donald Trump	11	0.16
16	Indian crow	8	0.14	confirm case	8	0.13	Corona case	10	0.14
17	President Donald	8	0.14	corona pandemic	8	0.13	Corona Control	10	0.14
18	President Donald Trump	8	0.14	Lady Gaga	8	0.13	Corona test	10	0.14
19	Prime Minister	8	0.14	Public Health	8	0.13	health expert	10	0.14
20	confirm case	6	0.10	care worker	7	0.11	South Korea	10	0.14
21	confirm corona	6	0.10	Donald Trump	7	0.11	health official	9	0.13
22	confirm corona case	6	0.10	front line	7	0.11	task force	9	0.13
23	CORONA ward	6	0.10	health secretary	7	0.11	face covering	8	0.11
24	daily death	6	0.10	lockdown measure	7	0.11	infectious corona	8	0.11
25	home order	6	0.10	contact trace	6	0.09	administration official	7	0.1
26	Indian crow member	6	0.10	corona lockdown	6	0.09	air pollution	7	0.1
27	International Monetary	6	0.10	corona outbreak	6	0.09	Corona outbreak	7	0.1
28	World Bank	6	0.10	corona relate	6	0.09	ER worker	7	0.1
29	daily death toll	5	0.09	ethnic minority	6	0.09	long term	7	0.1
30	distance learn	5	0.09	Health England	6	0.09	nurse home	7	0.1

USA (CNBC, 2020; Michaud et al., 2020; The Independent, 2020b) and Europe's peak was going through and ended on the next week (EURACTIV, 2020; The Independent, 2020a;

The Star, 2020a). Asia was also suffering from the outbreak but China and Iran had passed their peak by this time but other Asian countries were severely suffering in this time (AL

Arabia, 2020; The Star 2020b; Xinhuanet, 2020). Therefore, the reports were downloaded at this time. The number of sample selection is 7 days because, Kim et al. (2018) showed in their research that a minimum number of 7 days is efficient to analyze data of social media especially Facebook. Additionally, the sample size for the analysis, as the number of days was seven, we considered Neuendorf (2020) lessening standard errors aim. After that employed the consecutive days sampling format.

All the reports were cross-checked from the shared links and none of the reports were found dead or inactive. Total 185 reports were published from April 13 to April 20, 2020, on the Facebook pages of Al Jazeera English, BBC News, and CNN. After deducting the Facebook live videos, video news, blogs, and other non-textual posts 105 news and reports were collected as samples from the websites of the news organizations after fetching the source link from Facebook pages. As one of the objectives of the study is to find how these news organizations promote news via their Facebook pages as their brand value as a news organization is connected with social media news shares (Al-Rawi, 2017a; Chen & Pain, 2021).

Only the text-based reports related to Covid-19 were collected from the Facebook page links and news blogs were intentionally omitted as they update daily. Also, as we are analyzing the texts only, videos and photographs were not taken into account as they cannot be a part of Manifest Content analysis or tangible or observable content (Bhasin, 2020; Ward, 2019).

After downloading the reports, they were copied into a document file using Microsoft Word individually, and later they were categorized into three files under the name of each news organization. The headlines were deducted from each news and the dateline information and byline sources (e.g., “name of the reporter” and “desk report”) were deducted from the texts as well. After deducting the information a total number of 89,465 words were selected as a sample (Al Jazeera 24,842, BBC News 31,397, and CNN 33,226)

Computer-Based Data Analysis

MAXQDA is a software designed to analyze the computer-assisted qualitative data and mix-method including the textual and audio-visual data (Marjaei et al., 2019). This software was used to analyze the data from Al Jazeera, BBC, and CNN. As a neutral machine-based software, MAXQDA can reveal the word frequencies like the traditional software but also it was found the semantic relationships between textual concepts through the clustering process of the themes based on texts imported in the software (Kuckartz & Rädiker, 2019). In-text analysis, the software can identify the top word frequencies and the words most used as combinations of words.

Operation

MAXQDA software has a system that can deduct meaningless words such as prepositions and verbs of being known

as “stop list.” This stop list can be updated by adding new words. The researchers have finalized a final stop list to develop the study. The name of the days such as *Sunday* and *according* were also added to the stop list to exclude from the main file. This made the analysis more focused and the researchers could work more on the important concepts.

To improve the research validity, some words were changed in the original text files of Al Jazeera, BBC, and CNN due to their similarity (Tian & Stewart, 2005). Such as:

- *Novel Coronavirus, COVID, Covid-19, disease, virus,* and *SARS-CoV-2* were replaced by *Corona* as the disease is known as all these names;
- *US, United States, United States of America and America* were replaced by the *USA, United Kingdom* was replaced by the *UK, United Nations* and *UN* were replaced by *United Nations and World Health Organization* and *WHO* were replaced by *WHORG*, as the word *WHO* and “who” could be mixed up as the same word. The word “who” was added to the stop list in the MAXQDA software. *US* was replaced to the *USA* manually because the computer application Microsoft Word may have a mix-up with the “US” and “us.” Also while replacing *America* with the *USA* was done manually.
- Terms like the *United Arab Emirates (UAE), Honk Kong (HK)* were also searched but the number of results found was very low.

The program was asked to find the top used words from where the next instruction was to select the top 30 words with the highest frequency from the texts of Al Jazeera English, BBC News, and CNN. The top 30 words were selected because the minimum number option was 30 and the highest choosing option was 100. So the researchers selected 30 as the appropriate number for a better interpretation.

Later, the program was asked to find the “cluster words” from the three different text files. The top 30 cluster words were also identified to find the connection of words between the different news organizations. This data helped to find the smaller and easy-to-interpret the finding of the study (Murphy, 2001).

Data Analysis

Among our team, we have delegated coders the task of coding the variables while keeping track of their progress to improve reliability. The two coders then proceeded to code to ensure high-quality results. Inter-coder reliability was improved as a result of this. For each code studied, coder agreement percentages varied to some extent (Neuendorf, 2020; Ogbodo et al., 2020). Additionally, the themes were developed by the coders based on word count, their relationship, and their presence in the word clusters.

Framing Analysis

As we have followed (Semetko and Valkenburg's (2000) framing analysis method, the frames for the news content analysis were conflict frame, human interest frame, economic consequences frame, morality frame, and responsibility frame. These frame connections were discussed later with contextualization. The words and word cluster results of the study were compared with the established list of framing (Semetko & Valkenburg, 2000).

Findings

The MAXQDA found the most used words in word frequency analysis in individual text files and also cluster words were also identified from the text lists of AL Jazeera English, BBC News, and CNN.

Similarities

The main themes of Al Jazeera English, BBC News, and CNN were similar in the following ways:

Concerned about the Coronavirus pandemic. All the news organizations covered issues regarding the pandemic. Words similar and relevant to Novel Coronavirus were their priority. "Corona" word was the highest number of words used in Al Jazeera News text (Table 1) with 2.47% (292 times), BBC news used the word 1.79% (249 times) and 2.04% of the entire text of CNN was the word "Corona" which was found 309 times. The relevant words apart from direct "Corona" were also significant in their texts. Issues on "test," "death," "health," "people," and "case" were also in their top words list.

However, during the analysis of the "word cluster" (Table 2) list, Al Jazeera mentioned "corona case" (28 times, 0.48%) and "corona pandemic" (24 times, 0.41%) which made the top of the word cluster list while BBC's "confirm case" and "corona pandemic" word clusters were mentioned eight times (0.13%) individually that could not make the top 10 list of the word clusters. Similarly, CNN used the word cluster "corona case" only 10 times with the percentage of their entire word cluster being 0.14%.

Government's responsibilities were framed. All the news organizations were focused on the governments as they have mentioned the words "government," "state," and "governor" (Table 1). In the texts of Al Jazeera and BBC, the word "government" was found as the sixth most frequent word (9 times, 0.77%) and fifth-most frequent word (101 times, 0.72%) where it came in the 38th (40 times, 0.26%) position of CNN text.

Furthermore, cluster words (Table 2) like "home order" are mentionable in the texts of Al Jazeera, BBC, and CNN. Again it suggests that AL Jazeera and BBC were concerned

about the central government policy and system around the world where CNN had other framing angles.

The study also reveals that the framing of AL Jazeera and CNN gave more attention to the US president. In the world cluster section (Table 2), out of 21 news texts from Al Jazeera, they have mentioned USA President or Donald Trump nine times (0.15%). On the Other hand, out of 41 news CNN mentioned USA President or Donald Trump 11 times (0.16%). Also, "White House" was in the news with prominence as Al Jazeera mentioned them 10 times (0.17%) of their entire text from the word cluster section and CNN mentioned the "White House" as their third most used word cluster with 0.43% or 30 times of their entire text.

Rejection of the World Health Organization (WHO). According to the previous studies during global health crises like SARS, World Health Organization (WHO) was mentioned as one of the top words in the word's list of BBC and CNN (No study found on Al Jazeera) but the World Health Organization was not found in the word frequency lists (Table 1) of Al Jazeera, BBC, and CNN. Also, the United Nations (UN) could not make the list of top 30 words (in the word frequency list) in texts of Al Jazeera, BBC, and CNN (Table 1).

People-oriented news. Their next frequently used word was "people." That means all of the news organizations were prioritizing the people. According to Al Jazeera's text frequency (Table 1), the word "people" was the third most used word (frequency 104, 0.88%), where BBC's text analysis portrayed the word second with 181 times (1.3%) among the whole text file and CNN framed the word people with sixth-most used word 151 times (1%) in their text.

Differences

Having some similarities there were some significant differences among the texts of the news organizations while framing the Covid-19 global crisis. The main differences are:

BBC and CNN framed "public health" while Al Jazeera framed the "impact". While analyzing the word frequency list (Table 1), the term "health" was in the sixth position of BBC with 89 times (0.64%) and CNN used the term as the third most frequent word (153 times, 1.01%). But Al Jazeera used the word 56 times (0.47%) which could not make the top 10 words list.

While analyzing the word clusters, BBC's top three word clusters (Table 2) were "care home" (41 times, 0.64%), "social distance" (29 times, 0.45%), and "protective equipment" (16 times, 0.25%) that represents the health-care system was in the priority of the BBC, while CNN also concentrated on "social distance" (44 times, 0.63%), "public health" (40 times, 0.58%), "health code" (26 times, 0.37%) and "home order" (25 times, 0.36%) On the other hand, Al Jazeera's top word clusters was "corona case" (28 times,

0.48%), “corona pandemic” (24 times, 0.41%) and “death toll” (23 times, 0.40%). This shows that Al Jazeera had a news interest in the impact of the corona pandemic while BBC and CNN were more conscious about the public health interest.

Local news was more covered by BBC and CNN where Al Jazeera covered the global perspective. BBC and CNN published news concerning their local issues but Al Jazeera was significant on the global perspective. When the news was read, the source of countries was explored to find the data of the country of origin of the news. Among the 21 selected news from AL Jazeera, two news was about the UK and the other European countries and six on USA, Asia seven, and the six other news covered South America, Africa, and Australia as well. But when we had a look at the out of 43 selected news; BBC only four news was covering Asia, three in the USA, and the rest of the news was on the UK and Europe. While counting CNN, out of selected 41 text-based news; only one news was in the UK and another was about France where the rest 39 news was local.

Discussion

Due to the global pandemic situation, the Coronavirus issue is the main focal point of the international media. The coverage of SARS-Cov-2 covers the news values and news interests of the readers worldwide. During the peak time of the virus spread in North America and Europe, all three news organizations (Al Jazeera English, BBC News, and CNN) tried to cover the news on Covid-19 during this timeframe of 8 days. But the news shares on their official Facebook pages, they have shown their choice of interest based on their “agenda.”

This study revealed all the news organizations (Al Jazeera English, BBC News, and CNN) similarly framed the Novel Coronavirus issue as a pandemic. Their focus on the issue was to inform people about the virus and its outcomes. It was the people’s common inquiry when they were searching for news. Also, during the global lockdown situation, their news was in the demand of global readers and they have framed the issue according to the people’s demand which covers the economic issues through the economic consequences frame. However, all of them did not frame the coronavirus in the same way. If we look at the dissimilarities, BBC and CNN framed the issue with more focusing on the healthcare and public health points which reflects the responsibility frame where Al Jazeera framed the impact of the Novel Coronavirus. Their area of the news coverage was deaths and infected people. We assume that Europe and the USA were dealing with death counts and these news providers set their agenda to inform people more about the safety and prevention methods of the infection.

It is also noticeable that all these three news media framed the World Health Organization (WHO) with the least interest. It is just opposite to the framing analysis during the

(Severe Acute Respiratory Syndrome (SARS) outbreak studied by Tian and Stewart (2005). In a global disease or pandemic issue or epidemic issue, where WHO and their guidelines or comments are substantial, here the case was quite the opposite. In this case, the delimitation of the frame was playing a crucial role. The rejection of the World Health Organization was going on intentionally or unintentionally.

The analysis showed that people and public health were a point of news angle of all these news sources. The health system is highly challenged by the virus attack internationally and only a few countries were prepared to fight with the challenge where most of the nations are fighting with their best efforts. Thus, people were the news slant where these news organizations tried to focus. This framing was involving people to the possible most opportunity and people and public health attracted the readers to have a significant number of reads. Interestingly, when the governments were fighting battles with the public health safety, fatality and economic challenges all these news organizations framed the governments of the countries and tried to get into the attention of the governments using the responsibility frame where the governments can have a deeper look into the issues (Semetko & Valkenburg, 2000). Either the local government or the national, the governments, and the systems were under the close observation of these information gatekeepers.

It is noticeable that CNN was concerned about their local issues at the time of their vulnerable timeframe of the global pandemic. In the findings section, it was shown that the local news was significantly dominant in the publications of the BBC and CNN. They have rejected to share news on international issues. On the opposite side, Al Jazeera was publishing from a global perspective. The Qatar-based news station did very little coverage on local issues in their English version. The researchers had the language barrier to study the news of Al Jazeera’s local or Arabic version. But the study reveals the framing of AL Jazeera and CNN were more USA’s president. Where it is known that the British and the United States of America shares a close tie in the political and diplomatic issues for ages (Clark & Angell, 1991; Hotez, 2018). This political assertion is also accepted in the government statements (U.S. Department of State, 2018; US Embassy & Consulates in the United Kingdom, 2018). But the similarity between USA-based CNN and Qatar-based Al Jazeera was similar in framing the US President. But it has been previously noticed that Al Jazeera covers the US with an interest in their news coverage (Meltzer, 2013). So they have framed the USA president from different framing aspects. While CNN was trying to frame the President with their local interest as their responsibility and rejected other national and international leaders, Al Jazeera framed the USA president with a priority to frame him in a conflict framing situation.

If we compare the frames suggested by Semetko and Valkenburg (2000) then it is perceptible that by the concerns about people, public health, and governments the news organizations have shown their interests in the “responsibility

frame” and “human interest frame.” Additionally, the conflict frame was partially found by all these three news organizations while rejecting the World Health Organization (WHO). The updates from WHO was partially covered in their news and the guidelines from WHO on Covid-19 were significantly avoided. In the case of differences, BBC and CNN were covering the numbers of the victims where Al Jazeera tried to focus on the economic and health impact of Novel Coronavirus. So it is shown that the “economic consequences frame” was covered by Al Jazeera.

Conclusion

In concluding remark it can be said that Al Jazeera English, BBC News, and CNN are the mainstream news organizations followed by 94 million followers (to date) in their official Facebook pages. As the young generation follows news sources from their social media (Ismail et al., 2019; Shehata & Strömbäck, 2021), the news organizations are also interested to share news on their social media platform, Facebook.

This research provides useful insights into the media framing by news organizations in the early phases of the COVID-19 pandemic, as well as identifying the various themes that are incorporated in portraying such a pandemic. The media is critical in delivering information during the early phases of a disease outbreak. Its role is critical in influencing public perceptions of the disease and in preventing the pandemic from spreading.

The limitations of this study are, it is based on the analysis of the text’s frequency and word cluster analysis. The wordings of the texts of the media outlets were studied and analyzed only. In future research, much more sophisticated and advanced techniques and methods could be drawn in to identify more understandable frames, multidimensional scaling, and analysis on neural networks could be studied for the connections between key concepts of the literature.

Despite the limitations, this study suggests that although we live in a world of global information sharing environs due to the technological advancement of communication, the media systems are still in a phenomenon of publishing cross-border news coverage. The country of origin is still a purport factor for news media outlets for news stories. As all these news media organizations publish selected news on their Facebook pages from their main websites, they frame news according to their agenda. As the news outlets, their primary concern is to get the attention of people through their social media pages and instigate them to discuss and comment (means news share on Facebook) the public-interest issues. By this, the news gets the attention of the government or the responsible authority. Also, during these framing processes, they try to include/reject the issues and organization-oriented frames, so the audience cannot focus on those entities.

According to the previous studies during pandemics like the SARS outbreak, any representation from the Asian context

was missing to compare American and European news outlets but this study was a reflection of a non-Western perspective (Tian & Stewart, 2005). There were some dissimilarities found between Al Jazeera English, BBC News, and CNN in this study, however, there were some significant similarities that were noticed too.

From the theoretical point, this study contributes to understanding the framing from the news sharing publishing point of view of the news organizations. Such as, the study reveals that there are reasons to be selective for a social media platform to share the news. Moreover, the methodology of manifest content analysis on Facebook news posts is also an endowment to the field of study.

In this study, overall 89,465 words were studied from the 104 news (text-based) from Al Jazeera, BBC, and CNN. It could have been extremely time-consuming and difficult to analyze with the conventional qualitative method. For that reason, the machine-based text analysis was selected to get the results. Due to modern technology like the internet, social media platform Facebook and computer-assisted text analysis the study have been possible. With some great advantages of a machine-based study, this study shows the possible future studies with an opportunistic hope. Such as; if there is any framing while content sharing on the social media pages of news organizations? So, things could be understandable in-depth.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

ORCID iD

Aftab Hossain  <https://orcid.org/0000-0003-4759-8372>

References

- Afzal, N., & Harun, M. (2020). News framing of the Arab spring conflict from the Lens of newspaper editorials. *International Journal of English Linguistics*, 10(1), 352. <https://doi.org/10.5539/ijel.v10n1p352>
- Al Arabia. (2020). Coronavirus: Qatar confirms a total of 10,287 cases as COVID-19 enters ‘peak stage’ *Al Arabiya English*. <https://english.alarabiya.net/en/coronavirus/2020/04/26/Coronavirus-Qatar-confirms-a-total-of-10-287-cases-as-COVID-19-enters-peak-stage>
- Al Jazeera English. (2012). Al Jazeera English. <https://doi.org/10.1057/9781137015747>
- Al-Rawi, A. (2017a). News values on social media: News organizations’ Facebook use. *Journalism*, 18(7), 871–889. <https://doi.org/10.1177/1464884916636142>
- Al-Rawi, A. (2017b). Assessing public sentiments and news preferences on Al Jazeera and Al Arabiya. *International Communication Gazette*, 79(1), 26–44. <https://doi.org/10.1177/1748048516642732>

- Andsager, J. L. (2003). [Book review: Framing public life: Perspectives on media and our understanding of the social world]. *Public Opinion Quarterly*, 67(2), 298–302. <https://doi.org/10.1086/374577>
- Arif, M., & Hayat, N. (2018). International media framing of China's domestic politics: An analysis of Aljazeera English and BBC news. *Media Watch*, 9(1), 89–105. <https://doi.org/10.15655/mw/2018/v9i1/49285>
- Bauer, M., & Gaskell, G. (2011). *Qualitative researching with text, image and sound*. SAGE.
- BBC. (n.d). *BBC News –Home*. Retrieved May 8, 2020, from <https://www.facebook.com/bbcnews/>
- Beam, M. A., Child, J. T., Hutchens, M. J., & Hmielowski, J. D. (2018). Context collapse and privacy management: Diversity in facebook friends increases online news reading and sharing. *New Media & Society*, 20(7), 2296–2314. <https://doi.org/10.1177/1461444817714790>
- Bhasin, H. (2020). Introduction: Advantages and disadvantages of content analysis. *Marketing91*, 215–232. <https://www.marketing91.com/content-analysis/>
- Binder, C. (2020). Coronavirus fears and macroeconomic expectations. *Review of Economics and Statistics*, 102(4), 721–730.
- Brown, N. (2018, July). Evaluating the usefulness of the adapted thematic analysis in the process of design. In *Proceedings of the 32nd International BCS Human Computer Interaction Conference 32* (pp. 1–5).
- Busch, C., De Maret, P. S., Flynn, T., Kellum, R., Le, S., Meyers, B., & Palmquist, M. (2005). *An introduction to content analysis*. Retrieved March, 2, 2009.
- Cable News Network. (2020). *CNN –Home*. <https://www.facebook.com/cnn/>
- Carley, K. (1990). *Content Analysis*. [Casos.cs.cmu.edu](http://casos.cs.cmu.edu). Retrieved January 10, 2022, from http://casos.cs.cmu.edu/publications/papers/carley_1990_contentanalysis.PDF
- Cavaca, A. G., Emerich, T. B., Vasconcellos-Silva, P. R., Santos-Neto, E. T. D., & Oliveira, A. E. (2016). Diseases neglected by the media in Espírito Santo, Brazil in 2011–2012. *PLoS Neglected Tropical Diseases*, 10(4), e0004662. <https://doi.org/10.1371/journal.pntd.0004662>
- Chandra, Y., & Shang, L. (2019). Computer-Assisted Qualitative Research: An Overview. *Qualitative Research Using R: A Systematic Approach*, 21–31.
- Chen, V. Y., & Pain, P. (2021). News on Facebook: How Facebook and newspapers build mutual brand loyalty through audience engagement. *Journalism & Mass Communication Quarterly*, 98(2), 366–386. <https://doi.org/10.1177/1077699019876634>
- Choi, J. (2018). National image of North Korea in South Korean news media. *Journal of Public Affairs*, 18(4), e1710. <https://doi.org/10.1002/pa.1710>
- Chuang, J., Wilkerson, J. D., Stewart, B. M., & Roberts, M. E. (2015). Computer-assisted content analysis : Topic models for exploring multiple subjective interpretations. *NIPS Workshop on Human-Propelled Machine Learning*, 1–9.
- Clark, I., & Angell, D. (1991). Britain, the United States and the control of nuclear weapons: The diplomacy of the Thor deployment 1956–58. *Diplomacy and Statecraft*, 2(3), 153–177. <https://doi.org/10.1080/09592299108405832>
- CNBC. (2020). *Trump says US has “passed the peak” of coronavirus outbreak*. <https://www.cnn.com/2020/04/15/trump-says-us-has-passed-the-peak-of-coronavirus-outbreak.html>
- Cormick, C. (2019). Who doesn't love a good story?—What neuroscience tells about how we respond to narratives. *Journal of Communication Science*, 18(5), Y01. <https://doi.org/10.22323/2.18050401>
- Crabu, S., Giardullo, P., Sciandra, A., & Neresini, F. (2021). Politics overwhelms science in the covid-19 pandemic: Evidence from the whole coverage of the Italian quality newspapers. *PLoS One*, 16(5), e0252034. <https://doi.org/10.1371/journal.pone.0252034>
- Cypress, B. S. (2019). Data analysis software in qualitative research: Preconceptions, expectations, and adoption. *Dimensions of Critical Care Nursing*, 38(4), 213–220. <https://doi.org/10.1097/DCC.0000000000000363>
- Cyranoski, D. (2020). What China's coronavirus response can teach the rest of the world. *Nature*, 579(7800), 479–480. <https://doi.org/10.1038/d41586-020-00741-x>
- Czibik, Á., Pápay, B., Szántó, Z., & Toth, I. (2016). *Computer assisted content analysis of the print press coverage of corruption in Hungary*. ANTICORRP. http://unipub.lib.uni-corvinus.hu/2474/1/D6_1_6.pdf
- Deutsche Welle. (2020). *Britain approves human cloning | Germany | News and in-depth reporting from Berlin and beyond | DW | 12.08.2004*. Deutsche Welle. <https://www.dw.com/en/top-stories/germany/s-1432>
- de Vreese, C. H. (2005). News framing: Theory and typology. *Information Design Journal*, 13(1), 51–62. <https://doi.org/10.1075/idjdd.13.1.06vre>
- El Ali, A., Stratmann, T. C., Park, S., Schöning, J., Heuten, W., & Boll, S. C. J. (2018). *Measuring, understanding, and classifying news media sympathy on Twitter after crisis events* [Conference session]. Conference on Human Factors in Computing Systems – Proceedings, pp. 1–13, 10.1145/3173574.3174130
- Entman, R. M. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication*, 43(4), 51–58. <https://doi.org/10.1111/j.1460-2466.1993.tb01304.x>
- Entman, R. M. (2004). *Projections of power: Framing news, public opinion, and U.S. Foreign policy*. University of Chicago Press.
- Entman, R. M. (2013). *Projections of power*. University of Chicago Press.
- Estupinan, J. D. O. (2017). The coverage of China in the Latin American press: Media framing study. *Cogent Arts and Humanities*, 4(1), <https://doi.org/10.1080/23311983.2017.1287319>
- EURACTIV. (2020). Europe has passed COVID-19 peak, says EU disease control chief. *EURACTIV.com*. <https://www.euractiv.com/section/coronavirus/news/europe-has-passed-covid-19-peak-says-eu-disease-control-chief/>
- Franzosi, R. (1995). Computer-assisted content analysis of newspapers - Can we make an expensive research tool more efficient? *Quality & Quantity*, 29(2), 157–172. <https://doi.org/10.1007/bf01101896>
- Freedman, D. (2019). “Public service” and the journalism crisis: Is the BBC the answer? *Television & New Media*, 20(3), 203–218. <https://doi.org/10.1177/1527476418760985>
- Gamson, W., & Modigliani, A. (1994). The changing culture of affirmative action. *Equal employment opportunity: Labor market discrimination and public policy*, 49(1), 373–394. <https://doi.org/10.2307/2524924>

- Gamson, W. A. (2015). News as framing: Comments on Garbner. *Mercian Behavioral Scientist*, 33, 157–161. <http://repositorio.unan.edu.ni/2986/1/5624.pdf>
- Greussing, E., & Boomgaarden, H. G. (2017). Shifting the refugee narrative? An automated frame analysis of Europe's 2015 refugee crisis. *Journal of Ethnic and Migration Studies*, 43(11), 1749–1774. <https://doi.org/10.1080/1369183x.2017.1282813>
- Hackett, R. A. (1984). Decline of a paradigm? Bias and objectivity in news media studies. *Critical Studies in Mass Communication*, 1(3), 229–259. <https://doi.org/10.1080/15295038409360036>
- Hamborg, F., Donnay, K., & Gipp, B. (2019). Automated identification of media bias in news articles: An interdisciplinary literature review. *International Journal on Digital Libraries*, 20(4), 391–415. <https://doi.org/10.1007/s00799-018-0261-y>
- Herman, E. S., & Chomsky, N. (2012). Manufacturing consent: The political economy of the mass media. In E. King & J. L. Chapman (Eds.), *Key readings in journalism* (pp. 380–397). Routledge.
- Hotez, P. J. (2018). Minutes to midnight: Turning back the doomsday clock through neglected disease vaccine diplomacy. *PLoS Neglected Tropical Diseases*, 12(9), e0006676. <https://doi.org/10.1371/journal.pntd.0006676>
- Hymes, D. H., & de Sola Pool, I. (1961). Trends in content analysis. *The Journal of American Folk-Lore*, 74(292), 180. <https://doi.org/10.2307/537793>
- Ismail, N., Ahmad, J., Noor, S. M., & Saw, J. (2019). Malaysian youth, social media following, and natural disasters: What matters most to them? *Media Watch*, 10(3), 508–521. <https://doi.org/10.15655/mw/2019/v10i3/49690>
- Jones, L., Daniele, P., & David, B. (2021). *Coronavirus: How the pandemic has changed the world economy*. BBC News. <https://www.bbc.com/news/business-51706225>
- Kanaker, O., Abughazlih, M. O., & Kasmani, M. F. (2020). Media framing of minorities' crisis: A study on Aljazeera and BBC News coverage of the Rohingya. *Jurnal Komunikasi Malaysian Journal of Communication*, 36(2), 1–16. <https://doi.org/10.17576/jkmjc-2020-3602-01>
- Kapuściński, G., & Richards, B. (2016). News framing effects on destination risk perception. *Tourism Management*, 57, 234–244. <https://doi.org/10.1016/j.tourman.2016.06.017>
- Kee, C. P., Ibrahim, F., Ahmad, F., & Kiang, C. C. (2012). Frame contention between news sources and news media: Framing the dispute of teaching mathematics and science in English. *Asian Social Science*, 8(5), 16–28. <https://doi.org/10.5539/ass.v8n5p16>
- Kim, H., Jang, S. M., Kim, S. H., & Wan, A. (2018). Evaluating sampling methods for content analysis of twitter data. *Social Media + Society*, 4(2), <https://doi.org/10.1177/2056305118772836>
- Kriebel, C. H., & Moore, J. H. (1980). *Association for Information Systems AIS Electronic Library (AISeL) economics and management information systems*. 2007. <http://aisel.aisnet.org/ecis2007>
- Kuckartz, U., & Rädiker, S. (2019). Analyzing qualitative data with MAXQDA: Text, audio, and video. *Analyzing qualitative data with MAXQDA*. Springer.
- Lee, S. T. (2014). Predictors of H1N1 Influenza pandemic news coverage: Explicating the relationships between framing and news release selection. *International Journal of Strategic Communication*, 8(4), 294–310. <https://doi.org/10.1080/1553118x.2014.913596>
- Liu, S., Yang, L., Zhang, C., Xiang, Y. T., Liu, Z., Hu, S., & Zhang, B. (2020). Online mental health services in China during the COVID-19 outbreak. *Lancet Psychiatry*, 7(4): e17–e18.
- Marjaei, S., Yazdi, F. A., & Chandrashekar, M. (2019). MAXQDA and its application to LIS research. *Library Philosophy and Practice*, 2019. <https://www.proquest.com/openview/41bd4ab40e3b44a2d5db9ae4a8708afb/1?pq-origsite=gscholar&cbl=54903>
- Mason, A. (2019). Media frames and crisis events: Understanding the impact on corporate reputations, responsibility attributions, and negative affect. *International Journal of Business Communication*, 56(3), 414–431. <https://doi.org/10.1177/2329488416648951>
- Meltzer, K. (2013). The US launch of Al Jazeera English in Washington, DC: An analysis of American media coverage. *Journalism*, 14(5), 661–677. <https://doi.org/10.1177/1464884912448916>
- Michaud, J., Kates, J., & Levitt, L. (2020). COVID-19 models: Can they tell us what we want to know? *The Henry J. Kaiser Family Foundation*. <https://www.kff.org/coronavirus-policy-watch/covid-19-models/>
- Miller, C. R., & Kelly, A. R. (Eds.). (2017). *Emerging genres in new media environments*. Springer International Publishing.
- Murphy, P. (2001). Affiliation bias and expert disagreement in framing the nicotine addiction debate. *Science Technology & Human Values*, 26(3), 278–299. <https://doi.org/10.1177/016224390102600302>
- Navarro, K., & McKinnon, M. (2020). Challenges of communicating science: Perspectives from the Philippines. *Journal of Communication Science*, 19(01), A03. <https://doi.org/10.22323/2.19010203>
- Neuendorf, K. A. (2020). *The content analysis guidebook*. SAGE.
- Ogbodo, J. N., Onwe, E. C., Chukwu, J., Nwasum, C. J., Nwakpu, E. S., Nwankwo, S. U., Nwamini, S., Elem, S., & Iroabuchi Ogbaeja, N. (2020). Communicating health crisis: A content analysis of global media framing of COVID-19. *Health Promotion Perspectives*, 10(3), 257–269. <https://doi.org/10.34172/hpp.2020.40>
- Oh, D. C., & Zhou, W. (2012). Framing SARS: A case study in Toronto of a mainstream newspaper and a Chinese ethnic newspaper. *Atlantic Journal of Communication*, 20(5), 261–273. <https://doi.org/10.1080/15456870.2012.728113>
- Ong'ong'a, D. O., & Mutua, S. N. (2020). Online news media framing of COVID-19 pandemic: Probing the initial phases of the disease outbreak in international media. *European Journal of Interactive Multimedia and Education*, 1(2), e02006. <https://doi.org/10.30935/ejimed/8402>
- Ophir, Y. (2019). Spreading news: The coverage of epidemics by American newspapers and its effects on audiences - a crisis communication approach. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 80(2-A(E)), No-Specified. <https://search.proquest.com/openview/06dee80792d3dd35b74ea1896dfdae09/1?pq-origsite=gscholar&cbl=18750>
- Phua, J., Jin, S. V., & Kim, J. Jay (2017). Gratifications of using Facebook, Twitter, Instagram, or Snapchat to follow brands: The moderating effect of social comparison, trust, tie strength, and network homophily on brand identification, brand engagement, brand commitment, and membership intention. *Telematics*

- and *Informatics*, 34(1), 412–424. <https://doi.org/10.1016/j.tele.2016.06.004>
- Poirier, W., Ouellet, C., Rancourt, M. A., Béchar, J., & Dufresne, Y. (2020). (Un)covering the Covid-19 pandemic: Framing analysis of the crisis in Canada. *Canadian Journal of Political Science*, 53(2), 365–371. <https://doi.org/10.1017/s0008423920000372>
- Popping, R. (2000). *Computer-assisted text analysis*. Sage. <https://books.google.com.my/books?id=JGE4EvXaxQC&pg=PA185&dq=computer+assist+text+analysis&hl=en&sa=X&ved=0ahUKEwjSntTBjLTpAhWib30KHZrZCCgQ6AEIKDAA#v=onepage&q=computerassisttextanalysis&f=false>
- Rana, S., Anand, A., Prashar, S., & Haque, M. M. (2020). A perspective on the positioning of Indian business schools post COVID-19 pandemic. *International Journal of Emerging Markets*. Advance online publication. <https://doi.org/10.1108/ijem-04-2020-0415>
- Robertson, A. (2021). What's happened to global news? *New Global Studies*, 15, 303–322. <https://doi.org/10.1515/ngs-2020-0041>
- Roden, M. (2003). US–China relations in the contemporary era: An international political economy perspective. *Politics*, 23(3), 192–199. <https://doi.org/10.1111/1467-9256.00196>
- Rooke, M. (2021). Alternative media framing of COVID-19 risks. *Current Sociology*, 69(4), 584–602. <https://doi.org/10.1177/00113921211006115>
- Sadig, H. B., & Petcu, C. (2019). *The history of Al Jazeera* (pp. 1–33). Palgrave Macmillan.
- Saleem, N. (2007). US media framing of foreign countries image: An analytical perspective. *Canadian Journal of Media Studies*, 2(1), 130–162. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.453.581&rep=rep1&type=pdf>
- Semetko, H. A., & Valkenburg, P. M. V. (2000). Framing European politics: A content analysis of press and television news. *Journal of Communication*, 50(2), 93–109. <https://doi.org/10.1111/j.1460-2466.2000.tb02843.x>
- Shehata, A., & Strömbäck, J. (2021). Learning political news from social media: Network media logic and current affairs news learning in a high-choice media environment. *Communication Research*, 48, 125–147. <https://doi.org/10.1177/0093650217749354>
- Strömbäck, J., Shehata, A., & Dimitrova, D. V. (2008). Framing the Mohammad cartoons issue: A cross-cultural comparison of Swedish and US press. *Global Media and Communication*, 4(2), 117–138. <https://doi.org/10.1177/1742766508091516>
- Sutter, R. (2003). Bush administration policy toward Beijing and Taipei. *Journal of Contemporary China*, 12(36), 477–492. <https://doi.org/10.1080/10670560305469>
- The Economist. (2020). *The world economy will suffer from “long covid” too*. <https://www.economist.com/graphic-detail/2020/10/13/the-world-economy-will-suffer-from-long-covid-too>
- The Independent. (2020a). Coronavirus: Is the UK actually ‘past the peak’ of Covid-19? *The Independent*. <https://www.independent.co.uk/news/uk/home-news/coronavirus-uk-lockdown-peak-deaths-cases-covid-19-cases-chart-stats-a9502196.html>
- The Independent. (2020b). Coronavirus: When will Covid-19 peak in the US? | *The Independent*. <https://www.independent.co.uk/news/world/americas/coronavirus-peak-us-when-covid-19-deaths-data-estimate-predictions-ventilators-infections-hospital-a9451126.html>
- The Star. (2020a). UK overtakes Italy with Europe’s highest official Covid-19 death toll | *The Star*. <https://www.thestar.com.my/news/world/2020/05/06/uk-overtakes-italy-with-europe039s-highest-official-covid-19-death-toll>
- The Star. (2020b). WHO expects Malaysia’s Covid-19 cases to peak in mid-April | *The Star*. <https://www.thestar.com.my/news/nation/2020/04/02/who-expects-malaysia039s-covid-19-cases-to-peak-in-mid-april>
- Tian, Y., & Stewart, C. M. (2005). Framing the SARS crisis: A computer-assisted text analysis of CNN and BBC online news reports of SARS. *Asian Journal of Communication*, 15(3), 289–301. <https://doi.org/10.1080/01292980500261605>
- University of Twente. (2004). *Communication theories about the theories*. www.utwente.nl/communication-theories.
- U.S. Department of State. (2018). *U.S. Relations with Colombia –United States Department of State*. <https://www.state.gov/u-s-relations-with-united-kingdom/>
- US Embassy & Consulates in the United Kingdom. (2018). *History of the U.S.-UK special relationship and U.S. Policy*. US Embassy & Consulates in the United Kingdom. <https://uk.usembassy.gov/our-relationship/policy-history/>
- Wallis, P., & Nerlich, B. (2005). Disease metaphors in new epidemics: The UK media framing of the 2003 SARS epidemic. *Social Science & Medicine*, 60(11), 2629–2639. <https://doi.org/10.1016/j.socscimed.2004.11.031>
- Ward, J. (2019). *Content analysis methodology –Impact Zone*. <https://www.impactzone.co/portfolio/content-analysis-methodology/#population-sampling-unit-analysis>
- Wasike, B. S. (2013). Framing news in 140 characters: How social media editors frame the news and interact with audiences via twitter. *Global Media Journal, Canadian Edition*, 6(1), 5–23.
- West, M. D. (Ed.). (2001). *Theory, method, and practice in computer content analysis* (Vol. 16). Greenwood Publishing Group.
- Xiang, Y. T., Yang, Y., Li, W., Zhang, L., Zhang, Q., Cheung, T., & Ng, C. H. (2020). Timely mental health care for the 2019 novel coronavirus outbreak is urgently needed. *The lancet psychiatry*, 7(3), 228–229.
- Xinhuanet. (2020). Turkey says hits peak of COVID-19 outbreak as Iran continues to witness slowdown in epidemic –Xinhua | *English.news.cn*. http://www.xinhuanet.com/english/2020-04/30/c_139019203.htm
- Xiong, Y., Cho, M., & Boatwright, B. (2019). Hashtag activism and message frames among social movement organizations: Semantic network analysis and thematic analysis of Twitter during the #MeToo movement. *Public Relations Review*, 45(1), 10–23. <https://doi.org/10.1016/j.pubrev.2018.10.014>
- Xi, Y., Chen, A., & Ng, A. (2021). Conditional transparency: Differentiated news framings of COVID-19 severity in the pre-crisis stage in China. *PLoS One*, 16(5), e0252062. <https://doi.org/10.1371/journal.pone.0252062>
- Yao, C. (2021). How Taiwan’s mayors helped lead the fight against COVID-19 – The Diplomat. *The Diplomat*. <https://thediplomat.com/2021/07/how-taiwans-mayors-helped-lead-the-fight-against-covid-19/>
- Young, M. L., Hermida, A., & Fulda, J. (2018). What makes for great data journalism?: A content analysis of data journalism awards finalists 2012–2015. *Journalism Practice*, 12(1), 115–135. <https://doi.org/10.1080/17512786.2016.1270171>