

# Disinformation on Novel Coronavirus (COVID-19): A Content Analysis of News Published on Fact-Checking Sites in India

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## ABSTRACT

This paper focuses on the spread of disinformation on novel coronavirus (COVID-19) and creating the larger phenomena of information disorder. It analyses an array of definitional meaning and disinformation on COVID-19, which has been identified and grounded with valid information by the fact-checkers. The study's aim is to explore and analyse the intents behind the circulation of misleading information (intended and unintended) on COVID-19. For the study, quantitative content analysis and qualitative discourse analysis methods were utilised to explore the extent of the misleading information on COVID-19. Further, in-depth interviews were conducted with fact-checkers, media professionals, academicians, and a psychologist to understand the purpose of disinformation and its impact on society at large. The study's findings propose that fact-checking is a crucial method to identify fake/misleading information, which can be counter acted by accurate and verified information. This paper argues that holding journalists, fact-checkers, the Government, and the citizens' accountable, is necessary to counter the threat of disinformation about the pandemic.

**Keywords:** Novel coronavirus; COVID-19; Disinformation; Misinformation; Fact-checking; Information disorder; Media literacy; Social media; Pandemic

## 1. INTRODUCTION

The current novel Coronavirus (COVID-19) pandemic has forced Governments around the world to impose the emergency and curb the situation. When it is imperative to control the pandemic by improving the health care system, whereas, on the other hand, it posed challenges to the rise of misinformation and disinformation spreads through various media platforms, including social media. World Health Organisation (WHO)<sup>1</sup> Director-General Dr. Tedros Adhanom Ghebreyesus at Munich Security Conference on 15 February 2020 rightly said, "we're not just fighting an epidemic; we're fighting an infodemic". He further stated, "There may be no way to prevent a COVID-19 pandemic in this globalised time, but verified information is the most effective prevention against the disease of panic"<sup>2</sup>.

Therefore, the study intends to foreground and examine the nature of information, misinformation, and disinformation pertaining to the COVID-19 crisis. It also explores the role of critical thinking, information literacy, and media awareness to challenge the threat of information disorder. Finally, this research intends to understand fact-checking sites/institutions' role in providing the content's truthfulness to the readers.

## 2. LITERATURE REVIEW

### 2.1 Information, Misinformation, and Disinformation

Information is the content that has been shared with the

outer world to shape the meaning<sup>3</sup>; which is process oriented<sup>4</sup>, where data and meaning became an indispensable part of the information. According to Fox<sup>5</sup>, information may be true or false, but misinformation or inaccurate information is a type of information, which is incomplete<sup>6</sup>. However, epistemologically, misinformation and disinformation are two separate notion<sup>7</sup>. Misinformation has the effect of changing the individual's belief system to influence decision-making which can thereby influence public policy<sup>8</sup>.

According to Karlova & Fisher, deception is the major component of disinformation, which derives from a Russian term, 'dezinformacija,' coined in 1949, which means 'deliberately false information'<sup>9</sup>. While unintended mistakes fall under the category of misinformation, and intentional dissemination of incorrect information is called disinformation<sup>10</sup>. In addition, Wardle & Derakshan<sup>11</sup> introduce the category of mal-information, which is genuine information shared for the purposes of damaging the reputation of an individual or organisation, i.e. harassment, hate speech etc. It is necessary to identify the intent of the source when determining whether incorrect information is misinformation or disinformation. Further difficulties arise when the recipient of the erroneous information fails to recognise it as such.<sup>7</sup> Fetzer elucidates that information can be deceptive for a reader in five cases, i.e., providing one side favorable view/s, highlighting a biased portion of the study, blaming the author/editor incorrectly, intentionally ignoring the significant aspect of the research, and providing incompetent person/s views on the work/study<sup>12</sup>.

**Table 1. Verification methods (Trewinnard & Bell, 2018)**

Source	Tools Used
Different Platforms/ Formats/ Sources Verification Methods	Facebook account analysis by using online Intel Techniques tools
	Twitter account analysis by using the direction from Africa Check
	Reverse image search through Google Reverse Image Search or TinEye or RevEye
	YouTube Data Viewer, a reverse video search process with the help of tools like Amnesty's YouTube Data Viewer, InVID and NewsCheck
	EXIF Viewer, metadata connected to visual content generated by digital and phone cameras at the time of capture. It helps in identifying particular time, date, location, and light setting information.
	'Geolocation' is a method to know the captured place of a video or image.
	Weather corroboration which presents weather data records via sources like WolframAlpha
	Shadow analysis, to check the internal consistency of visible shadows of video content or visual image
Image forensics to verify the manipulation of the image through various tools	

In the present context, the “medical misinformation mess”<sup>13</sup> is a serious concern to society. Since the inception of the digital platforms, the unverified health information coming through online medium is a major concern in terms of veracity and quality of the information<sup>14</sup>. The deceptive and misleading health-related information can affect the behavior of patients<sup>15</sup>. The task became more challenging when any controversial topic has no solid scientific findings, and subsequently the information related to it spreads based on emotional and illogical narratives<sup>14</sup>. In the contemporary era, the digital platforms lack gatekeeping systems, making the platform vulnerable to spreading disinformation, where cultural context is needed to verify the intent of the content through political landscape<sup>16</sup>. Currently, the disinformation campaigns about the COVID-19 pandemic are generated from various sources in order to influence civil society and to create an environment of fear. They also aim at creating a situation which may be beneficial financially, emotionally, or politically to the instigators of the campaign.

## 2.2 Critical Thinking and Information Literacy

The major differentiator among information, misinformation, and disinformation is truth. However, there is no such unanimously established theory of truth<sup>4</sup>. When the information is true, then there is no place for mis/disinformation. The question of trust arises because of the availability of a wide-range of information on the web. Warnick stated that the web as an “authorless environment” which makes gate-keeping more challenging<sup>17</sup>.

Critical thinking and information literacy are some of the best ways to guard the misinformation or disinformation, or mal-information in the age of post-truth, fake news, and alternative facts<sup>18</sup>. Critical thinking helps to analyse the information effectively in evaluating it<sup>19</sup>. Information Literacy is a basic need due to the technological interventions<sup>20</sup>. According to the social diffusion model of Karlova & Fisher<sup>9</sup>, information,

misinformation, and disinformation are the products of a social process which takes place through a mediated context. Civil society, journalists/editors, and Government bodies have to take the initiatives to bolster critical thinking and information literacy to break the disinformation chain to uphold the ethics and integrity of the media profession and information business at large.

## 2.3 Fact-checking and Assessing Sources

Traditionally, in the media industry, the fact-checking process referred to the act of proof-reading and validating factual claims. Still, in the contemporary scenario, it involves assessing the completeness of the news and re-verification of the facts and figures. As per the study of Mantzarlis's<sup>21</sup>, fact-checking is consist of three segments: first, finding fact-checkable claims by searching through all possible records; second, discovering the truths in respect to the claim; third, rectifying the record by valuing the claim on the radar of truthfulness based on evidence. International Fact-Checking Network (IFCN), a division of the Poynter Institute, has designed a ‘code of principles for guiding fact-checkers. To get being listed in verified list signatories, all the fact-checking institutions across the globe apply to IFCN<sup>22</sup>. It is also quite a difficult task to verify the visual content online. Trewinnard & Bell's<sup>23</sup> chapter “Social media verification: assessing sources and visual content” mentioned various content verification methods (Table 1). Both IFCN code of principles and social media verification methods are required to examine the content's legitimacy.

## 3. THEORETICAL FRAMEWORK

According to Tuominen and Savolainen<sup>24</sup>, a social constructivist envisages the feature of information as a “communicative construct which is produced in a social context.” Wardle & Derakshan<sup>25</sup> defined three different approaches of incorrect information. The first is misinformation,

**Table 2. List of variables extracted from literature review related to misinformation and disinformation**

<b>Variables (related to misinformation and disinformation) converted to themes.</b>	<b>Possible impact</b>
Science/Health (Fallis, 2010 <sup>7</sup> ; Fallis, 2015 <sup>34</sup> )	Distrust in science or honest health information (Southwell <i>et al.</i> , 2019) <sup>37</sup>
Political (Fallis, 2010 <sup>7</sup> ; Fallis, 2015 <sup>34</sup> )	Disseminating political agenda (Linden, 2017) <sup>38</sup>
	Gaining political benefits (Abrams, 2016) <sup>39</sup>
Economic/Business (Fallis, 2010 <sup>7</sup> ; Fallis, 2015 <sup>34</sup> )	Investment opportunity (Fallis, 2010 <sup>7</sup> ; Fallis, 2015 <sup>34</sup> )
	Economic benefit (EU High-Level Expert Group, 2018 <sup>40</sup> )
	Convoluting public policy (EU High-Level Expert Group, 2018 <sup>40</sup> )
Government-related (Bennett & Livingston, 2018 <sup>35</sup> )	Disrupting information flow (Bennett & Livingston, 2018 <sup>35</sup> )
	Causing public harm (EU High-Level Expert Group, 2018 <sup>40</sup> )
Cultural (Kreiss, 2019 <sup>16</sup> ; Marwick, 2018 <sup>36</sup> )	Public misinformation leads to the rumor (Sohrabi <i>et al.</i> , 2020 <sup>41</sup> )

Note-1- Authors considered religion as a subset of 'Culture' for this study.

Note-2- Authors created a larger set related to rumor: rumor on religion/ health/ business/economic/ any individual to target political / religious / community / business leader, celebrity and misguiding international community for this study. These are maybe the byproduct of any of those variables mentioned above.

which is the spread of false information with no intent to harm, i.e. false connections. The second is disinformation, which is untrue information shared with the intent to harm, i.e. imposters, manipulated and/or fabricated content. And finally, mal-information, which is genuine information shared to damage the reputation of an individual or organisation, i.e. harassment or hate speech. This study follows the social constructive approach to analyzing the concept of disinformation and for analyzing the work of fact-checking news site platforms. The study also follows the framework of Wardle & Derakshan's functional definition, mentioned above.

#### 4. RESEARCH GAP AND RESEARCH QUESTIONS

During the literature survey, the authors uncovered no known research related to COVID-19 and disinformation in the Indian context. Therefore, this research utilizes an exploratory research design. The study aims to explore and understand the purpose behind the circulation of misleading information (intended and unintended) on COVID-19, followed by the study's critical objectives. The broad objectives are: to identify the source, to expose the platforms being used, to classify categories of misleading information circulates, and to learn the role of fact-checkers. Therefore, the finding of the research gap facilitated the authors to construct the following research questions to get the answer in alliance with the study's aim and objectives.

- What is the intent of spreading disinformation on COVID-19?
- What is the major source of disinformation about COVID-19?
- What are the platforms being used to spread disinformation about COVID-19?
- What are the types of misinformation spread across the

platforms related to COVID-19?

- How the fact-checking news sites uncovered the misleading (intended and unintended) stories/reports about COVID-19?

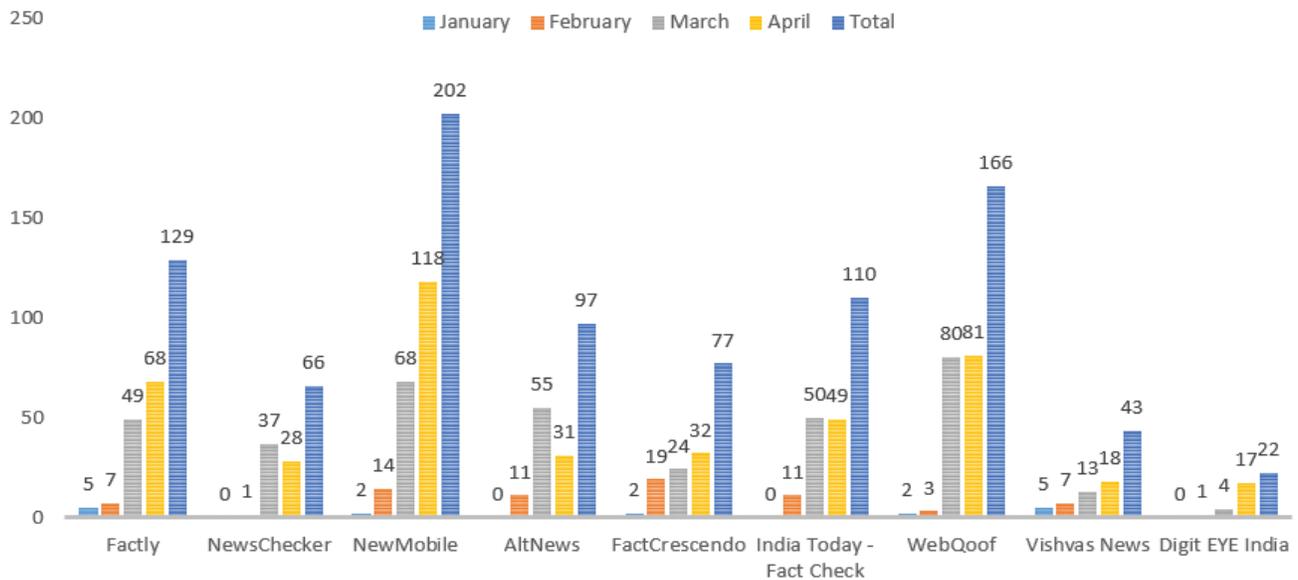
#### 5. RESEARCH DESIGN AND METHODOLOGY

The present study employs a mixed-method approach. The primary data was collected through the method of Quantitative Content Analysis (QCA) by categorizing the text within the story for making replicable and valid inferences from data to their context<sup>26</sup>. Then, the authors analyse the published news on the fact-checking sites through the Qualitative Discourse Analysis (QDA) method. The QDA is applied to understand the social practices and practices generate and spread the misleading information<sup>27</sup> in the shape of text, visual, audio, and video format, which are identified by the fact-checking news sites in India. Further, the intent is to analyse the main source and the originating point of that misleading information. Finally, the study employs Semi-Structured Interview' technique for collecting primary data to gain valuable insights<sup>28</sup> from the media professionals, fact-checkers, and psychologists.

A set of variables are generated through the literature finding then converted to themes to decode the news content (Table 2). This study uses the 'purposive sampling technique.' The timeline of the data collection is from 1<sup>st</sup> January 2020 to 30<sup>th</sup> April 2020. This four-month timeline was chosen because January was the period when the COVID-19 started spreading outside China, March was when it created panic around the world, and since April was when reached its peak in India. For this study, the quantitative target sample of the news sites were determined by the following criteria; a. operating in India, b. is renewed and being part of verified signatory list of IFCN, c. the mode of communication in the English language at least. A total of nine news sites fulfilled the criteria mentioned above to study further (Table 3).

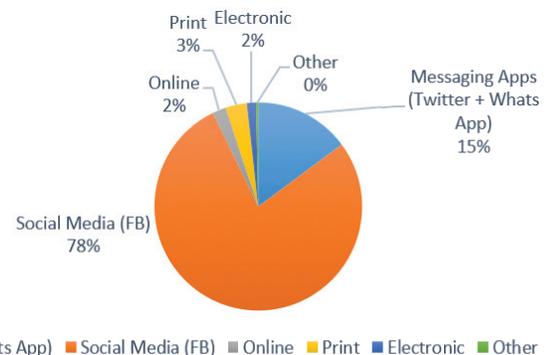
**Table 3. List of fact-checking news sites in India**

Name of the news site	Language	Location/ Country	Web link
WebQoof	English	India	<a href="https://www.thequint.com/news/webqoof">https://www.thequint.com/news/webqoof</a>
Vishvas News	English, Hindi, Punjabi, Urdu, and Assamese	India	<a href="https://www.vishvasnews.com/english/">https://www.vishvasnews.com/english/</a>
Fact Crescendo	English, Marathi, Malayalam, Gujarati, Tamil, Odia, and Assamese	India, Sri Lanka, and Myanmar	<a href="https://www.facterescendo.com/">https://www.facterescendo.com/</a>
AltNews	English	India	<a href="https://www.altnews.in/">https://www.altnews.in/</a>
India Today - Fact Check	English	India	<a href="https://www.indiatoday.in/fact-check">https://www.indiatoday.in/fact-check</a>
NewsMobile	English	India	<a href="http://newsmobile.in/">http://newsmobile.in/</a>
Factly	English	India	<a href="https://factly.in/">https://factly.in/</a>
Newschecker	English, Hindi, Urdu, and other languages	India	<a href="https://www.newschecker.in/category/15751214/world">https://www.newschecker.in/category/15751214/world</a>
Digit EYE India	English	India	<a href="https://digiteye.in/">https://digiteye.in/</a>



**Figure 1. Cross frequency distribution of news stories across fact checking websites.**

The deductive approach is followed in which a priori codebook is constructed before the observation. Each category has been framed in a specific format to maintain the appropriateness and mutually exclusive standard in order to bring the theme in one category<sup>29</sup>. To ensure the reliability of the study, the collected data is coded by both the researchers. All news stories were randomly selected for testing inter-coder reliability. The coefficient used for the analysis is percentage agreement<sup>30</sup>, which is 95 per cent. A total dataset of 912 news stories exclusively related to the COVID-19 has been retrieved from nine fact-checking sites for the present study, which was analysed in Microsoft-Excel.



**Figure 2. Cross frequency distribution of news stories originating platform.**

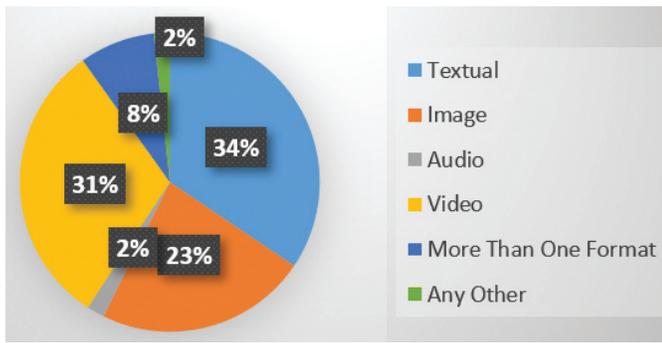


Figure 3. Cross frequency distribution of format of news stories across fact checking websites.

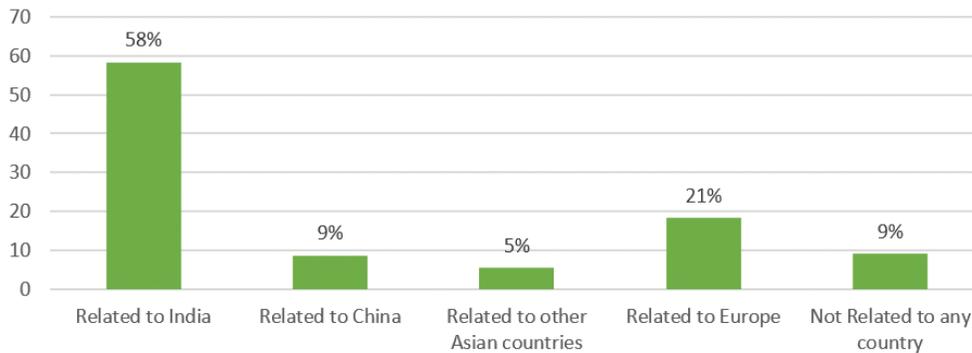


Figure 4. Disinformation related to the countries.

About the semi-structured interview, the researchers collected the data till the saturation level<sup>31</sup> mostly preferred between 10-12 semi-structured conversations<sup>32</sup>, which is based on discovered themes<sup>33</sup>. Therefore, a total of 12 semi-structured interviews have been steered via online/telephonic conversation with media and communication professionals, including fact-checkers and a medical practitioner, to get the insights (Appendix 1).

### 6. DATA ANALYSIS AND INTERPRETATION

The retrieved data related to the spread of disinformation on COVID-19 across the fact-checking sites from India provides an inclusive understanding of nature, source, format, tone, and reality of the content. The qualitative discourse of the published content and quantitative content analysis of the data presents a broad outline about the spreading of intended and unintended misleading information, which largely harms the individual, institution, and society. The entire fact-checking site has received top

news surfing across the globe to be fact-checked in April 2020. The trend shows that more than 90 per cent of the deceptive news popped up in March and April, which is aligned to the proclamation of WHO, Director General- we are fighting an epidemic as well as infodemic (Fig. 1).

The metadata findings elucidate that top bogus news has originated from social media, including Facebook, which is about 78 per cent, then circulated via messaging apps. Therefore, digital platforms contributed 95 per cent in spreading disinformation. (Fig. 2).

Figure 3 presents how frequently incorrect information news is being created and disseminated via various formats.

More than 50 per cent of misleading information spreads in visual forms (graphics, image, and video) followed by only text content 34 per cent and audio format is minimal in approach.

The study of the linkage of disinformation and geographical territory indicates that deceptive information concerned to India is at the top of the chart with 58 per cent, followed by Europe (21 per cent), China (9 per cent), and other Asian countries (5 per cent) (Fig. 4). The subjects covered by

the incorrect news stories related to India include stories about Government policies, advisories, and traditional remedies, the count of COVID-19 patients, death tolls, and maligning the image of celebrities, eminent personalities and bureaucrats in connection to COVID-19.

The data indicates that most fake news deals with the health sector regarding COVID-19, such as medication, traditional

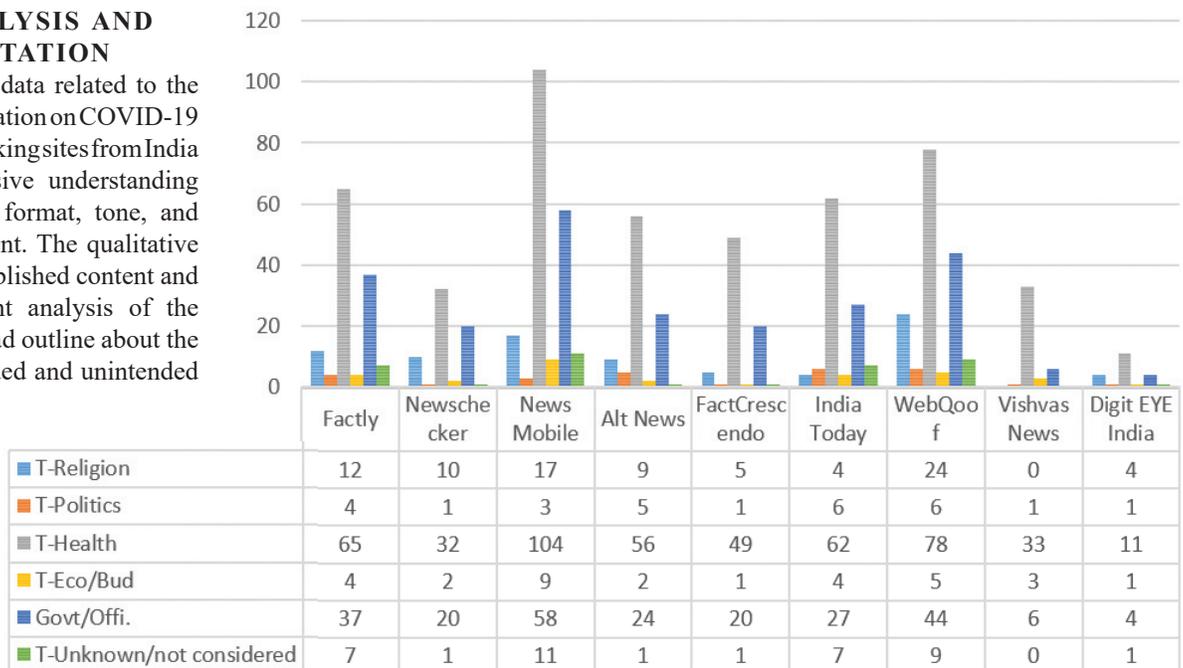


Figure 5. Cross frequency distribution of themes across fact checking websites.

eating and drinking remedies, etc. The overall perspective accounts for almost 50 per cent of the total dataset (Fig. 5). Similarly, the second most numerous kind of deceptive news stories were linked to Government/Govt. officials, more than 25 per cent. Religion is another issue being targeted, followed by politics and business/economics, all in connection to COVID-19. A total of 4 per cent news is deemed to be unclear (Fig. 5). These thematic representations indicate its possible impacts, which reflects in the tone of the published content.

It may be inferred through the data set that the proportion of rumors on health is 42 per cent. The next major ill-intended information spreads to convoluting public policy (17 per cent), misguide international community (13 per cent), and attacking political/religious /community leaders/celebrity (12 per cent), are the top three categories stands in order, after rumor on health. The proportion of rumors on religion (10 per cent) and rumors on business (3 per cent) is quite minimal (Fig. 6).

Out of the total data set, i.e., the total number of news fact-checked for truthfulness by different websites, only two news came to be correct at all. However, around 93 per cent (N=851) was disinformation, i.e., intended to harm, followed by

intention behind the circulation of mis/disinformation from the practitioners' perspectives. All the respondents are experts in their relevant fields, i.e., fact-checkers, journalists, advertising and public relations (PR) practitioners, academicians and psychologists, who face the challenges of mis/disinformation regularly. Most of the respondents (83 per cent) specified that the major aim of spreading disinformation was to gain a political advantage or to obtain commercial benefit, which was also confirmed in the literature. One participant argued that disinformation spreads xenophobia, communalism, racism, superstition, religious polarisation with an intent to create panic in civil society. According to one PR practitioner, "Disinformation spreaders intent on perpetuating hegemony and using it as a tool of mass control."

Some of the respondents (42 per cent) spoke about the commercial gain by sharing disinformation like drawing the viewers' attention and increasing website traffic to help increase advertisement revenue. However, media professionals vehemently argued that misinformation spreads due to the failure of the journalism profession. It can be either fundamental bias or confirmation bias in the media coverage like urban bias, regional bias, caste bias, communal bias, for example that colors the perspective of the media in covering a story.

Another agenda was to understand the reason behind the rise of disinformation on COVID-19. Most of the interviewees (92 per cent) pointed out that the virus is new and consequently there is no confirmed and valid information available online, as all the research work is still in progress. One PR professional mentioned that "COVID-19 is like a crisis for human civilisation which occurs once in a century. Therefore, groups with a vested interest take the opportunity to maintain power by spreading disinformation". There was a consensus regarding the source of the disinformation, which is social media and messaging apps. According to a PR professional, traditional media is commercially driven and reputation matters to them, but that is not the case for social media/microblogging sites.

Regarding the types of disinformation related to COVID 19, analysis of the participants' accounts suggests an array of a different kinds of disinformation, which is similar to the metadata findings (Fig. 6). One key concept deployed by participants' was spreading rumors on religion to communalism, which is quite in contrast to the data findings (Fig. 6). It is causing harm and targeting communities, political rivalry groups, minority groups, etc.

One of the objectives of the study was to determine who is able to verify the truth and communicate it to the public when it comes to incorrect information. In response to this, most of the respondents (83 per cent) unanimously suggested that that government authorities and fact checking agencies are decent sources to verify the truth. According to a fact-checker, there are multiple stakeholders in this. The primary push has to come from the government, however, in pro-actively and transparently sharing information. Secondly, fact checking sites whose main business is fact check must communicate the truth to the public. Finally, the respondents argued that mainstream media, technology companies (as

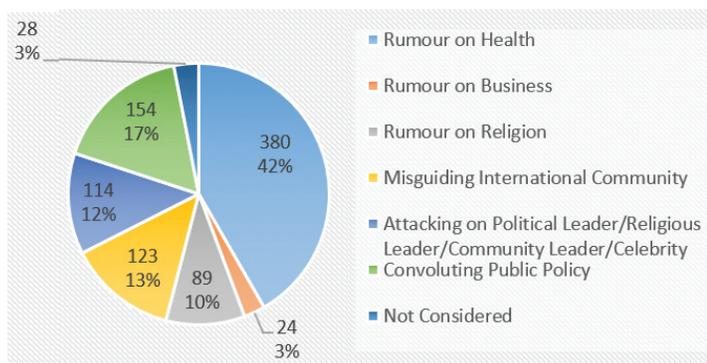


Figure 6. Cross frequency distribution of the tone of news.

3 per cent (N=27) as misinformation, meaning not intended harm and 1 per cent (N=3) in the category of mal-information, which means information is genuine but intend to harm. However, 2 per cent (N=19) of the news stories remain unverified by the fact-checkers (Fig. 7).

### 6.1 In-depth Interview Analysis

The first and foremost inquiry was to explore the

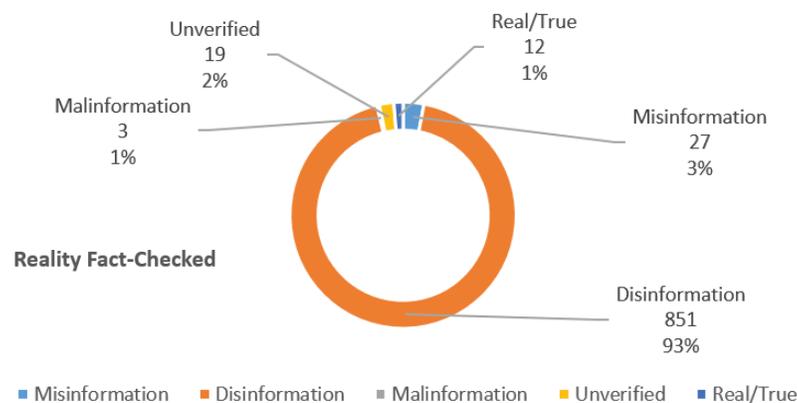


Figure 7. Reality fact-checked.

a large amount of consumption of information takes place on their platforms), civil society, influencers, and NGOs, all share their responsibility to identify incorrect information.

According to PR professionals, speeding up policing and the work of the judiciary system to punish the culprit in a timely manner could help in reducing the spread of disinformation. One respondent argued that one cannot entirely stop it, but it can be controlled through vigorous back tracing and threatening those spreading disinformation with prison time and other kinds of punishment. The general conclusions drawn are that the issue of mis/disinformation is a long journey, requiring a collective approach; that disinformation or fake news is not new to our social structures; and that while it is almost impossible to stop the flow of fake news, it can be reduced by taking certain steps.

## 7. CONCLUSION

The existing literature, though limited, nonetheless provided a comprehensive structure for understanding the concept of misinformation and disinformation. The study found that furthering a political agenda or propagating certain viewpoints to gain political or commercial benefits as well as creating an identity are the primary reasons behind the distribution of disinformation on COVID-19. As a result, it spreads xenophobia, communalism, racism, superstition and religious polarisation with the intent to create turmoil in civil society. It has become a device to maintain hegemony. The major contributors are the IT cells of political parties, vested interest groups, and an ignorant public. The heavy use of social media platforms, due to the ease of access and lack of gatekeeping in comparison to traditional media, also contributes to the spread of incorrect information. Apart from social media, regional media and corporate run politically affiliated media house's biased/pre-mediated reportage also contributes a bit in disseminating disinformation. For coverage of COVID-19, most of the disinformation are related to health and medication, to mislead the public; influencing public policy, to topple the government; religion, to create social conflicts; about specific countries to mislead the international community; organisations/people, to malign their image or/and to create polarisation. These themes are joined to the theoretical framework of the study, i.e., this discourse takes place in a socio-cultural context. However, the conclusion of the study is that journalists, fact-checkers, the government, and responsible citizens must take responsibility to verify false content and disseminate valid information to counter the threat of the information disorder related to this pandemic. The study was conducted in the Indian context but the findings are relevant and valuable in the global context.

## 8. LIMITATIONS AND FURTHER RESEARCH

The research followed the global perspective to explore the intent behind the spread of disinformation on COVID-19, but the study was restricted to India. As the pandemic is spreading globally, the timeline could have been increased to augment the data analysis. The semi-structured in-depth interviews with media and medical professional was an indispensable component of this study, as it managed to take one medical professionals interview. The inclusion of the

views of more medical practitioners' would have strengthened the findings linked to the health and disinformation segment. Also, the rise of disinformation related to the pandemic made the fact-checkers busy and unavailable for the study. An FGD with fact-checkers could have broadened this approach to the research in tackling the disinformation in practice.

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Her contribution to the current study is data coding, qualitative content analysis, conducting 4 in-depth interviews and reviewing the final draft.

## Appendix 1

### List of participants of in-depth interview

Name	Designation & organisation	Profession
Mr. Ashraf Engineer	Principal Consultant Pitchfork Partners, Mumbai, Maharashtra, India	Public Relations / Strategic Communication Expert
Mr. Jaibal Naduvath	Vice President, Public Relations, Kalpataru Group, Mumbai, India	Public Relations / Strategic Communication Expert
Mr. Velu Shankar	Independent Media Consultant Bengaluru, Karnataka, India	Media Consultant (Radio/TV/Online)
Rahul Namboori	Fact Crescendo	Fact-Checker
Mr. Rakesh Dubbudu	Factly (Founder & CEO)	Fact-Checker
Ms. Omi Singh	Counselor/ Psychologist/Independent Practitioner	Psychologist
Ms. Anurag Verma	Ex-reporter of Dianik Bhaskar, currently Asst. Head of School of MIT, Pune, India	Journalist/Academician
Ms. Sumedha	Freelance Reporter	Journalist/Academician
Mr. Rishabha Nayyar	Head of Strategy at 82.5 Communications, Mumbai, India	Strategic Communication Expert/ Advertising Professional
Mr. Mohan Kumar	Copy Editor, Rajasthan Desk, Network-18, India	Journalist
Dr. Vikash Pathak	Faculty, ACJ, Chennai	Previously a Journalist and Deputy-Editor with The Hindu
Mr. Pradyuman Maheswari	Editor- MXM India	Journalist/ Media Professional

(Medical Practitioners, Academicians, Fact-Checkers, Media Practitioners- A total of 12 interviews)