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The Tailors, Merchants, and Consumers of Misinformation

Unearthing the Patterns of Misinformation in Bangladesh

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Abstract

Purpose: The purpose of this study is to investigate patterns of misinformation in both social and mainstream media in the country

Theory: Partisan motivated theory, human decision-making process, online echo-chamber, and filter bubbles, two-step flow of communication.

Method: Overall qualitative & quantitative analysis

Result: Politicians, both mainstream and social media disseminate misinformation

Misinformation has always existed, though research suggests that their prevalence has increased in recent years in different forms (post-truth and alternative facts, for instance). Experts claim that it is now a global phenomenon regardless of their financial condition or advanced technology. Given this, it is no surprise that media and communication scholars have devoted increasing attention to investigating questions such as who the creators of misinformation are, how misinformation is disseminated, why misinformation is created and propagated, and which media platforms are used to disseminate misinformation. However, the recent research about misinformation is focused mainly on the Western perspectives. We know a little from underdeveloped countries' context, especially where the freedom of expression is in poor condition, the

state of democracy follows a backsliding trend. One such country is Bangladesh. Against this background, this study investigates patterns of misinformation in both social and mainstream media in the country. Previous studies have been reviewed to understand the theoretical perspectives on misinformation, and theories such as motivated partisan reasoning, human decision-making process, online echo chambers, and filter bubbles have been applied. The study has been conducted mainly a descriptive analysis based on the fact check reports done by BD FactCheck during 2020. The study also investigated how people interact with political and non-political issues such as health and medicare, law, crime, and education. The results suggest that the politicians, both mainstream and social media are the active actors in disseminating misinformation. Also, there is significant amount of misinformation related to political issues.

Contents

1.Introduction

"In times of universal deceit, telling the truth will be a revolutionary act."
-George Orwell (as quoted in McIntyre, 2018).

The irony is, it is not true that the quotation is written by the 20th century English Novelist George Orwell. The American web magazine nationalinterest.org confirms that the quote is misattributed (Sylvester, 2019, para 3). Despite the fact, this statement with the misattribution is roaming around the internet realm for many years. Likewise, fake news and misinformation in the media are not new; it has been with us since the development of the earliest writing systems (Marcus, 1993, Tandoc et al., 2017: 138). One of the classic examples of fake news is before the end of World War II, a piece of fake news disseminated that the war was over. It was propagated fast because many people wanted it to be true (Buckner, 1965: 57). These incidents insight the fact that misinformation and fake news has always existed, though research suggests that their prevalence has increased in recent years in different forms (post-truth and alternative facts, for instance). Especially after the years 2016 U.S. presidential election are being marked as the era of post-truth and alternative facts by political communication scholarship. Cooke (2017) points out that the phenomenon of fake news is not new, but the concept of post-truth is new (Cooke, 2017: 212). According to The Oxford English Dictionaries, post-truth relates to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief (Hendricks &Vestergaard, 2019: 103). The incidents of post-truth rocketed to public attention in November 2016, when The Oxford English Dictionaries named it 2016's word of the year. The use of the word has been increased by two thousand percent over 2015 (McIntyre, 2018: 1). A study of fake and real news on Facebook during the 2016 U.S. election showed that the top 20

fake stories drew more engagement than the top real news stories by a margin of 8.7–7.3 million, measured by shares, reactions, and comments (Bennett & Livingstone, 2018: 133).

Guess et al. (2020) mention that less than half of all Americans visited an untrustworthy website in the weeks before the election and that these websites make up a small percentage of people's online news diets (p, 477). Experts claim that it is now a global phenomenon regardless of their financial condition or how advanced they are in technology. In digital media or print, the vicious effect of fake news and misinformation causing harm ranging from individuals to businesses and affecting millions of people within minutes (Figueiraa & Oliveira: 2017: 817). A survey conducted by entertainment site BuzzFeed found that fake news headlines fool American adults about 75% of the time (Silverman and Singer-Vine 2016, para. 1). Jenny Anderson, Senior Reporter at popular business mobilization site qz.com reported, even though young people are tech-savvy, they believe in misleading news to a higher degree than their parents (Anderson, 2017, Para 1).

On the other hand, in their survey in September 2017 in 18 countries, the BBC discovered that 79% of respondents said they worried about what was fake and what was real on the internet (Cellan-Jones, 2017). Wardle & Derakhshan (2017) reported the reasons behind increasing the prevalence of misinformation. According to them, the advancement of widely accessible, cheap, and sophisticated editing and publishing technology has made it easier than ever for anyone to create and distribute content. They point out that the consumption of information, once private, has become public because of social media. Besides, the speed of spreading information has been increased by an accelerated news cycle and mobile handsets. Lastly, information is passed in real-time between trusted peers, and any piece of information is far less likely to be challenged (Wardle & Derakhshan, 2017: 11-12).

Given this, it is no surprise that media and communication scholars have devoted increasing attention to investigating questions such as who the creators of misinformation are, how misinformation is disseminated, why misinformation is created and propagated, and which media platforms are used to disseminate misinformation.

A large share of previous studies on misinformation singled out that the advent of the Internet and social networking sites like Facebook, Twitter, video streaming platforms such as YouTube are being used significantly in spreading misinformation, disinformation, and fake news. People interact (like, comment, share) to the stories on social networking sites so quickly. In an instant, stories can be shared, whether they have been read or not (Cooke, 2017: 214). Alcott and Gentzkow (2017) point out that amongst the social networking sites, Facebook has a dramatically different structure than previous media technologies. Its content can be relayed among users without significant third-party filtering, fact-checking, or editorial judgment. An individual user with no track record or reputation can, in some cases, reach as many readers as Fox News, CNN, or the New York Times (Alcott and Gentzkow, 2017: 211). According to Tandoc et al. (2017), social media sites are not only marked by having a mass audience, but they also facilitate speedy exchange and spread of information. Unfortunately, they have also facilitated the spread of wrong information, such as fake news (Tandoc et al., 2017: 138). Cooke 2017 argues that it is easy to become overwhelmed and overloaded by the sheer volume of information presented to us on social media on any given day. The utter volume of information is charged by political issues and potentially life-altering societal problems. Some other studies have unearthed that selective exposure to certain content by social media users traps them inside algorithmically created digital echo chambers and filter bubbles (Bakir & McStay, 2018: 160-161). Echo chambers exist where information, ideas, or beliefs are amplified and reinforced by communication and repetition inside a defined system where competing views are underrepresented (Sunstein, 2001; Bakir & McStay, 2018). Hence, social

media plays a significant role in "information overload" because it facilitates the rapidity of disseminating information, fake or otherwise (Cooke, 2017: 214). Figueiraa & Oliveira (2017) argue that news market newcomers (such as BuzzFeed, Vox, and Fusion) have built their presence by embracing technologies, unpredictable algorithms, for instance, undermining the long-term positions occupied by more traditional news publishers (p, 818). Bakir & McStay (2018) sort out that a growing number of people profiting from online behavioral advertising use these technologies. For them, fake news acts as clickbait, namely Web content designed to generate attention and online advertising revenue at the expense of quality or accuracy, relying on sensationalist headlines or eye-catching pictures to attract click-throughs and shares (p, 159). In line with these findings, Figueiraa & Oliveira 2017 argued that this aspect relies on the increasing power that social media companies, such as Google, Apple, Facebook, and Amazon, have gained in controlling who publishes what and how the publications are monetized (p, 818). Though misinformation or fake news is not new, Little (2016) acknowledges that this issue has emerged with a new dimension since the 2016 presidential election of the United States. According to him, it is not the only cause, politicians lying and creating pressure on other actors to lie on their behalf. The forms of lies have many varieties, including rewriting the history taught in schools, preventing the media from reporting on policy failures to the relatively innocuous spinning of the economy's performance, sometimes in press conferences (Little, 2016: 225). Two motivations drive the production of fake news; one is financial-the Macedonian teenagers, for instance, who earned dollars creating and publishing fabricated stories (Subramanian 2017, Tandoc, 2018: 675). According to them, the second motivation is ideological or political. Some fake news producers are intentionally muddying public discourse, or discrediting personalities, to push for the political or ideological agenda they support (Allcott & Gentzkow, 2017: 217). A study by Tsfati et al., (2019) discovers that the reach of fake news websites is limited to small parts of the population. On the other hand,

data demonstrate that large proportions of the public know about notable fake news stories and believe them. These findings imply the possibility that most people hear about fake news stories not from fake news websites but through their coverage in mainstream news outlets (Tsfati et al., 2020: 157). These scholars also mention that fake news receives partisan media outlets' attention when it fits their ideological tendencies. It is consistent with the selective exposure theory, which means that individuals tend to be exposed to the information selectively that supports their pre-existing views. Likewise, people tend to differentially consume false information that reinforces their political views (Guess et al., 2020: 472). We know that traditional media and social media are not the only means of transmitting the information. Politicians follow the information they think to be important to them, and therefore, they also disseminate information using various communication channels, Twitter and Facebook. Theories have focused on opinion leaders' role in transmitting information assumed to be a two-step communication flow (Katz, 1957: 61). Moreover, some people can be motivated by any political party or the politicians' ideology. Therefore, it is reasonable to perceive that many of the public are likely to believe in the misinformation to a higher degree when politicians spread it. Theorists refer to it as motivated reasoning theory, which suggests that people could draw self-serving conclusions not because they wanted to but because these conclusions seemed more plausible, given their prior beliefs and expectancies (Kunda, 1990: 48). According to the previous studies, the term motivated partisan reasoning refers to the greater likelihood of acceptance of information that is consistent with people's attitudes and ideologies as solid and convincing and the higher probability of rejection of conflicting information because of its perceived weakness and invalidity (Lewandowsky et al., 2013; Pasek et al., 2015; Taber & Lodge, 2006; Washburn & Skitka, 2017, Nyhan & Reifler, 2010: 304). In the line with the existing research, we can assume that if a politician propagates a piece of misinformation

through the mainstream media, it may become a baneful combination that might mislead and misguide the public with a greater magnitude.

However, the recent research about misinformation is focused mainly on the Western perspectives. We know a little from underdeveloped countries' context, especially where the freedom of expression is in poor condition, the state of democracy is following a backsliding trend. One such country is Bangladesh. According to the Bangladeshi media and political science scholars, the media outlets in the country, especially traditional media, are being regulated by the different regimes right from the country's birth. Bangladesh struggles for stable press freedom and sustainable democracy, and freedom of expression is indirectly restrained through a couple of restrictive laws (Rahman, 2017). Since the countries which enjoy healthy liberal democracy already started to conduct studies to know the patterns of misinformation in their countries and trying to fight against it. Bangladesh remained far behind in the battle against misinformation. This study is the first of its kind to address the patterns of misinformation in Bangladesh. In the country there is also a research gap in the communication environment and digital ecology from the social sciences and humanities disciplines' perspective.

Against this background, the purpose of this study is to investigate patterns of misinformation in both social and mainstream media in Bangladesh. More specifically, the study aims to investigate the following research questions:

1. What actors actively involved disseminating misinformation?

2. Through what media were the misinformation disseminated?

3. What are the areas or issues the misinformation related to?

4. Through what kind of content was the misinformation disseminated?

5. How much differences are there in political and non-political case interactions after fact check?

This study will help future researchers know the patterns of misinformation and online news sharing habits of the social media users in Bangladesh. It shall also help the journalists be aware of their role in preventing propagating misinformation through mainstream and social media platforms.

2. Theoretical Background

2.1 Defining the Terms

Before digging down to the research problem, it is essential to know the theoretical aspects of the terms like fake news, false news, misleading news, fabricated story, misinformation, disinformation, mal information, propaganda, parody, and satire. Since most of these terms are closely related to each other by their meaning, Alcott and Gentzkow (2017) singled out them as cousins. However, the contemporary discourse, significant media coverage, defines fake news as referring to viral posts based on fictitious accounts made to look like news reports (Tandoc et al., 2020: 38). Lazer and his colleagues (2018) define fake news as fabricated information that mimics news media content in form but not in organizational process or intent. They assert that fake news outlets, in turn, lack the news media's editorial norms and processes for ensuring the accuracy and credibility of information. According to them, news overlaps with other information disorders, such as misinformation (false or misleading information) and disinformation (false information that is purposely spread to deceive people) (Lazer et al., 2018: 1094). Allcott and Gentzkow (2017) mention, fake news is news articles that are intentionally and verifiably false and could mislead readers (Allcott and Gentzkow, 2017: 213). They also invoke that a message should only be considered fake news when it is low in facticity and was and deliberately produced to deceive, and that is presented in a journalistic format.

According to Egelhofer and Lecheler (2019) the low in facticity in a message or information comprises- false connection, misleading, imposter and fabricated content also false context (Egelhofer and Lecheler, 2019: 99). Some other schools of thought often treated fake news and conspiracy theories as interchangeable concepts due to the proximity within their meaning, especially in mainstream media, but sometimes in academic texts (Faragó et al., 2019). It is difficult to verify as true or false, and they are typically originated by people who believe them to be true (Allcott & Gentzkow, 2017: 214). On emphasizing conspiracy mentality, Imhoff & Bruder (2014) bring forth the concept that it can be understood as a generalized political attitude, distinct from established generalized political attitudes such as right-wing authoritarianism and social dominance orientation temporally relatively stable (Imhoff & Bruder, 2014: 24). According to theorist Uscinski and Parent (2011), fake news, mainly with conspiracy narratives, is less attractive to those in power (supporters of the government, members of the political parties in power) and more appealing to the opposition parties and their supporters.

Another closely related term of fake news is fabricated story that refers to articles that have no factual basis but are published in the style of news articles to create legitimacy (Allcott and Gentzkow 2017: 143). An example of a fabricated story is "Pope Francis Endorsed Donald Trump" (Allcott and Gentzkow 2017: 214). It was estimated that prior to U.S presidential election 2016 fabricated news relating to Donald Trump was shared 30 million times on Facebook, and those relating to Hillary Clinton were shared 8 million times (Tandoc et al., 2017: 143). Approximately half of those who remembered these stories also believed them (Allcott and Gentzkow 2017: 222). Cooke (2017) claims that fabricated news is expressly disseminated for the sake of earning money from clicks and views (Cooke, 2017: 211).

Besides, there has been increased interest in the concept of propaganda due to its relevance to political events in recent years (Tandoc et al., 2017: 146). Propaganda and disinformation: manipulating and misleading people intentionally to achieve political ends (Blenker et al., 2018: 24). The overt purpose is to benefit a public figure, organization, or government (Tandoc et al., 2020:146). However, propaganda is often based on facts but includes bias that promotes a particular side or perspective. While not unheard of in journalism, such blending of news and commentary hides behind the appropriation of being an objective piece of news; however, the goal is often to persuade rather than inform (Tandoc et al., 2017: 147). Apart from them, another school of thought, Wardle & Derakhshan, refrained from using the term fake news in their report (2017), claiming that politicians worldwide have promoted the term to undermine and discredit the news organizations whose coverage they find disagreeable. At the same time, they argue that the term is inadequate to describe the complex phenomena of information pollution (Wardle & Derakhshan, 2017: 5). They distinguish misinformation, disinformation, and mal information from the other categories pertaining to fake news. In consistence with the definitions by the scholars mentioned above, they bring on misinformation as false information, but the person who is disseminating it believes it is true.

Conversely, they call it disinformation when any malicious actor deliberately delivers any intentional lie (Wardle & Derakhshan, 2018: 43). The third term they talk about is mal information which they explain as information based on reality but inflicted harm on a person, organization, or country. Apart from that, a large amount of scholarship seeks to unwrap the other reasons behind polluting information and actors who create information disorder by information pollution. Their results suggest that the politicians are critical perpetrators who are significantly responsible for tailoring and disseminating disinformation. Wardle & Derakhshan (2018) argue that politicians intentionally disseminate false information to advance their

political goals. The other actors, such as online media, propagate false information masked as traditional news or generate ad revenues (Bennett & Livingston, 2018: 133).

Furthermore, Tandoc et al. (2017) bring on two more components of fake news in their study-news satire and news parody. According to them, news satire is the most common operationalization of fake news in the articles they have reviewed for their study. They have mentioned that most scholars referred to news satire as the tool to mock news programs, typically using humor or exaggeration to present audiences with news updates. As their study suggests, a key difference between news and news satire is that satires promote themselves as delivering entertainment first and foremost rather than information. (Tandoc et al., 2017: 141). Golbeck et al., (2018) refer that satire presents stories as news that are factually incorrect, but the intent is not to deceive but instead to call out, ridicule, or expose behavior that is shameful, corrupt, or otherwise "bad" (p,17). They argue that some circles nowadays use the term satire to attack legitimate and fact-based news reports. Especially the people in power use it as an attacking tool to factually accurate news reports when they do not like it. Tandoc et al. (2017) revealed that the other schools of thought have an opposite view on news satire. They have mentioned news satire as an increasingly important part of the media ecosystem. Their use of humor is not perfunctory; instead, humor is often used to provide critiques of political, economic, or social affairs (Tandoc et al., 2017: 141).

On the other hand, parody is what Hariman (2008) states as political humor, an essential component for an engaged, sustainable, democratic public culture (Hariman, 2008: 247). Tandoc et al. (2017) point out that parody is a second format after satire which previous studies have referred to as fake news. It shares many characteristics with satire as both rely on humor to draw an audience (Tandoc et al., 2017, 142). Berkowitz and Schwartz (2016) argued that news parodies play the Fifth Estate role along with non-mainstream media sources such as

columnists and bloggers. The Fifth Estate creates a unique boundary vis-a`-vis mainstream news media by enabling critiques of both people in power and the news media (Tandoc et al., 2017: 142: Berkowitz and Schwartz, 2016: 1).

However, since disinformation, propaganda, and other related categories about fake news are related to intentional activity and measuring intention is impossible (Pang & Ng, 2017: 438). Therefore, this study will restrain the study of misinformation.

2.2 The Tailors & Merchants of Misinformation (The Political Elites)

Gaber & Fisher (2020) argue that politicians have historically employed rhetoric and rhetorical spin to embellish the truth and hide damaging information. Accusations that politicians lie are far from new, but the intensity of such accusations has increased (p, 1). These scholars call these activities (rhetorical spin to hiding the damaging information) "strategic lying." According to them, an overt form of strategic lying emerged in the United Kingdom during the 2016 Brexit-Referendum, the 2019 U.K. general election, and Donald Trump's presidential campaigns, which has spin to a new level (Graber & Fisher, 2020: 2, Humprecht et al., 2020: 494). (Little, 2016) states that the politicians do not restrain themselves after lying; they drive others to lie on their behalf, which lies take many forms (p, 225). A piece of good evidence in line with this argument is the claim of "election steal" by President Trump in the 2020 U.S. presidential election and subsequent violence and attack on Capitol Hill by his supporters. Hence, we can perceive that when a politician lies, they do not only influence their supporters to lie also provoke the supporters to be violent. According to Chadwick & Vaccari (2019), many ordinary citizens circulate political information with great regularity in today's media systems.

Consequently, false, and misleading information, whether it originates with elites or non-elites, can become widely distributed and quickly (Chadwick & Vaccari, 2019: 3). Therefore, false and misleading information originated by politicians may become the reason for significant damage in both online and offline domains. Moreover, well-informed citizens are vital to democracy (Bakir & McStay, 2018: 160). Previous studies on voters' behavior suggest that the informed electorates choose better candidates than the uninformed electorates at the ballot box. Gaber and Fisher (2020) bring on that in "post-factual democracy," this task becomes more complex for the electors to perform because political lying undermines trust in politics and politicians and misleads the public (p, 2). Hendricks and Vestergaard (2019) refer democracy as a post-factual state when politically opportune, but factually misleading narratives form the basis for political debate, decision, and legislation (p, 104). Survey research (mainly in the United States) suggests that a growing group of people who are not uninformed but rather disinformed hold inaccurate factual beliefs and use incorrect information to form their preferences (Kuklinski et al. 2014 as cited in Humprecht et al., 2020). People who indicated in the survey that they supported Trump were far more likely to visit untrustworthy websites, especially those who are conservative and, therefore, probably pro-Trump, compared with those who indicated that they were Clinton supporters (Guess et al., 2020: 473).

Little (2016) argues that the pervasiveness of political actors lying or manipulating information more generally may seem natural (p, 224). However, he has been sceptical about the general acceptance of lying's central role in politics. Little also argues that this central role of political lies itself poses a puzzle from a game-theoretic perspective. He asserts that if the "audience" for political information (which could be other elites, party members, or citizens more broadly) know they are being lied to and adjust their beliefs accordingly, why the politicians go through the costly and potentially embarrassing effort of distorting information? (Little, 2016: 224). From the previous literature reviews, we can assume that one of the key reasons for putting this

embarrassing effort by the politician is to discredit the legal and factual news reports which they think harmful for their political career. Alternatively, to bolster their political activities, which contradicts with the public interest. However, Domke et al., (1999) assert that those complaints about news coverage are at least partly strategic (p, 55). In line with this assertion, Farhall et al., (2019) argue that criticism of news media (labeling as liberal bias by the conservative elites, for instance) is an attempt to cast doubt about the credibility of news media in the minds of voters (p, 4355). However, these results do suggest that complaints about news coverage are at least partly strategic. There might be several strategies prompting such claims of liberal bias, but one that seems likely is that the criticisms represent an attempt by conservative elites to cast doubt about the credibility of news media in the minds of voters.

2.3 The Tailors & Merchants of Misinformation (Mainstream News Media)

From the democratic perspective, an essential function of news media is to aid citizens in becoming informed (Holbert, 2005: 511, Strömbäck, 2005). From the normative perspective, for news media to fulfil this function, an essential prerequisite is that they provide people with the kind of information they need to be free and self-governing (Strömbäck, 2005: 332). Though the phenomenon that the political actors actively spreading misleading information are well known and discussed, the role of traditional news media, which are normatively supposed to be the bearers of truth and factual accuracy, is less well understood (Tsfati et al., 2020: 158). As mentioned above, in mitigating people's need for information, mass media has a significant role (Tandoc et al., 2018). Conversely, they sometimes frequently play a paradoxical role in respect to the rise of misinformation. Tsfati and his colleagues (2020) argue that mainstream media are probably a powerful amplifier and disseminator of false stories even if they cover fake news intending to set the record and correct the fabricated Information (p, 161). They assert, stories about fake news reports are almost by definition newsworthy. The content of

fake news reports often satisfies additional news criteria that further increase their news value. Hence, there is a probability that if mass media deliver a piece of misinformation, it may have a significant adverse effect on the public. As McComb & Shaw (1972) stated, the media plays a crucial role in shaping people's attitudes; therefore, if traditional media spread any misinformation, it negatively affects society. These findings imply the possibility that most people hear about fake news stories not from fake news websites but through their coverage in mainstream news outlets (Tsfati et al., 2020: 157). Researchers have sought to determine why the mainstream news media disseminate false information and found several reasons. One of the critical reasons for propagating misinformation is that the corporate business groups own some media houses. Corporate news networks are in constant competition for viewers; networks pressure their journalists to lure viewers into sensationalist stories instead of investing in quality journalism (Ethics in Journalism, 2007, para 3).

Moreover, considering the media pluralism in so many countries worldwide, experts refer that there is a growing competition amongst the news media outlets. Therefore, they do not spend enough time and effort to verify the information's authenticity and objectivity. Instead, they publish the information right away, which lacks facts and evidence. In today's media landscape, media houses sometimes compete with their news wings (T.V. channels compete with their news portals). As a result, they may publish information without verification of facticity. Besides, Michelle & Amazeen (2017) point out that the agenda-setting effect is not limited to news and audiences. It encompasses the original theory; intermedia agenda setting focuses on the interaction between different outlets in setting each other's news agenda (p, 2030).

2.4 The Tailors & Merchants of Misinformation (social media)

From the previous literature reviews, we see that social media plays a pivotal role in originating and disseminating misinformation. A large share of the existing studies exerted to unmask the

reasons and patterns of this evil role of social media. Tandoc et al., (2017) posit that Facebook was started its journey as a site through which people can share personal ideas and updates with friends. However, now, it has been converted into a platform where users produce, consume, and exchange different types of information, including news (p, 139). The earlier study by Tandoc and Vos (2016) bring on those journalists have increased their presence on social media and started to treat this media as a platform to promote their news stories, but they could not avoid audience preferences (Tandoc & Vos, 2016, Tandoc et al., 2017: 139). They argue that the audience in social media influences journalists' decision-making process (Tandoc & Vos, 2016: 953). Tandoc et al., (2017) point out that like Facebook, all the other social media, (i.e., Twitter) are becoming the main sources of news for a growing number of individuals. Consequently, misinformation seems to have news channels through social media (p, 138). In consistence to this assertion Humprecht et al., (2020) invoke that in countries where populist politicians often attack journalists, public trust in traditional media suffers while the use of social media increases. They argue lower trust in traditional media and higher use of social media present populists with improved opportunities to spread their messages about who is allegedly conspiring against the common people (Humprecht et al., 2020: 509). According to Zelizer (1993), journalists' ability to decide what news has constituted the expertise that distinguishes them from non-reporters (p, 220). But scholars found that the digitization of news has challenged traditional definitions of news (Robinson and DeShano, 2011: 8). They argue that the online platforms provide space for non-journalists to reach a mass audience, what some scholars named citizen journalism. They induce that the rise of citizen journalism challenged the link between news and journalists, as non-journalists began to engage in journalistic activities to produce journalistic outputs, including news (Robinson and DeShano 2011: 8, Tandoc et al., 2017: 139).

Furthermore, "fellow feeling" in social media networks is a common phenomenon. Scholars refer to the fellow feeling as the group's emotional behavior within social networks produced by automated fake news to gain economic and political incentives (Bakir & McStay, 2018: 155). According to Facebook's emotional contagion study, exposure to a particular type of affective content in users' news feeds stimulates posting behaviour that reflects the emotional charge of that content (Bakir & McStay, 2018: 169). They analyse this principle from the news-based filter bubbles, which refers to exposure to only ideological similar content (Bechmann & Nielbo, 2018: 991). Al-Rawi (2019a) argues that due to partisan or sensational nature some people allow "low-quality information" to become viral on social networking site considering it even more credible than mainstream media (Al-Rawi, 2019a: 667-688). Another empirical study by this scholar suggests that social media news readers prefer to read and share overwhelmingly positive news, while social significance and unexpectedness in news stories are the most appealing viral news elements (Al-Rawi, 2019b: 64). According to him viral news can be defined as networked news stories that spread online mostly through social media in a much faster and wider manner than other news stories (Al-Rawi, 2019b: 67). From a social psychological perspective, an individual's beliefs on a particular subject are often influenced by others' beliefs (Kelman 1958; Zhang et al., 2013). In light of this perspective, Zang et al. (2013) posit that the beliefs of internet users are likely to be influenced by the information and opinions provided by other Internet users (Zhang et al., 2013: 1). According to Zhang et al. (2013) the fake news already represents an increase in emotional charge, but automated news can intensify this situation (p,2). Here they argue that different actors such as political elites and corporate groups are hiring people to present certain beliefs towards targeted people. To do so, they often use online "astroturfing," which refers to coordinated campaigns where messages supporting a specific agenda are distributed via the Internet (Zhang et al., 2013: 1). They argue that the astroturf messages are mainly disseminated for deceiving their receivers.

One example of online astroturfing is- during the 2016 U.S. presidential election, Twitter offered Trump a networked flak tool by which he continuously attempted to undermine the credibility of mainstream media, especially the news outlets that were most critical of his administration and policies (Reporters Without Borders, 2017, Cited in Al-Rawi, 2019a: 700).

2.5 The Consumers of Misinformation

Political scientists and psychologists have probed to discover why people believe in misinformation, especially those diffused by the actors they follow. What factors shape people's decision-making process when they are exposed to new information? Against this background, I would elaborate this part in the light of partisan motivated reasoning theory followed by the two-step flow theory of communication. I will demonstrate how people process information when they receive it from the political elites. Also, analyze people's attitudes towards political information from psychological aspects with the help of existing studies.

 Elihua Katz (1957) argues by referring to the authors of *The People's Choice* that the flow of mass communication maybe sometimes not direct to the public. Instead, opinion leaders receive information transmitted or circulated by media, and then they pass that information (what they read or hear) to their followers for whom they are influential (p, 61). He affirms that some opinion leaders observe mass media in a higher degree than their followers. In this circumstance, perhaps at first, information flows to the opinion leaders from mass media. Then, the less active parts of the population receive that information from the opinion leaders (Karts, 1957: 64). Considering this affirmation, it is a pivotal aspect to explain why people believe in their opinion. To understand the reason here, I induce motivated reasoning theory, which refers to an individual's goal in the context of forming an attitude (Bolsen et al., 2013: 236). There are two fundamental motivations in the opinion formation process- accuracy and directional goals. A directional goal refers to when a person is motivated to arrive at a particular conclusion

(Kunda, 1999: 236). One consistent with a person's party identification (Taber & Lodge, 2006) is strictly on partisan directional goals. In their study, Bolsen et al., (2013) state that individuals will be more likely to engage in motivated partisan reasoning in evaluating a policy when provided with an in party or out party endorsement. This particularly likely to occur when a directional motivation is a work without an induced motivation (Bolsen et al., 2013: 238). Then they argue that individuals will be less likely to engage in motivated partisan reasoning when pursuing a fundamental goal in the opinion formation process, regardless of any partisan endorsement (Bolsen et al., 2013: 238-239). Accuracy-driven reasoning suggests that when people are motivated to be accurate, they put more significant cognitive effort into issue-related reasoning, attend to relevant information more carefully, and process it more deeply, often using more complex rules (Kunda, 1990: 481).

Moreover, according to the psychological research, people are cognitively biased when they process any new information. Cognitive bias theory suggests to people being more likely to consume and believe information consistent with their existing knowledge and belief. Bacon (2000) posits that the impact of individual predispositions on political preferences is conditional, dependent on the political context. Most of the time, most citizens will be decidedly partisan in what and how they think about and reason about political leaders, groups, events, and issues (p, 185). Some political scientists measured the extent to which their emotions influence their political beliefs. They have found that anger and anxiety are the two pivotal emotional components that condition citizen's beliefs during the interpretation of consistent party misinformation. Studies suggest anger exacerbates the influence of partisanship. People tend to be susceptible to party-consistent misinformation to a higher degree when they are angry.

Conversely, anxiety lessens the influence of partisanship when considering uncorrected misinformation and increases the likelihood that a claim disseminated from the opposed political party is believed (Week, 2015: 700). The study also says angry individuals are less likely to seek out attitude-challenging information and be less willing to compromise politically (MacKuen et al., 2010, Week, 2015). While prior work suggests anxiety and anger may uniquely affect partisan processing, it has neither isolated the causal influence of each emotion nor thoroughly assessed whether these emotions' influence extends to explicitly partisan motivations or to the accuracy of political beliefs (Week, 2015: 700). Bolsen et al., (2013) debate, citizens may support/oppose policies that they would otherwise oppose/support in the absence of an endorsement from a political party. It is mainly due to motivated partisan reasoning where individuals interpret information through their party commitment (p, 235).

Furthermore, researchers have investigated the decision-making process of human beings. According to the normative models, the decision-making process comprises a two-step updating process. It begins with the accumulation of relevant belief evidence followed by integrating new information with the existing information to produce an updated judgment (Taber & Lodge, 2006, 755). These scholars argue this judgment results from the combination of prior information and new information, though the integration of new information is kept independent of the existing knowledge. Morris et al., (2003), according to whom the socio-political concepts are "hot" for most people that related attitude comes to mind automatically, conditioned by existing semantic information (p, 727-728). One's likes or dislikes for Hillary Clinton, for example, are aroused even before conscious awareness of her identity and other semantic associations that she is a Democratic senator, a woman, and a former first lady (Taber & Lodge, 2006: 756).

On the other hand, Druckman and his colleagues (2013) debate that the world is full of biased information. Therefore, people might struggle to find out the correct decision. A motivated directional reasoner can choose congruent information in balanced information, but they might be bound to find contradictory evidence. It may happen if people are exposed to contradictory solid arguments. However, directional driven reasoning refers to a process while citizens want to reach a decision or conclusion consistent with their existing belief. Kunda (1990) argues that people merely want to conclude whatever they want to conclude. He proposes that people are motivated to arrive at a particular conclusion, attempt to be rational, and construct a justification of their desired conclusion that would persuade a dispassionate observer (p, 482). Supporters of the government perceive the government's performance more positively (Little, 2017), making fake government news consistent with their worldviews due to motivated partisan reasoning (Faragó et al., 2019: 78). If people are satisfied with the country's economic prosperity and are optimistic about their future, they are satisfied with those in power to a higher degree (Triesman, 2011: 607).

2.6 Misinformation in Bangladesh

In Bangladesh, several unwanted incidents were reported during the last couple of years, including murders, public beating, attacking minorities, vandalizing, and other forms of social crimes that originated from fake news through social media. False and misleading news frequently leads to violent incidents in the country. More than fifty people were killed in mob beatings in 2019, according to rights watchdog Ain o Salish Kendra (Al Jazeera, 2020). The country's politicians are also responsible for disseminating misinformation on several occasions, which stir up unwanted incidents such as vandalization, attacking the political oppositions. Even the government-backed fake news has garnered a great deal of attention recently; it is now new. Government-backed propaganda disseminated through mass media

started being used effectively during World War I in Western countries and has been employed by various states ever since. It is just one of many tools used by governments to control media narratives, and in many ways, it is not a novel phenomenon (Casey 1944, as cited in Ahmed 2018).

Along with social media such as Facebook, Twitter, and video streaming site YouTube, Bangladesh's mainstream media outlets cover misinformation. A few days ahead of Bangladesh's national elections on 30 December 2018, Facebook removed nine pages. Six Facebook accounts for 'spreading misinformation,' what the Facebook authorities called 'designed to look like independent news outlets and posted pro-government and anti-opposition content (Islam, 2019, Para, 8).

2.7 Media & Political Elites in Bangladesh

Before going to the detail discussion on the Bangladeshi media outlet it is essential to understand the media landscape of the country. The table 1 mentioned below portrays a list of the most popular news media, types, and people or groups own them.

Table 1: List of Bangladeshi Prominent News Media Outlets

Name of the Media	Type of Media	Public/Private	Owner
Prothom Alo (Daily)	Bengali Daily, online pages in English	Private	Transcom Group
The Daily Star	English Daily, online pages in Bengali	Private	Transcom Group

Dainik (Daily) Ittefaq	Bengali Daily, Online pages in English	Private	Ittefaq Group of Publications Ltd.
Dainik Sangbad	Bengali Daily	Private	Khandakar Muniruzzaman
Dainik Jugantor	Bengali Daily	Private	Jamuna Group Ltd.
Dainik Inqilab	Bengali Daily	Private	Inqilab Enterprise & Publications Limited
Dainik Samakal	Bengali Daily	Private	AK Azad
Dainik Janakantha	Bengali Daily	Private	Mohammad Atikullah Khan Masud
The Bangladesh Today	English Daily	Private	Jobaer Alam
Bangladesh Pratidin	Bengali Daily	Private	East West Media Limited, Basundhara Group
Kaler Kantha	Bengali Daily	Private	East West Media Limited, Basundhara Group
Daily Sun	English Daily	Private	East West Media Limited, Basundhara Group
bdnews24.com	Online News Portal	Private	Bangladesh News 24 Hours Ltd.
Dhaka Tribune	English Daily, Online News Portal	Private	2A Media Limited
Bangla Tribune	Online News Portal	Private	2A Media Limited
Banglanews24.com	Online News Portal	Private	East West Media Limited, Basundhara Group
Jagonews24.com	Online News Portal	Private	
Bangladesh Television (BTV), BTV World	TV Channel	Public	People's Republic of Bangladesh
Ekushey TV	TV, Online News Portal	Private	S. Alam Group
NTV	TV, Online News Portal	Private	Mohammad Mosaddak Ali
RTV		Private	Bengal Media Corporation Ltd.
Ekattor TV	TV Channel	Private	Ekattor Media Ltd, Meghna Group of Industries
Somoy TV	TV Channel, Online News Portal	Private	Somoy Media Ltd.

Channel i	TV Channel, Online News Portal	Private	Impress Media

The table 1 suggests that a large share of the mainstream media listed here are owned by the corporate business houses. Though this table illustrated here seemingly enlists many media outlets, but apart from these, there exists a several hundreds of media outlets in the country. On the one hand, the government kept the traditional media under monitoring and strict regulations; on the other side, there is a growing trend of external media pluralism. According to Frontieres (2016), media pluralism can either mean a plurality of voices, of analyses, of expressed opinions and issues (internal pluralism), or a plurality of media outlets, of types of media (print, radio, T.V., or digital) and coexistence of private-owned media and public service media (external pluralism), (Frontieres, 2016: Para, 1). Though we see external pluralism in the country, internal pluralism does not exist here. Ahmed (2014) brings forth that over the last couple of decades, reforming into a professional media system has been a common election pledge of the major political parties in the country. He posits that historically successive governments have attempted to maintain some control over the press. Despite pressures for reform, they have kept various regulations to perpetuate their vested political interests (Ahmed, 2014: 53). Chowdhury (2019) points out that the size of the country's media market has been expanded so fast in the last couple of years. He argues that the growing media environment is more extensive than its consumer capacity and these media houses are mainly dependent on advertisements from various commercial companies. The stations' concentration and ownership patterns are also linked to higher dependence on those close to the ruling governments under different regimes. Thus, most private TV broadcasting stations are generally connected with a cluster of loyalists, political or economic (Chowdhury, 2019).

The political elites in Bangladesh have instrumentalized the media system of the country to gain political benefits. Moreover, the media outlets are highly parallel with political actors in power. The owners of the media and the government seem to have a client-patron relationship. According to the studies, patronage's political exchange and relationship is an individual with a superior political position (patron) who uses his power and possessions to protect and welfare the individual from lower status (client). They provide service, support, and assistance to the patron (Foster, 1963, Banton, 1966, Scott, 1972: 92).

Conversely, normatively the news journalism gives citizens the information they need, or acts to fulfill its function as a watchdog, is that media and journalism are under some form of at least moral obligation to democracy (Strömbäck, 2005: 333), informing voters about the candidates and their ideas; interpreting actions of candidates and their opponents; controlling those in power and mobilizing voters politically (Esser et al., 2011). These normative attitudes are primarily absent in Bangladesh due to imposing some draconian laws on the media. Though the Constitution of Bangladesh guarantees the right to freedom of speech and expression, freedom of the press is also mentioned, but this freedom is not an absolute one, rather subject to reasonable restrictions imposed by the law on several grounds (Azad, n.d). The table below portrays the legislative acts that are the critical obstacles behind press freedom in the country.

Table 2: Key legislative acts which hinder press freedom in Bangladesh

Act	Sections harmful for press freedom	Punishment
Official Secrets Act of 1923	Section 3: No person shall, except under the authority of a written permit granted by or on behalf of the Government, make any photograph, sketch, plan,	If any person contravenes any of the provisions of this section, he shall be punished with

	model, note, or representation of any prohibited place or of any other place or area, notified by the Government as a place or area regarding which such restriction appears to	imprisonment for a term which may extend to three years or with fine or with both[1]
Digital Security Act 2018	Section 57: It criminalizes engaging in "propaganda" against the "spirit" of the 1971 Bangladeshi war of independence. It also criminalizes Bangladesh's national anthem, the national flag, and the nation's founder, Sheikh Mujibur Rahman, the father of Prime Minister Sheikh Hasina DW (2021).	Those found in violation of the law face hefty fines and lengthy jail sentences, even life imprisonment for certain repeat offenses. Arrests under the act can be made without a warrant.[2]

When I was making the table (on 17th May 2021) mentioned above, meanwhile Rozina Islam one of the prominent investigative journalists of Bangladesh has been arrested in Dhaka the capital city of the country under Office Secret 1923 Act. As The Daily Star reports, Rozina went to the health ministry in the Secretariat around 3:30 pm (local time) on the date to perform her professional duties. She was confined in a ministry room, and her mobile phone was

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[1] https://medialandscapes.org/country/bangladesh/policies/media-legislation

[2] https://www.dw.com/en/how-is-bangladeshs-digital-security-act-muzzling-free-speech/a-56762799

confiscated (Digital Star 2021, Para, 5). This incident confirms how horrendous these acts are for the journalist and substantially for press freedom. As political scientists and media scholars suggest, freedom of the press largely depends upon the condition of democracy of a country. Ahmed (2009) mentioned that Bangladesh started its democratization process through the transition from military rule to civilian rule in the late 1990s; the fundamental relationship between freedom of the press and emerging democracy was recognized and integrated into the debates about the extent that an independent press depends upon democratic institutions (P. 51). Although there is a long debate amongst the political scientists on the condition of democracy in the country. Most of them argue and label it to be a hybrid regime. Some of them suggest it is suffering from deficient democracy or electoral, even several prominent research organizations such as Freedom House retain in signifying the country's governing system as a hybrid regime. Fishman (1990) asserted that a regime determines who has access to political power and how those in power deal with those who are not (P. 428). Many academicians in political science and media communication argue that the country holds an authoritarian regime mixed with a few features of democracy. They posit that these features of democracy are blurred components that are too complex to be traced. Underneath the mask of democracy, authoritarian properties will be discovered. Then a group of experts in the field postulate, the country is going under the rule of a hybrid regime. Since the introduction of the hybrid regime concept in the early 2000s, defined as a system of ostensibly democratic but essentially authoritarian, much has been written on them. Between 1991 and 2014, Bangladesh transformed from an electoral regime to semi-authoritarian to competitive authoritarianism to electoral authoritarianism (Riaz, 2019:1). Fishman (1990) argues that there is a distinction between democracy, totalitarianism, and authoritarianism, thus dealing with regime type. He stressed that state and regime are closely related to rulers; however, regimes are more permanent forms of political organizations than the specific government, but they are less

permanent than the state (p, 428). Regarding the term' regime,' consideration will be given here to 'the set of government institutions and norms that are either formalized or informally recognized as existing in a given territory and with respect to a given population' (Morlino, 2009: 276). Some field experts portray a nuanced difference between state apparatus and regimes, and they both tangled with each other. However, studies show that press freedom and freedom of expression of the mass are more likely to be in bad condition under authoritarian regimes. The governments of such regimes are seen to dictate all forms of voice, which is inconsistent with their authorities. Specially professionalization of journalism is found to be absent. So, the mainstream media outlets remain under strict monitoring of the governments. Authoritarian governments are far more able to obstruct public access to news—real or fake— or suppress the real news in favor of fake news preferred by the regime. By laying the groundwork for mainstream media constraints through censorship and restrictive legislation, states make more space to create focused and well-funded attempts at government misinformation and propaganda (Anis, 2018, 911). According to Riaz (2021), there is gradual democratic backsliding in Bangladesh for more than a decade. The country is allegedly moving toward a more authoritarian regime under Sheikh Hasina's rule (p, 193). In this circumstance, the internet thrives with more democratic and pluralistic features of politics, such as open and wide online participation, the emergence of pressure groups, policy discussion, and policy change (Zaman, 2020: 6). In their Global freedom statuses report (2020), Freedom House found that Bangladesh has scored 15 out of 40 on the political right scale and 24 out of 60 in civil liberties, which suggests that the country is partly free in terms of the scales above. However, the scores are poorer (1 out of 4) on the questions if the government's head and the legislative representatives are elected through free and fair elections. The report has also shown a tone of doubt about the government's validity by stating the election process's incidents. In January, Prime Minister Sheikh Hasina began her third consecutive term in office following the Awami

League's (A.L.) victory in December 2018 parliamentary elections, which were marked by violence, the intimidation of opposition candidates and supporters, allegations of fraud benefiting the ruling party, and the exclusion of nonpartisan election monitors. Another finding of the report is that the country has faced a severe democratic decline in freedom, while it has lost 20 scores on this scale over the last ten years (Freedom House, 2021). The growing trend to be an authoritarian political system and the polarized pluralist media landscape in Bangladesh dissemination of misinformation by the political elites emerged as a significant problem in recent years. Hence, it is essential to have a clear idea of the terms like disseminating disinformation and misinformation.

3. Methodology

3.1 Source of Data

To address the research questions in this study, I have chosen to base the study based on data from BD FactCheck[3]. The first fact-checking organization in Bangladesh. There are also three more fact-checking organizations: Boom BD, Jachai, and Fact Watch. To conduct this study, I had requested all these organizations to provide the relevant data. Among them, only BD FactCheck had agreed on supplying the raw dataset. Hence the study is conducted based on the data set provided by BD FactCheck. According to the declaration on their website, BD FactCheck is a nonpartisan and non-profitable organization aiming to reduce the deception and confusion in Bangladesh through fact-checking news. The organization focuses on fact-check news related to a public figure, political parties, mass media, and social media. The working area of the organization is people of Bangladesh and Bangladeshi diaspora living across the

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[3] https://en.bdfactcheck.com/?page_id=471

world. They do not fact-check every person, issue, and organization. Instead, BD FactCheck only selects those issues which have an impact on society. They fact-check political persons, public figures, and organizations' speeches, publicly available comments. BD FactCheck selects items from press releases, news, websites, television talk shows, social networking sites, and public speeches for fact-checking (BD FactCheck, 2021).

The funding of BD Fact Check mainly depends on self-funding and donations from FOJO Media Institute. BD FactCheck checks the accuracy of information into five processes: selection, research, writing, editing, and editing after publication (BD FactCheck, 2021).

However, The Raw data that is collected from BD Fact Check. Viral news/posts from social and mainstream media were mainly assessed by BD FactCheck and later posted on their Facebook page and website.

Figure 1: Data cleaning and case inclusion process.
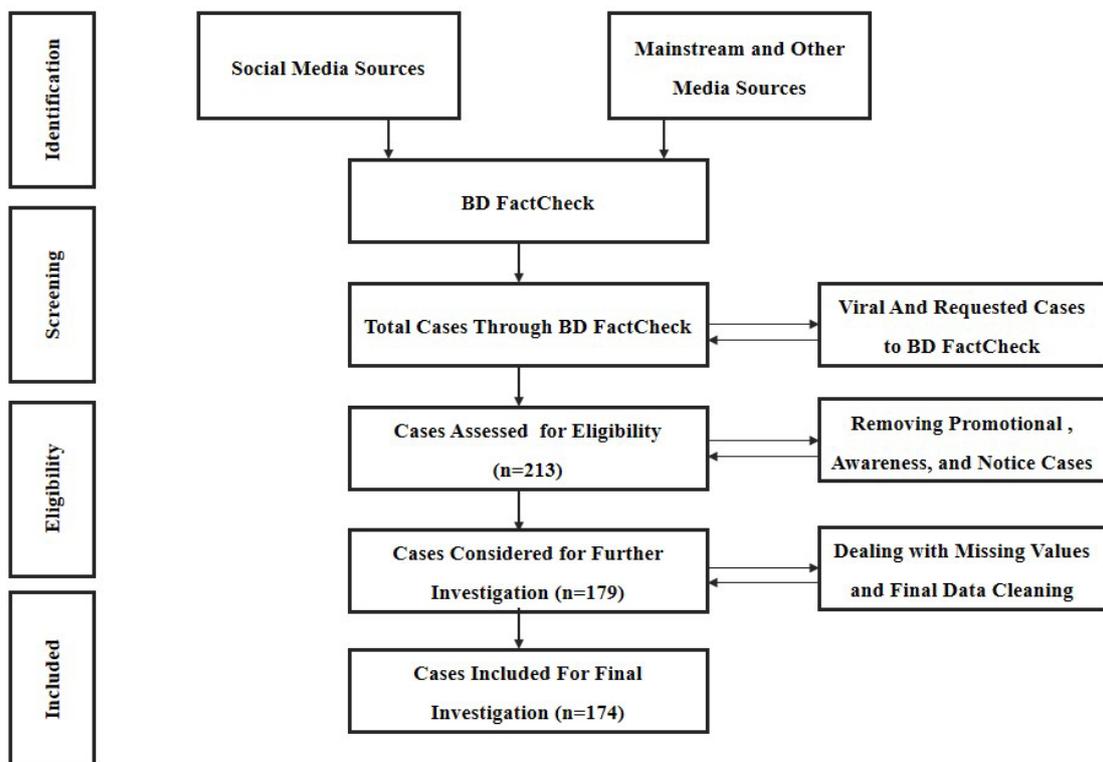
I have received a total of 213 cases published in their website and Facebook page. Later, I put each case through a screening process and gathered further information about them. In this step, I have found 34 promotional/notice/awareness posts and removed them from the eligible dataset. Thus, after reduction, I had 179 cases which were dated from 1st January 2019 to 6th June 2021 including an exceptional case of 1972 data. As only 5 cases (2.79%) data was out of 2020 and the rest of the cases (97.21%) was from 2020, we decided to focus our investigation in the year 2020. Thus, 5 cases were removed in the final data cleaning process. Which led me to the final count of data to 174 cases for inclusion for further investigations. The final data was distributed from 1st January 2020 to 27th December 2020.

3.2 Description of Variables

Considering the description of the assessed cases by BD FactCheck the variables for this constituted as- News Content Misinformation, Type of Misinformation, Political Connection of News, News Region, Source of News Spread, Availability of the Source, Disseminator of Misinformation, Related News Category, Total Interactions, Likes, Comments, Shares, Love, Wow, Haha, Sad, Angry, and Care variables.

Description of all the variables are as follows:

- **News Content Misinformation:** If misinformation was found in the news, then it was categorized as misinformation (1) otherwise, categories as True Information (0)

- **Type of Misinformation:** Type of Misinformation was categorized into four categories as False Information (1; if the news was made from nowhere), Misleading (2; if the new contained news in a misleading manner through headlines or news content), Misinformation (3; if the news represents misinformation about a topic), True information (0; if the news was true)

- **Political Connection of News:** Political Connection of News was categorized into two categories. Political (1; if the disseminated news was connected or related to politics), or Non-political (0; if the disseminated news was not connected or related to politics).

- **News Region:** News Region was categorized into two categories. National (0; if the news topic was from within Bangladesh), or International (1; if the news topic was from outside of Bangladesh)

- **Source of Spread News:** Source of News Spread was categorized into three categories. Mainstream Media (0; if the spread news was originated and spread from the Mainstream Media), social media (1; if the spread news was originated and spread from social media), or Blogs/Local News Portals (2; if the spread news was originated and spread from local media, blogs, nonpopular online news portals, etc.)

- **Availability of the Source:** Availability of the Source was categorized into three categories. Removed (0; if the primary news spreading source was removed), News Link Available (1; if the primary news spreading source was available online), or Unidentified/Link Unavailable (2; if the primary news spreading source was found unidentifiable)

- **Disseminators of Misinformation:** Disseminator of misinformation was categorized into six categories. Politician (0; if the spread news came from politicians), Mainstream Media (1; if the spread news came from mainstream media), Social Media Users (2; if the spread news came from social media users), Blogs/ Local News Portals (3; if the spread news came from blogs or local news portals), or Anonymous (4; if the spread news came from an anonymous source). None/True (5; if the news was true)

- **Related News Category:** Related News Category was categorized into five categories. Politics (0; if the spread news was purely related to political issues), Health and Medicare (1; if the spread news was related to health and medicare issues), Education

(2; if the spread news was related to educational issues), Law and Crime (3; if the spread news was related to issues related to law and crime), or Others (4; if the spread news was related to other issues such as sports, weather and climate, business, general knowledge etc.)

- **Total Interactions:** Total Interactions is the sum of interactions (i.e., Likes + Comments + Share + Love + Wow + Haha + Sad + Angry + Care reactions) by the Facebook users in each post/case of BD FactCheck news review.

- **Likes:** Total number of Like reacts got from the Facebook users in each post/case of BD FactCheck news review post/case.

- **Comments:** Total number of Comments got from the Facebook users in each post/case of BD FactCheck news review post/case.

- **Share:** Total number of Shares got from the Facebook users in each post/case of BD FactCheck news review post/case.

- **Love:** Total number of Love reacts got from the Facebook users in each post/case of BD FactCheck news review post/case.

- **Wow:** Total number of Wow reacts got from the Facebook users in each post/case of BD FactCheck news review post/case.

- **Haha:** Total number of Haha reacts got from the Facebook users in each post/case of BD FactCheck news review post/case.

- **Sad:** Total number of Sad reacts got from the Facebook users in each post/case of BD FactCheck news review post/case.

- **Angry:** Total number of Angry reacts got from the Facebook users in each post/case of BD FactCheck news review post/case.

- **Care:** Total number of Care reacts got from the Facebook users in each post/case of BD FactCheck news review post/case.

Table 1: Category information of qualitative variables and codes

Variable Values		
Variable Name	**Code**	**Category**
Binary Classification of Information	1	Misinformation
	0	True Information
Classification of Information	1	False Information
	2	Misleading
	3	Manipulation
	0	True Information
Political Connection of News	1	Political
	0	Non-Political
News Region	1	National
	0	International
Medium of Dissemination	0	Mainstream Media
	1	Social Media
	2	Blogs/ Local News Portals
Availability of the Source	0	Removed
	1	News Link Available

	2	News Link Unidentified	
Primary Disseminator of Information	0	Politician	
	1	Mainstream Media	
	2	Social Media User	
	3	Blogs/ Local News Portals	
	4	Anonymous	
	5	None/ True news	
Related News Category	0	Politics	
	1	Health and Medicare	
	2	Education	
	3	Law and Crime	
	4	Others	

3.3 Reliability Test

At first, I have randomly selected approximately 10% (n=18) data from the dataset which contained a total of N=174 cases, for the reliability test. Then again, I coded those 10% cases and calculated the percentage of agreement between the previous data and newly coded data by calculating the difference between them (difference 0 = agreement, and disagreement otherwise). We found out that, *Political Connection of the News* had 94.4% agreement. *News Region* had 100% agreement. *Classification of Information* had 88.9% agreement. *Medium of Dissemination* had 100% agreement. *Availability of Primary Source of News* had 88.9% agreement. *Primary Disseminator of Information* had 94.4% agreement. *Related News*

Category had 94.4% agreement. Since the same person has done the data coding and the reliability test of the coding, the test might be accountable for personal bias.

3.4 Statistical Analysis

After excluding all the non-eligible, non-detectable, and missing cases the extracted data was used for further statistical investigation. All statistical analysis was done using MS-Excel, SPSS 27 on the remained data. In this study a univariate analysis was conducted to explore the data in an exploratory manner. Graphical analysis was done to visualize the possible patterns and relations among and across the variables. Cross tabulation among the qualitative variables was also conducted as bivariate analysis along with a Chi-squared (χ^2) test to explore the significant association among the variable of interests. Along with these independent samples t-test was conducted among the quantitative variables to explore the significant mean difference of variables between two categories.

Univariate Analysis

In this study, Univariate analysis was conducted to determine the prevalence of political misinformation spread in Bangladesh. The principal purpose of univariate analysis is to describe the central tendency, i.e., mean, median, mode, and dispersion, i.e., range, quartiles, standard deviation. It also represents the frequency distribution of variables with their shape characteristics. These can also be accomplished by the graphical or visual approach of analyzing data. The data were analysed in a Univariate manner and represented in a separate table. Graphical representations helped us better understand the underlying patterns and distributions of the data.

Bivariate Analysis

In this study, Cross tabulation was used to investigate the data and graphical analysis to investigate the patterns of misinformation. Variables of interest in this study were mainly categorical type and nominal in nature. Thus, the Chi-square test was used for testing the association between the variables.

As statistical experts refer Bivariate analysis is an effective qualitative analysis process. They single out it as a simultaneous analysis process of two variables or attributes to determine the empirical relationship between them. Frequency distribution in relation to another variable can be measured by the process, which gives us a way to dig for other patterns and underlying stories. Correlation analysis, Cross tabulation, Pearson's Chi-square test, etc., are several techniques for investigating the association. Correlation analysis is preferred for continuous variables and Chi-square test for categorical ones.

Chi-squared (χ^2) test:

The Chi-square test is a statistical hypothesis test (Senese, 2018: 19). The main aim of the chi-square test is to determine whether there is a significant contrast between the expected and the observed frequencies in one or more than one category (Rao et al., 1981, Alilou et al., 2018: 13). It is usually used for testing independence or association among variables through the process of cross-tabulation. Cross tabulation mainly expresses the distribution of two categorical variables simultaneously with the intersection of the categories of variables that appear in the table's cell. As a researcher, we calculate the test statistic and compares it with the critical value or cut-off value for testing whether the observed values significantly differ from expected values or not. For this study, we wanted to see the association between political collection of news variable and other variables such as, news region, Primary Disseminator of Information, classification of information, Medium of Dissemination, etc. which are all

qualitative/categorical variables. Thus, to investigate the association among variables, we chose chi-square test.

Independent Samples (t-test): Independent samples t-test is a comparison of mean test for quantitative data. As Through this test we try to compare the means of two independent groups to determine if there is enough statistical evidence to conclude that the means are significantly different. We wanted to know the existence of significant mean difference of reaction variable engagement such as, total interaction, like, comment, share, haha, love, angry, sad, wow and care between political and non-political cases. Here the reaction variables are all quantitative variables, with respect comparison variable is binary and categorical at the same time. Thus, doing t-test was the best option for this investigation.

3.5 Operational Definitions & Validities

1. Variable name: Binary Classification of Information

Characteristic of interest: I wanted to identify any misinformation associated with each of the review cases posted on Facebook by BD FactCheck.

Measuring instrument: The variable was measured based on my observation of the review posts by the fact-checking organization.

Test method description: To test the presence of characteristics, I visited each link provided by BD FactCheck and carefully read the full fact-check report. After reading all the facts, comparisons, and information given by BD FactCheck and some basic online confirmation research, I identified the characteristic of interest and classified according to them.

Decision criteria: Based on the test method, if I found that the case/news was false news or misleading news or manipulated in any sense, then the case was categorized as misinformation. Otherwise, if the case/news was found to be true, it was categorized as true news.

2. Variable name: Classification of Information

Characteristic of interest: I wanted to identify different information types based on the association of misinformation with each review case posted on Facebook by BD FactCheck.

Measuring instrument: The variable was measured based on my observation of the review post.

Test method description: To test the presence of characteristics, I visited each link provided by BD FactCheck and carefully read the full fact-check report. After reading all the facts, comparisons, and information given by BD FactCheck and some basic online confirmation research, I identified the characteristic of interest and classified according to them.

Decision criteria: Based on the test method, if I found that the origin of the case/news was nowhere to be found, it was categorized as false information. If the origin was found but presented inappropriately or confusingly, then it was categorized as misleading. If there was evidence of manipulation of information, then it was categorized as manipulation. Furthermore, if the case/news was found to be without any misinformation, it was categorized as true information.

Validity of the Study

There was less flexibility in choosing the cases as per my intense specifications. Though BD FactCheck usually covers most of the viral and doubtable posts found online, it was easy to relate to my research of interest. The observations were made from data covering a full year (2020). For this study, I visited all the post links provided by BD FactCheck individually, extracted and categorized the required data according to my specifications (see codebook for specifications), and formulated all the categorical variables of interest. This categorizing depends on the researcher, in this case, me. For that reason, it may be countable for personal bias and bias on self-definition of variables, reducing the quality of the study a bit. To overcome this problem, I conducted an intra-coder reliability test for further surety of the classifications. Thus, it gave a reasonable projection of that year's situation of the massive spread of misinformation and other related factors according to my analysis and observations.

Moreover, there was no scope of doing a controlled environment study with proper randomization, I could not determine the causation among variables. From my observations and other qualitative analysis results, such as the chi-square test of association among variables, I could identify correlation among political connection of news and other variables of interest. All the Univariate and Bivariate methods of analysis were selected with the data keeping in mind. Multivariate analysis was not possible for this type of dataset for the lack of fulfillment of assumptions and criteria. For this reason, I could not find an overall answer from a single statistical model of analysis. However, the frequency table allowed me to look at the variable individually; on the other hand, cross-tabulation, its visualization allowed me to look at the data in an associative manner with another. Moreover, the quantitative analysis, i.e., independent samples t-test, helped me compare the means among reaction variables concerning the political connection of news. These allowed me to observe the data in-depth with more precision as per my research questions.

Furthermore, the external validity is concerned with whether the study's findings can be generalized to other relevant settings or groups. However, my study cannot be generalized. One of the key reasons is the small sample size and the lack of randomized selection of cases/news from the total published, the spread of information in mainstream and social media platforms in Bangladesh. The data covers a full year's potential/viral information fact-check provided by BD FactCheck. Thus, it captures a good deal of attention to my observations.

4. Result and Analysis

Results in this study is mainly presented in the form of figures for the ease of understanding and visualizing at the same time, but all the results can also be found in Table 1 (page-65-67) and 2 (page 57-59).

One of the key research questions is what actors actively involved in dissemination misinformation?

The result shows in table 1 (see appendix 1) that politicians, mainstream media, social media users, blogs, local online news portals, and anonymous actors have actively disseminated misinformation throughout 2020. Out of total (N=174) cases, politicians have been detected as one of the primary disseminators. Though the politicians have scored the lowest numbers (N=4) with 2.3% in the propagation of misinformation. The result also demonstrates that the anonymous actors possess the highest share in disseminating misinformation. It shows that anonymous actors have created 83 cases of misinformation out of 174 cases with 47.7% of the total share. The Table 1 also depicts a subtle difference between mainstream media outlets and social media users in disseminating misinformation. The total share of propagating misinformation by social media users is 19.5% (N=34). In these 34 cases, random social media users have been identified as the approximate root originators of the misinformation.

On the other hand, mainstream media has been found as the primary generator of misinformation in (N=33) cases (19%) throughout 2020. We see that mainstream media and social media users hold the highest second position in creating misinformation from these findings. The number of misinformation tailored by the blogs and district-based local news portals is 10 (5.7%).

Figure 1: The primary disseminators of misinformation and true news

Bar Chart
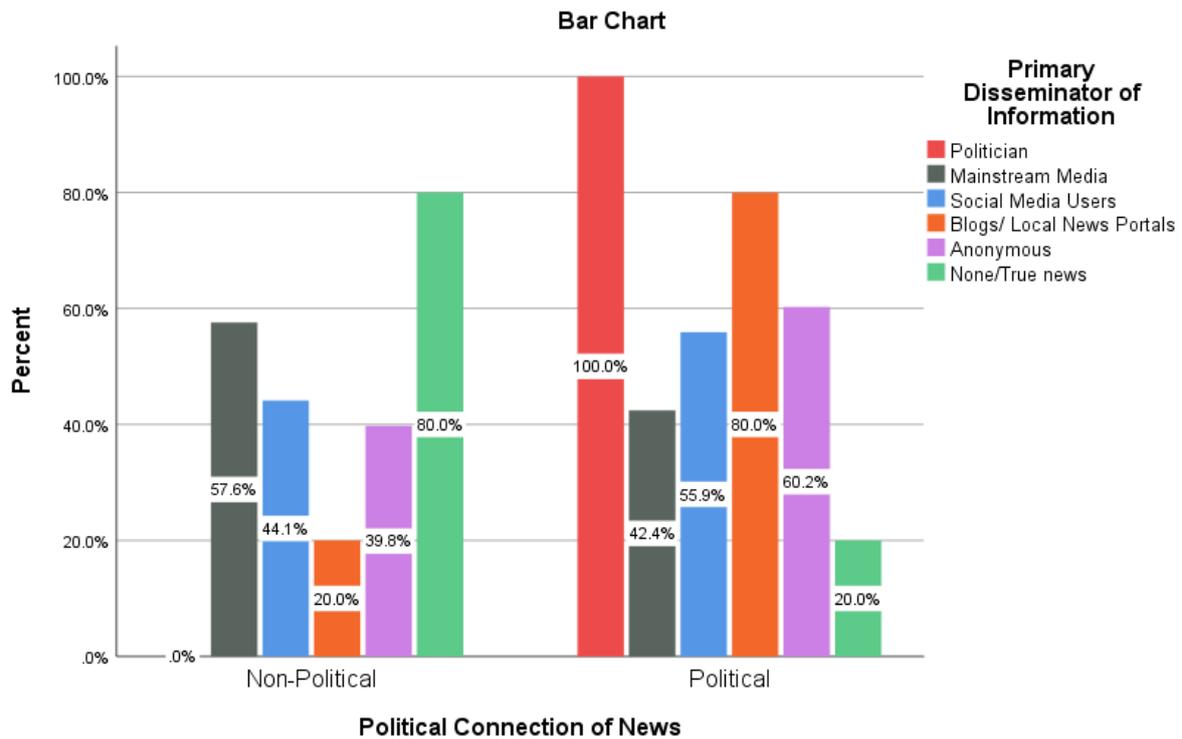
The summation of non-political and political cases of each category of primary disseminator of information is 100%. For Politician n=4 (100%); Mainstream Media n=33 (100%); Social Media Users n=34 (100%); Blogs/ Local News Portals n=10 (100%); Anonymous n=83 (100%).

Furthermore, Figure 1 and Table 2 describes that all 100% (n=4) politician cases are related to political issues. 58% (n=19) mainstream media cases are found non-political, while 42% (n=14) cases are found to be political misinformation. 44% (n=15) social media cases are found non-political, while 56% (n=19) cases are found political. 20% (n=2) blog/ local news portals are found non-political, while 80% (n=8) cases are found political. 40% (n=33) anonymous cases are found non-political, while 60% (n=50) cases are found political. Moreover, 80% (n=4) none/ true news cases are found non-political, while 20% (n=1) case is found political. According to the chi-square test, disseminator of misinformation is significantly associated (p-value=0.046) with a political connection of news at p<0.05.

The second pivotal research question is *through what media was the misinformation disseminated?*

The result shows in Table 1 that both traditional news media and social media are responsible for spreading misinformation. Out of 174 cases, social media has claimed the highest share by diffusing 70.7% (n=123) cases of misinformation. On the other hand, as Table 1 shows, the traditional media is also significantly responsible for disseminating misinformation. It has been traced to being liable for misinformation propagation in 21.3% (n=37) cases. From Table 2, we can see 59% (n=22) mainstream media cases are found related to non-political misinformation, while 41% (n=15) are found political misinformation. 41% (n=50) social media cases are found non-political, while 59% (n=73) cases are found political. Moreover, 36% (n=5) blogs/ local news portal cases are found non-political, while 64% (n=9) blogs/ local news portals are found political. According to the chi-square test, the source of news spread is not found significantly associated (p-value=0.104) at p<0.1.

Television Channels

According to Table 1, television media has broadcast misinformation in 2 (1.1%) cases amongst the mainstream media. State own TV channel BTV broadcast one and private own TV channel RTV spread the other misinformation (see Figure 2). The other mainstream news media found to be responsible for disseminating 37 (21.3%) cases of misinformation.

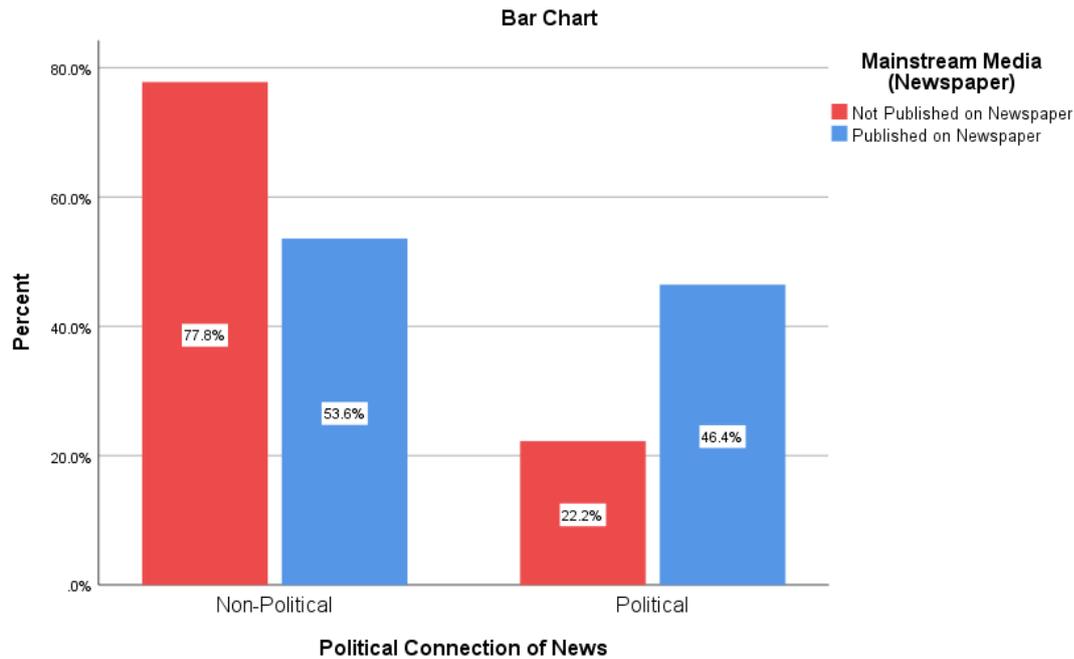*Figure 2: Category of misinformation disseminated by TV*
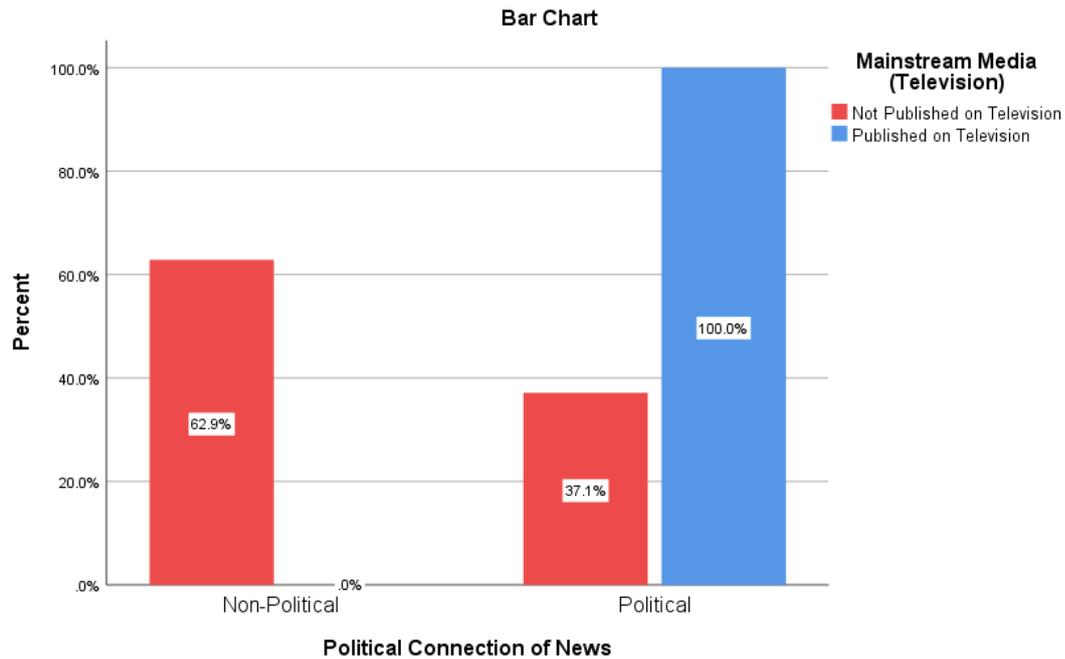
Bar Chart

The summation of non-political and political cases of each category of mainstream media (television) is 100%. For Not Published on Television n=35 (100%); Published on Television n=2 (100%)

Moreover, from Table 02 and Figure 2, we can see that 63% (n=22) not published on television cases are found non-political, while 37% (n=13) cases are found political. In the case of published on television cases, all 100% (n=2) cases are found political. According to the chi-square test, mainstream media (television) is found significantly associated (p-value=0.078) with a political connection of news at p<0.1.

Daily Newspaper

As Table 1 describes, daily newspapers have disseminated 28 (16.1) pieces of misinformation among the mainstream news media.

*Figure 3: Categories of misinformation disseminated by the dailies*

Bar Chart

The summation of non-political and political cases of each category of mainstream media (newspaper) is 100%. For Not Published on Newspaper n=28 (100%); Published on Television n=9 (100%)

Table 2 and Figure 3 show that 77.8% (n=7) not published on newspaper cases are found non-political, while 22.2% (n=2) cases are found political. 53.6% (n=15) published on newspaper cases are found non-political, while 46.4% (n=13) cases are found political. According to the chi-square test, mainstream media (newspaper) is found significantly associated (p-value=0.072) with a political connection of news at p<0.1.

Online News Portals

As Table 1 depicts, 27 cases of misinformation are diffused by the online news portals among the mainstream media outlets. Figure 4 suggests that among the total numbers of mainstream media misinformation, 31.71% were circulated in online news portals.
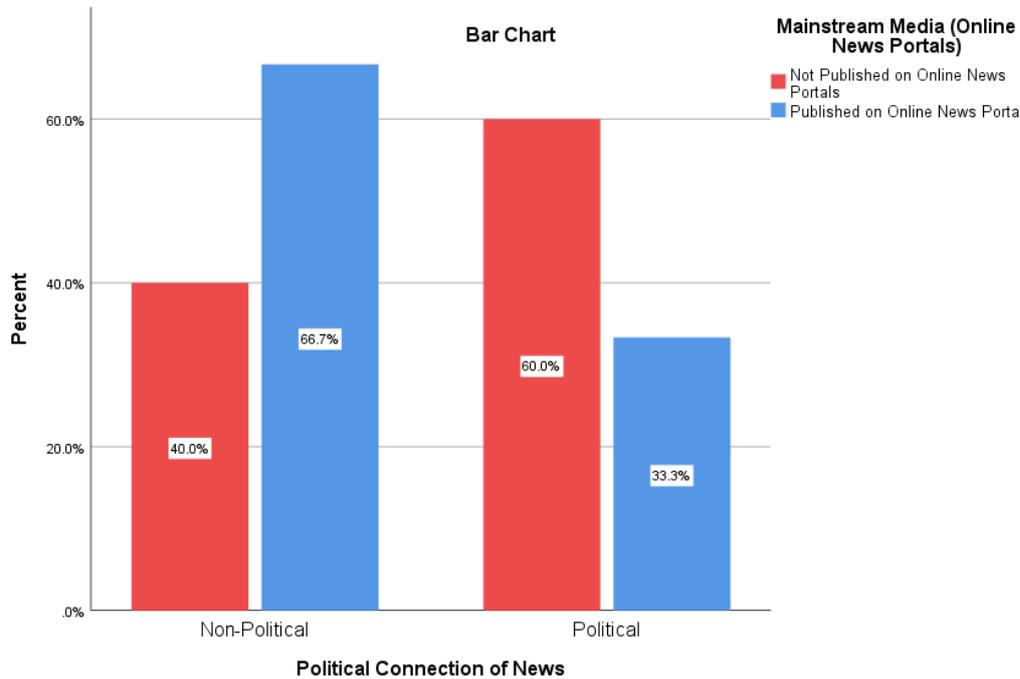
The summation of non-political and political cases of each category of mainstream media (online news portals) is 100%. For Not Published on Newspaper n=27 (100%); Published on Television n=10 (100%)

Furthermore, from Table 2 and Figure 4, we can see that 40% (n=4) not published on online news portal cases are found non-political, while 60% (n=6) cases are found political. 66.7% (n=18) published on online news portal cases are found non-political, while 33.3% (n=9) cases are found political. According to the chi-square test, mainstream media (online news portals) is not significantly associated (p-value=0.259) with a political connection of news at p<0.1.

Social Media

Amongst the social media platforms, Facebook occupied a significant share in disseminating misinformation. Out of 123 pieces of misinformation that have been propagated through social

media, 122 cases are diffused using Facebook, and only 1 case of misinformation has been spread through Twitter.

Figure 5: misinformation disseminated by social media users.
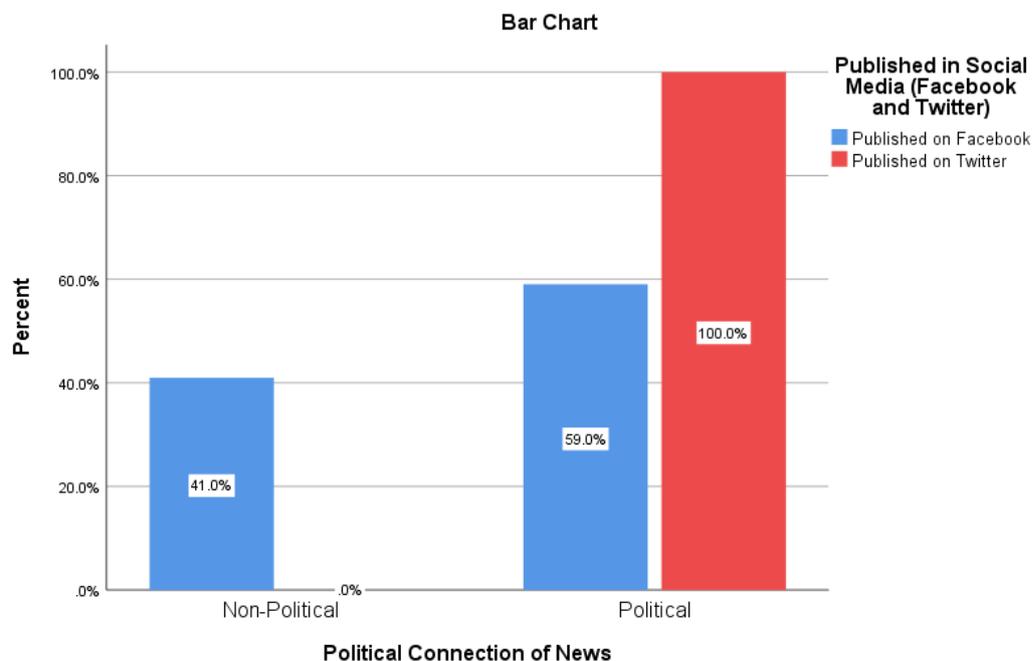
The summation of non-political and political cases of each category of published in social media (Facebook and Twitter) is 100%. For Not Published on Facebook n=122 (100%); Published on Twitter n=1 (100%)

From Table 2 and Figure 5, 41% (n=50) published on Facebook cases are found non-political, while 59% (n=72) cases are found political. On the other hand, 100% (n=1) case is found political. According to the chi-square test, published in social media (Facebook and Twitter) is not found significantly associated (p-value=0.406) with a political connection of news at p<0.1. Moreover, the only misinformation spread through Twitter is a piece of political misinformation.

The third research question is what are the areas or issues the misinformation related to?

Figure 6: Categories of misinformation disseminated all type of media

Bar Chart
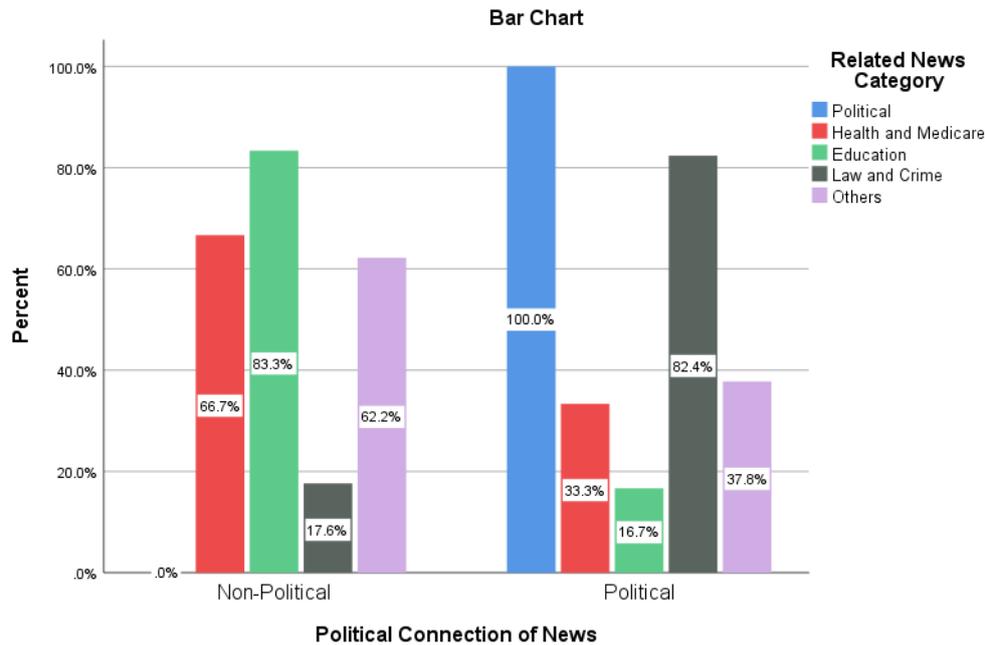
The summation of non-political and political cases of each category of related news category is 100%. For Political n=33 (100%); Health and Medicare n=57 (100%); Education n=6 (100%); Law and Crime n=34 (100%); Others n=44 (100%)

The result depicts in Table 1 that the misinformation covered politics, health and medical care, education, law and crime, and other different areas (i.e., sports, showbiz). From Table 2 and Figure 6, we can see 100% (n=33) political-related cases in the political category. 67% (n=38) health and medicare related cases are found non-political, while 33% (n=19) cases are political. 83% (n=5) educational cases are found non-political, while 17% (n=1) case is found political. 18% (n=6) law and crime-related cases are found non-political, while 82% (n=28) cases are found political. Furthermore, 61% (n=27) other cases are found non-political, while 39% (n=17) cases are found political. According to the chi-square test, related news category is found significantly associated (p-value<0.001) with a political connection of news at p<0.001.

The fourth research question asks, through what kind of content was the misinformation disseminated?

Again, Table 1 demonstrates that 2 (1.1%) pieces of misinformation were disseminated through TV news reports. In rest of the cases of misinformation disseminated in the form of text-based news reports and photo manipulation. However, the types of media are mentioned here to understand the types of content they disseminated by their forms of contents (i.e., TV broadcasts visual reports). If we include the misinformation propagated through the online portals of the TV channels, we see the TV news media has propagated a total of 18 pieces of misinformation (as Figure 7 suggests). Also, figure 7 suggests that the Daily newspapers have published 26 (14.9%) pieces of misinformation through text-based news articles (including photo manipulation and contextless incidents) published in both printed and online versions. Online news portals have diffused misinformation through 11 news reports on their portals. The Figure 7 portrays that Somoy TV (online news portal of the TV) possesses the highest numbers in propagating misinformation among all the media outlets. This outlet had posted a total of 09 misinformation cases on their portal and Facebook pages. The second position in the diffusion of misinformation is held by the daily newspaper Inqilab. They have published seven pieces of misinformation through news articles. Dainik (Daily) Jugantor and Bangladesh Protidin have jointly scored the third position by publishing 4 pieces of news articles containing misinformation.

Moreover, NTV (online portal of TV), Bengali Daily Kaler Kantho, and Ittefaq have propagated three misinformation pieces in the form of news articles. Channel i (online portal of TV) and Jagonews24 (online news portal) have disseminated two pieces of misinformation individually. Furthermore, each of the media outlets mentioned below has diffused one piece of misinformation individually- Bangla Tribune(news article), Dhaka Tribune (news article), RTV (online portal of TV, news article), Samakal (Daily), RTV (TV channel), Bangladesh

Today (English Daily), Prothom Alo (Bengali Daily), BD24live (Online), News18 (Online), Daily Star (English daily), Janakantha (Bengali Daily), BTV (State own TV channel), BD News 24 (online), Asia Net News Bangla (Online), Bangla News 24 (Online), Dhaka Times (Online), DBC News (Online portal of TV). This information (Frequency 01) is only based on the reports' mentions published by BD FactCheck. The frequency of diffusing pieces of misinformation by individual media platforms can be even higher. Involvement of other non-mentioned media platforms in this dreadful diffuse of misinformation is also possible.*Figure 7: Frequency of publishing misinformation by different mainstream media platforms*
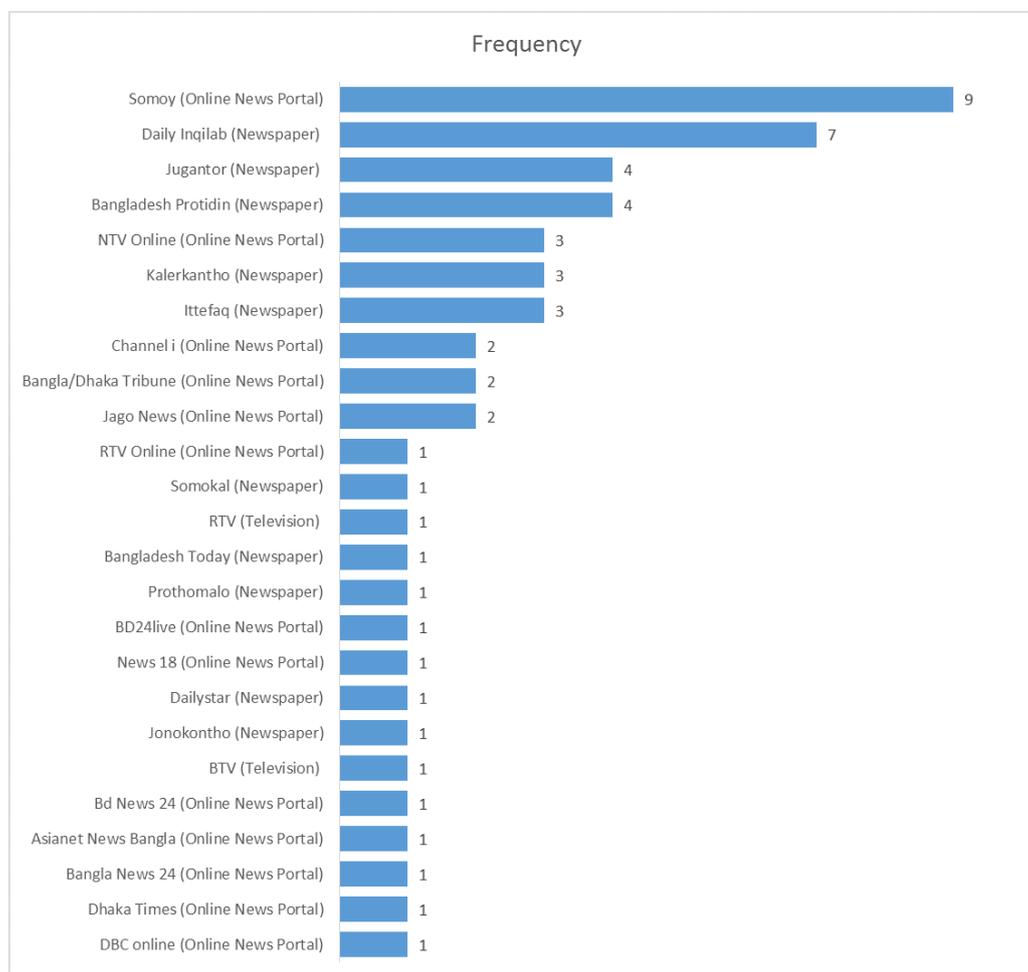
News Region

The data found that 41 (23.6%) cases of misinformation are related to international issues, and 133 (76.4%) comprise national issues.

Figure 8: International and national news topics
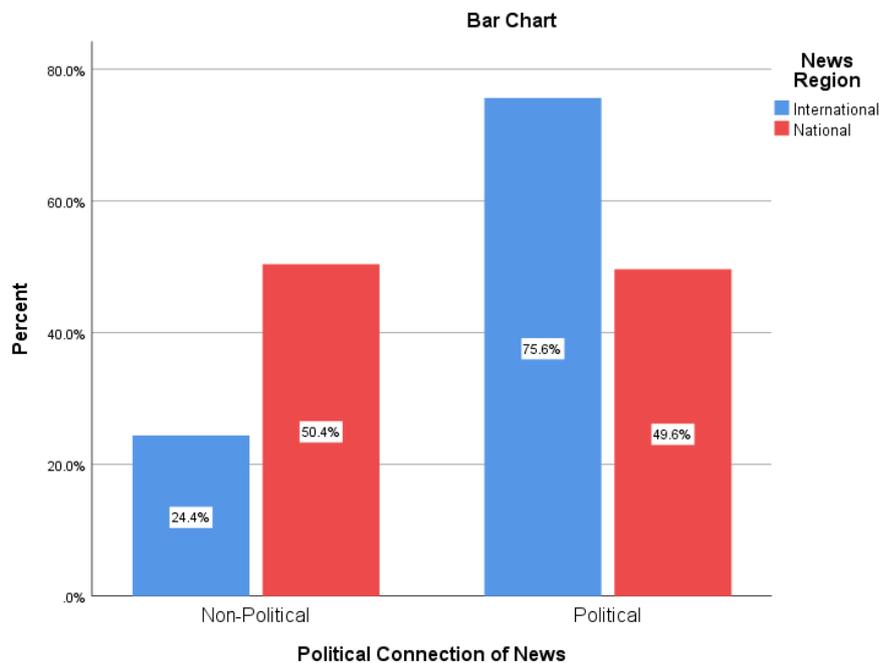
The summation of non-political and political cases of each category of news region is 100%. For International n=41 (100%); National n=133 (100%)

Table 2 and Figure 8 suggest that 10 (24%) of the international cases are found non-political while a large portion of 31 (76%) of the international cases are found political. On the other hand, the national cases are found equally distributed between non-political and political categories. According to the chi-square test, news region is significantly associated (p-value=0.003) with a political connection of news at $p<0.05$.

Availability of the primary source

As Table 01 describes, the misinformation contents disseminated through the online portals and Facebook users are still available, and some are removed. The total availability of the

primary source of the misinformation content is 63 (36.2%). Only 17 (9.8%) news links have been removed out of 174 cases.

Figure 9: Availability of the primary source of news spread between political and non-political cases
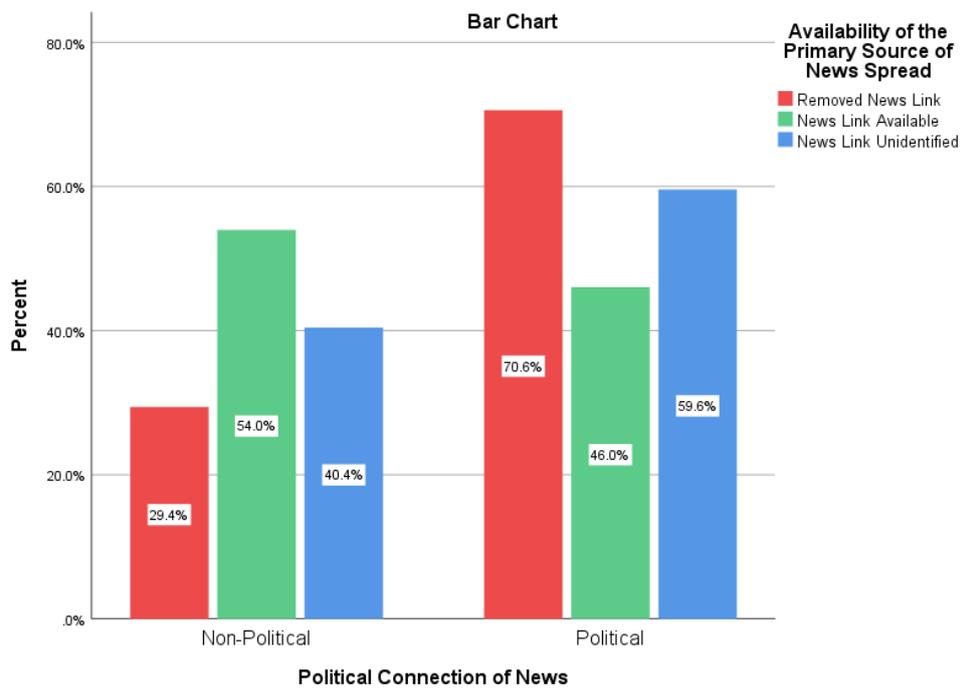
The summation of non-political and political cases of each category of availability of the primary source of news spread is 100%. For Removed News Link n=17 (100%); News Link Available n=63 (100%); News Link Unidentified n=94 (100%)

Again, Table 2 shows that 29% (n=5) removed news link cases are found non-political, while 71% (n=12) cases are found political. 54% (n=34) news link available cases are found non-political, while 46% (n=29) cases are found political. Furthermore, 40% (n=38) unidentified/ link unavailable cases are found non-political, while 60% (n=56) cases are found political. According to the chi-square test, the availability of the primary source of news spread is not significantly associated (p-value=0.106) with the political connection of news at $p<0.1$.

Sum of mainstream media publication categories

From Table 2, we can see that 61% (n=11) published in only one mainstream media case is found non-political, while 38.9% (n=7) cases are found political. 61.1% (n=11) published in two mainstream media cases are found non-political, while 38.9% (n=7) cases are found political. Moreover, only one political case was found that was published in all three-mainstream media. According to the chi-square test, the sum of mainstream media publication categories is not significantly associated (p-value=0.503) with the political connection of news at p<0.1.

Classification of Information

Table 1 suggest that misinformation is mainly false information (If the origin of the case/news was nowhere to be found as if it has been created with no basis at all, then the case/news was categorized as false information), misleading information (If the origin of the case/news can be found, but it has been presented in a manner (through inappropriate, or irrelevant news title/reporting, or republishing old news as brand-new) that the main news can be easily misinterpreted, then the case/news was categorized as misleading), and manipulation (If the information of the case/news was found to be not scientifically proven, without basis or opinion presented as fact. Or if the information of the case/news was found to be edited or manipulated in any way, then the case/news was categorized as manipulation.). Out of 174 cases, 46 (26.4%) cases are detected as false information, 29 (16.7%) cases are found to be misleading information, and 89 (51.1%) cases are found as manipulated content—moreover, 10 (5.7%) to be the contents published as corrected information against the misinformation.

Figure 10: Distribution of classification of information between non-political and political cases
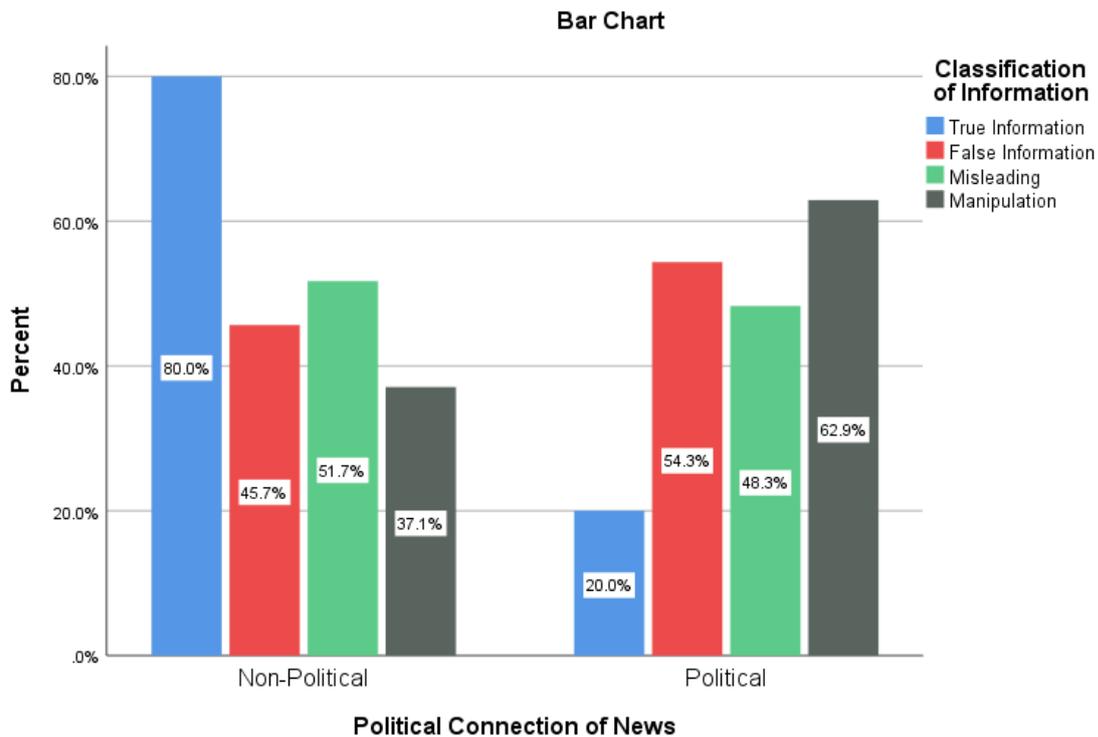
The summation of non-political and political cases of each category of classification of information is 100%. For True Information n= 10 (100%); False Information n=46 (100%); Misleading n=29 (100%); Manipulation n=89 (100%)

Table 2 and Figure 10 illustrate, those 80% (n=8) true cases are found non-political, while just 20% (n=2) are found political. 46% (n=21) false information cases are found non-political, while 54% (n=25) false information cases are found political. 52% (n=15) misleading information cases are found non-political, while 48% (n=14) misleading information cases are found political. Furthermore, 37% (n=33) Manipulation cases are found non-political, while

63% (n=56) cases are found political. According to the chi-square test, type of misinformation

is found significantly associated (p-value=0.52) with a political connection of news at p <0.1.

Table 2: Cross tabulation among political and other variables and Chi-square test of association

Variable Name	Category	Non-Political	Political	Total	Chi-square P-Value
News Region	International	10 (24%)	31 (76%)	41 (100%)	0.003**
	National	67 (50%)	66 (50%)	133 (100%)	
	Total	77 (44%)	97 (56%)	174 (100%)	
Classification of Information	True	8 (80%)	2 (20%)	10 (100%)	0.52*
	False Information	21 (46%)	25 (54%)	46 (100%)	
	Misleading	15 (52%)	14 (48%)	29 (100%)	
	Manipulation	33 (37%)	56 (63%)	89 (100%)	
	Total	77 (44%)	97 (56%)	174 (100%)	
Binary Classification of Information	True Information	8 (80%)	2 (20%)	10 (100%)	0.019**
	Misinformation	69 (42%)	95 (58%)	164 (100%)	
	Total	77 (44%)	97 (56%)	174 (100%)	
Medium of Dissemination	Mainstream Media	22 (59%)	15 (41%)	37 (100%)	0.104
	Social Media	50 (41%)	73 (59%)	123 (100%)	
	Blogs / Local news portals	5 (36%)	9 (64%)	14 (100%)	
	Total	77 (44%)	97 (56%)	174 (100%)	
Mainstream Media (Television)	Not Published on Television	22 (63%)	13 (37%)	35 (100%)	0.078*
	Published on Television	0 (0%)	2 (100%)	2 (100%)	
	Total	22 (59%)	15 (41%)	37 (100%)	
Mainstream Media (Newspaper)	Not Published on Newspaper	7 (77.8%)	2 (22.2%)	9 (100%)	0.072*
	Published on Newspaper	15 (53.6%)	13 (46.4%)	28 (100%)	

	Total	22 (59.5%)	15 (40.5%)	37 (100%)	
Mainstream Media (Online news portals)	Not Published on Online News Portals	4 (40%)	6 (60%)	10 (100%)	0.259
	Published on Online News Portal	18 (66.7%)	9 (33.3%)	27 (100%)	
	Total	22 (59.5%)	15 (40.5%)	37 (100%)	
Sum of Mainstream Media Publication Categories	Published in only one Mainstream Media	11 (61.1%)	7 (38.9%)	18 (100%)	0.503
	Published in Two Mainstream Media	11 (61.1%)	7 (38.9%)	18 (100%)	
	Published in Three Mainstream Media	0 (0%)	1 (100%)	1 (100%)	
	Total	22 (59.5%)	15 (40.5%)	37 (100%)	
Published in Social Media (Facebook and Twitter)	Published on Facebook	50 (41%)	72 (59%)	122 (100%)	0.406
	Published on Twitter	0 (0%)	1 (100%)	1 (100%)	
	Total	50 (41%)	73 (59%)	123 (100%)	
Availability of the Primary Source of News Spread	Removed News Link	5 (29%)	12 (71%)	17 (100%)	0.106
	News Link Available	34 (54%)	29 (46%)	63 (100%)	
	Unidentified/Link Unavailable	38 (40%)	56 (60%)	94 (100%)	
	Total	77 (44%)	97 (56%)	174 (100%)	
Primary Disseminator of Information	Politician	0 (0%)	4 (100%)	4 (100%)	0.046**
	Mainstream Media	19 (58%)	14 (42%)	33 (100%)	
	Social Media Users	15 (44%)	19 (56%)	34 (100%)	
	Blogs/ Local News Portals	2 (20%)	8 (80%)	10 (100%)	
	Anonymous	33 (40%)	50 (60%)	83 (100%)	
	None/True news	8 (80%)	2 (20%)	10 (100%)	

	Total	77 (44%)	97 (56%)	174 (100%)	
Related News Category	Political	0 (0%)	33 (100%)	33 (100%)	P<0.001***
	Health and Medicare	38 (67%)	19 (33%)	57 (100%)	
	Education	5 (83%)	1 (17%)	6 (100%)	
	Law and Crime	6 (18%)	28 (82%)	34 (100%)	
	Others	28 (62%)	17 (39%)	45 (100%)	
	Total	77 (44%)	97 (56%)	174 (100%)	

* Significant for p<0.1; ** Significant for p<0.05; *** Significant for p<0.001
The star marked variables were found significantly associated with the political or non-political case type variable.

In research question five, we wanted to know how much differences are there in political and non-political case interactions after fact check? The table 3 suggests that for all reaction variables, we can see that there are 97 political and 77 non-political cases.

Table 3: Group statistics table for conducting t-test

Variables (Political or Non-political)		Total Cases (N)	Mean	Std. Deviation
Total Interactions	Political	97	755.500	465.377
	Non-Political	77	753.117	546.958
Likes	Political	97	438.088	210.839
	Non-Political	77	440.156	241.979
Comments	Political	97	44.961	41.837
	Non-Political	77	46.169	68.022
Share	Political	97	72.029	125.442
	Non-Political	77	95.558	224.836
Love	Political	97	15.510	29.823
	Non-Political	77	22.156	57.015
Wow	Political	97	3.873	7.324
	Non-Political	77	3.896	6.990
Haha	Political	97	156.627	214.130
	Non-Political	77	130.013	157.520
Sad	Political	97	11.049	27.647
	Non-Political	77	8.649	31.591
Angry	Political	97	12.971	44.743
	Non-Political	77	6.182	17.124

Care	Political	97	0.392	1.100
	Non-Political	77	0.338	0.821

The mean engagement of total interaction variable is 755.5 for political cases 753.117 for non-political cases, which is very close with mean difference of 2.38. For some individual reaction variables such as Likes (438.1 mean likes in political cases, and 440.2 mean likes in non-political cases), and Haha (156.6 mean Haha reacts in political cases, and 130 mean Haha reacts in non-political cases) has higher mean number of engagements, while reacts such as care has the least number of engagement (0.392 mean care reacts in political cases, and 0.338 mean care react in non-political cases).

Table 4: t-test of the mean difference (assuming equal variance between Political and Non-Political Categories)

Variable Name	P-Value	Mean Difference	95% CI of Mean Difference	
			Lower	Upper
Total Interactions	0.59	2.38	-147.19	151.95
Likes	0.72	-2.07	-69.02	64.89
Comments	0.64	-1.21	-17.49	15.07
Share	0.13	-23.53	-75.72	28.66
Love	0.26	-6.65	-19.64	6.35
Wow	0.79	-0.02	-2.16	2.12
Haha	0.55	26.61	-30.55	83.78
Sad	0.76	2.40	-6.36	11.16
Angry	0.36	6.79	-3.82	17.40
Care	0.82	0.05	-0.24	0.35

Although this noticeable difference between different types of reaction variables' mean engagement, (from Table 4) we can see that, the difference between political and non-political react engagement is very low for all types of reaction variable. The highest difference was found in Haha reaction variable with a mean difference of just 26.61 engagements.

Furthermore, according to t-test (from Table 4) we can observe that, none of the reaction variable P-value is less than 0.05 at 95% level of significance. Which means, there's no

significant mean difference for any type of reaction variable based on political and Non-political type of data/cases.

However, People interact (like, comment, share) with the stories on social networking sites quickly. In an instant, stories can be shared, whether they have been read or not (Cooke, 2017: 214). Keeping this fact in mind, we can perceive that the recorded numbers of reactions are not based on how long the posts are available on social media. Instead, the numbers of reactions in all cases are given by the social media users considering issues of the posts. According to Tandoc et al. (2017), social media sites are not only marked by having a mass audience, but they also facilitate speedy exchange and spread of information (Tandoc et al., 2017: 138). In line with finding, we can also assume that if someone posts any information on social media, Facebook, for instance, then the information floats on the other FB user's newsfeed for a shorter period unless the other users react to the post. Earlier studies indicate that social media newsfeeds get flooded by a large volume of information every day.

5. Discussion & Conclusion

In conclusion I would like to address some significant findings and analyse them in the light of theories discussed earlier in sections 1 & 2. As the reviewed literatures suggest that from the democratic perspective an essential function of news media is to aid citizens in becoming informed (Holbert, 2005: 511, Strömbäck, 2005). From the normative perspective, for news media to fulfil this function, an essential prerequisite is that they provide people with the kind of information they need to be free and self-governing (Strömbäck, 2005: 332). However, the results of this study based on the dataset suggests that mainstream media plays a paradoxical

role as an originator of misinformation. On table 1 (see appendix 1) shows that the mainstream media has been found as one of the primary actors which propagated (N=33) (19%) cases of misinformation throughout 2020. This finding is consistent with Tsfati and his colleagues' (2020) argument, which refers that mainstream media are probably powerful amplifiers and disseminators of false stories even if they cover fake news intending to set the record and correct its fabricated information (p, 161).

Furthermore, based on the dataset used for this study, we see that social media also play an active role as a primary disseminator of misinformation. The results of this study suggest that social media has primarily disseminated misinformation in 19.5% (N=34) cases. Here we see this result is consistent with the previous studies Tandoc et al. (2017), for instance, point out that like Facebook, all the other social media (i.e., Twitter) are becoming the primary sources of news for a growing number of individuals. Consequently, misinformation seems to have news channels through social media (p, 138). In this study, I have found Facebook as the central social media platform over Twitter in diffusing misinformation. Out of 123 pieces of misinformation that have been propagated through social media, 122 cases are diffused using Facebook, and only 1 case of misinformation has been spread through Twitter.

However, this study found a subtle difference between mainstream media and social media as primary disseminators (originator). However, as the medium of diffusing misinformation, I have found a significant difference between both media. Result shows in table 1 (see appendix 1), out of 174 cases, social media has claimed the highest share by diffusing 70.7% (n=123) cases of misinformation. On the other hand, as Table 1 shows, the traditional media is also significantly responsible for disseminating misinformation. It has been traced to be liable for misinformation propagation in 21.3% (n=37) cases. Tsfati et al. (2020) assumed there is the possibility that most people hear about fake news, not from fake news websites but when

mainstream media publish corrective reports of fake news (Tsfati et al., 2020: 157). In my dataset I have found only ten *true information*[4] (see table 1 in appendix 1) published by the mainstream media as fact check reports of the misinformation propagated in Facebook. This portion of the result is not consistent with the assumption of Tsfati et al. (2020).

Furthermore, according to Chadwick & Vaccari (2019), many ordinary citizens circulate political information with great regularity in today's media systems. Consequently, false, and misleading information, whether it originates with elites or non-elites, can become widely distributed and quickly (Chadwick & Vaccari, 2019: 3). Following this statement by Chadwick & Vaccari (2019), I have found a significant political connection almost in every category and sub-categories of all the variables. Also, I have found no significant differences in reactions between political and non-political misinformation (see table 3, section 4). In consistence with the motivated political reasoning theory, all reasoning is motivated (Kunda, 987). Hence, we can assume people motivated reasoning (it could be political or non-political) before reacting to the misinformation contents. Though in contrast, Taber and Lodge (2006) argue that citizens are always constrained to some degree to be accurate. They are typically unable to control their preconceptions, even when encouraged to be objective (p, 756). I argue Taber & Lodge (2006) to be relevant to my findings of public reaction to the misinformation. However, Morris et al. (2003) induced socio-political concepts as hot for most people. They assert that associated attitudes come to mind automatically along with, indeed prior to, semantic information. According to them, one's likes or dislikes for Hillary Clinton, for instance, are aroused even before conscious awareness of her identity and other semantic associations- that she is a Democratic senator, a woman, and a former first lady (Morris et al., 2003; Taber & Lodge, 2006: 756). In this study, it was impossible to detect if public reactions to the misinformation

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[4] *True information: disseminated as misinformation but later found it as true information after fact check by the mainstream media. Also see the codebook in Appendix 2.*

had a semantic association. Moreover, as I have discussed in the earlier part, it is difficult to measure intention; therefore, it is also difficult to measure what motivated the public to react to misinformation.

5.1 Limitation & Recommendation

According to the BD FactCheck officials, their archival system lacks sufficient storage, and most government documents cannot be found online. Therefore, it is much harder for them to conduct such research. Lack of sources and contents in Bengali and less powerful Bangla search engine are also hurdles for them. Developed tools like Artificial intelligence, social bots, and automation do not work in Bengali, which makes this whole fact-checking process difficult Khan (, 2020, para 3). Hence, a fundamental limitation of this study is the disconnect between the research questions and reasoning in general – that talk about the situation in Bangladesh in general – and the empirical data I have gathered. My data is based on BD FactCheck, but they have not fact-checked all news or other types of information. Neither can it be assumed that the stories they have fact-checked are representative of Bangladesh. Hence, I cannot say that these data can provide answers that can be generalized to the whole of Bangladesh.

However, Fake stories drew more engagement than the top real news stories by a margin of 8.7–7.3 million, measured by shares, reactions, and comments (Bennett & Livingstone, 2018: 133). Considering this fact and limitation of this study it is recommendable that further studies can be conducted to measure the difference of reaction in top real stories and misinformation. Besides, since we have found significant percentage of misinformation related to political issues in almost every category, future research can be done with a larger dataset to measure how different actors disseminate misinformation.

Appendix 01

Table 1: Frequency table.

Variable Name	Category	Frequency (N)	Percentage (%)
Political Connection of News	Political	97	55.7
	Non-Political	77	44.3
News Region	International	41	23.6
	National	133	76.4
	Total	174	100.0
Classification of Information	True Information	10	5.7
	False Information	46	26.4
	Misleading	29	16.7
	Manipulation	89	51.1
	Total	174	100.0
Binary Classification of Information	True Information	10	5.7
	Misinformation	164	94.3
	Total	174	100.0
Medium of Dissemination	Mainstream Media	37	21.3
	Social Media	123	70.7
	Blogs / Local news portals	14	8.0
	Total	174	100.0
Mainstream Media (Television)	Not Published on Television	35	20.1
	Published on Television	2	1.1
	Total	37	21.3
Mainstream Media (Newspaper)	Not Published on Newspaper	9	5.2
	Published on Newspaper	28	16.1
	Total	37	21.3
Mainstream Media (Online news portals)	Not Published on Online News Portals	10	5.7
	Published on Online News Portal	27	15.5
	Total	37	21.3
Sum of Mainstream Media Publication Categories	Published in only one Mainstream Media	18	10.3
	Published in Two	18	10.3

	Mainstream Media		
	Published in Three Mainstream Media	1	0.6
	Total	35	20.1
Published in Social Media (Facebook and Twitter)	Published on Facebook	122	70.1
	Published on Twitter	1	0.6
	Total	123	70.7
Availability of the Primary Source of News Spread	Removed News Link	17	9.8
	News Link Available	63	36.2
	News Link Unidentified	94	54.0
	Total	174	100.0
Primary Disseminator of Information	Politician	4	2.3
	Mainstream Media	33	19.0
	Social Media Users	34	19.5
	Blogs/ Local News Portals	10	5.7
	Anonymous	83	47.7
	None/True news	10	5.7
	Total	174	100.0
Related News Category	Political	33	19.0
	Health and Medicare	57	32.8
	Education	6	3.4
	Law and Crime	34	19.5
	Others	44	25.3
	Total	174	100.0
Month of the data	January	5	2.9
	February	8	4.6
	March	37	21.3
	April	30	17.2
	May	19	10.9
	June	15	8.6
	July	11	6.3
	August	5	2.9
	September	8	4.6
	October	17	9.8
	November	8	4.6

| | December | 11 | 6.3 |
| | Total | 174 | 100.0 |

Appendix 02

Codebook

Variable Name	Definition of Variable	Code	Category	Explanations
Binary Classification of Information	Whether or not misinformation was found in the case/news.	1	Misinformation	If the case/news was found to be false news or misleading news or manipulated in any sense, then the case was categorized as misinformation.
		0	True Information	If the case/news was found to be true then it was categorized as true information.
Classification of Information	The specific type of the information that was observed in the case/news.	1	False Information	If the origin of the case/news was nowhere to be found as if it has been created with no basis at all, then the case/news was categorized as false information.
		2	Misleading	If the origin of the case/news can be found, but it has been presented in a manner (through inappropriate, or irrelevant news title/reporting, or republishing old news as brand-new) that the main news can be easily misinterpreted, then the case/news was categorized as misleading.
		3	Manipulation	If the information of the case/news was found to be not scientifically proven, without basis or opinion presented as fact. Or if the information of the case/news was found to be edited or manipulated in any way, then the case/news was categorized as manipulation.
		0	True Information	If the case/news was found to be true then it was categorized as true information.

Political Connection of News	Assessment of connection of the case/news to political issues.	1	Political	If the case/news was connected or related to political issues, politicians, political strategies, political criticisms, etc. then the case/news was categorized as political.
		0	Non-Political	If the case/news was found not connected or related to political issues, politicians, political strategies, political criticisms, etc. then the case/news was categorized as non-political.
News Region	Classification of the case/news according to the region of the origin.	1	National	If the origin of the news was observed to be within Bangladesh, then the case/news was categorized as national.
		0	International	If the origin of the case/news was observed to be outside of Bangladesh, then the case/news was categorized as international.
Medium of Dissemination	Assessment of the medium of the dissemination of case/news.	0	Mainstream Media	If the case/news was found to be primarily or mainly spread from the mainstream media such as renowned national daily newspaper, television news report, or national online news portals, then the case/news was categorized as mainstream media.
		1	Social Media	If the case/news was found to be primarily or mainly spread from social media such as Facebook or Twitter, then the case/news was categorized as social media.
		2	Blogs/ Local News Portals	If the case/news was found to be primarily or mainly spread from the blogs or local media news portals then the case/news was categorized as blogs/ local news portals.
Availability of the Source	The state in which the primary or main source of the spread news link was found.	0	Removed	If the primary or main source of the spread news link was found broken, unavailable, or removed then the case/news was categorized as removed.
		1	News Link Available	If the primary or main source of the spread news link was found still accessible then the case/news was categorized as news link available.
		2	News Link Unidentified	If the primary or main source of the spread news link couldn't be found or traced then the case/news category was categorized as news link unidentified.

		0	Politician	If the primary or main disseminator of the news spread was found to be a politician, (i.e. active member of a political party or a political party post holder) then the case/news was categorized as politician.
Primary Disseminator of Information	Classification of the primary disseminators of the news spread.	1	Mainstream Media	If the primary or main disseminator of the news spread was found to be from mainstream media such as renowned national daily newspapers, television news reports, or national online news portals, then the case/news was categorized as mainstream media.
		2	Social Media User	If the primary or main disseminator of the news spread was found to be from a social media user such as Facebook user, or Twitter user then the case/news was categorized as social media user.
		3	Blogs/ Local News Portals	If the primary or main disseminator of the news spread was found to be from a blog or local news portal then the case/news was categorized as blogs/local news portals.
		4	Anonymous	IF the primary or main disseminator of the news spread couldn't be specified or traced then the case/news was categorized as anonymous.
		5	None/ True news	If the case/news was found to be true then it was categorized as none/true news.
Related News Category	Classification of the related news category of the spread case/news.	0	Politics	If the case/news topic was related to politics in general then the case/news was categorized as politics.
		1	Health and Medicare	If the case/news topic was related to disease, treatment, health-related events, or medicare related events then the case/news was categorized as health and medicare.
		2	Education	If the case/news was related to educational institutions, education ministry, students, teachers, staff, or education sector-related topics in general then the case/news was categorized as education.
		3	Law and Crime	If the case/news topic was related to law and order, crime, or related to

		4	Others	If the case/news topic falls in other categories besides the mentioned ones such as sports, general knowledge, business, etc. then the case/news was categorized as others.

Appendix 03

Other quantitative variable explanations of the study

Interaction Variables on BD FactCheck case study post:

- **Total Interactions:** Total Interactions is the sum of interactions (i.e. Likes + Comments + Share + Love + Wow + Haha + Sad + Angry + Care reactions) by the Facebook users in each post/case of BD FactCheck news review.
- **Likes:** Total number of Like reacts got from the Facebook users in each post/case of BD FactCheck news review post/case.
- **Comments:** Total number of Comments got from the Facebook users in each post/case of BD FactCheck news review post/case.
- **Share:** Total number of Shares got from the Facebook users in each post/case of BD FactCheck news review post/case.
- **Love:** Total number of Love reacts got from the Facebook users in each post/case of BD FactCheck news review post/case.
- **Wow:** Total number of Wow reacts got from the Facebook users in each post/case of BD FactCheck news review post/case.
- **Haha:** Total number of Haha reacts got from the Facebook users in each post/case of BD FactCheck news review post/case.
- **Sad:** Total number of Sad reacts got from the Facebook users in each post/case of BD FactCheck news review post/case.
- **Angry:** Total number of Angry reacts got from the Facebook users in each post/case of BD FactCheck news review post/case.
- **Care:** Total number of Care reacts got from the Facebook users in each post/case of BD FactCheck news review post/case.

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