

Tracking the Lies: An Analysis of Misinformation Patterns in Malayalam

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Abstract

This study analyzes the patterns of misinformation in Malayalam, a regional Indian language, with the purpose of developing a comprehensive conceptual framework to understand the patterns of misinformation flow, genres, formats, and claim reviews in regional settings. Although there are plenty of studies exploring the challenges of managing misinformation online and identifying possibilities to tackle them in English and Western language settings, studies on the management of misinformation in regional language contexts are very rare. To explore the current patterns of fact-checking in regional settings in India, we analyzed fact-check stories published during a specific time period in four fact-checking portals with IFCN signatories: India Today, NewsMeter, News Checker, and Fact Crescendo. These portals publish in Malayalam, the official language of Kerala, a state in South India. The study provides important insights into the patterns of misinformation in Malayalam and suggests some effective strategies to combat misinformation .

Keywords

Misinformation, Media, Politics, Health, Religion

Introduction

The proliferation of false or misleading information facilitated by digital communication poses a significant challenge to democratic societies. The advent of social media and messaging applications has facilitated the rapid dissemination of inaccurate news stories, rumors, and conspiracy theories, thus exacerbating the problem in media platforms in all languages. This study focuses on the spread of menace in Malayalam, a regional language in India,

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spoken by approximately 38 million individuals worldwide. The spread of misinformation and propaganda in Malayalam has been observed across various media platforms, often targeting vulnerable demographic groups, including ethnic or religious minorities. Consequently, the widespread propagation of misinformation in Malayalam presents a formidable threat to public health, democratic processes, and social cohesion in the state of Kerala and beyond.

This research seeks to analyze the prevailing trends and patterns of misinformation in the Malayalam language, employing a categorization framework centered around fact-checking narratives. The study will rely on fact-checking stories published by Malayalam portals that are signatories of the International Fact-Checking Network (IFCN) over a three-month duration. Through the systematic classification of fact-check stories according to their subject matter, format, and type of claim, this study aims to offer a holistic overview of the prevalence and distinctive characteristics of misinformation in Malayalam. Moreover, the research seeks to address the existing gap in academic literature pertaining to the dissemination of misinformation in this language and to identify the contributing factors fueling its propagation.

To accomplish the research objectives, this study employs qualitative content analysis as a methodological approach to meticulously categorize the selected fact-checking stories. A carefully constructed coding scheme has been employed to classify the fact-checking reports according to their subject matter, format, and type of claim. Subsequently, the coded data will be subjected to descriptive statistical analysis and thematic analysis, enabling the identification of discernible trends and patterns within the realm of misinformation in Malayalam.

Significance of the Study

This study holds considerable significance as it contributes to a broader understanding of the dissemination of misinformation in non-English languages. Existing research on misinformation has predominantly focused on English-language contexts, leaving a dearth of scholarly literature addressing the spread of misinformation in regional languages, particularly in the case of Malayalam. Consequently, this study offers valuable insights that can inform strategies aimed at countering misinformation in regional languages. Through the meticulous categorization of fact-checking stories, this research endeavors to discern which types of claims and subjects are most susceptible to

misinformation and which formats are commonly employed to disseminate false or misleading information.

The study will provide insights into the mechanisms of misinformation dissemination and identify areas where fact-checking and media literacy efforts can be improved. It will also examine the role of social media in spreading misinformation and the effectiveness of current measures taken by social media platforms to curb its spread. The findings of this study can inform the development of policies and interventions to combat the spread of misinformation in Malayalam, including media and information literacy programs, fact-checking initiatives, and social media policies. Therefore, this study has significant implications for policymakers, journalists, fact-checkers, and the general public who are affected by the impact of misinformation in the digital age.

Review of Literature

Over the past decade, the research literature on disinformation has witnessed significant development and expansion, reflecting the growing recognition of its profound societal implications. The development of research literature on disinformation has been driven by the recognition of its adverse effects on democratic processes, public opinion formation, and social cohesion. Scholars have increasingly emphasized the potential threats posed by disinformation to the integrity of elections, the polarization of societies, and the erosion of trust in traditional information sources. Consequently, research endeavors have focused on understanding the mechanisms through which disinformation influences individuals' beliefs, attitudes, and behaviors, as well as its broader societal consequences. In recent years, the research literature on disinformation has expanded to encompass diverse cultural, linguistic, and geographical contexts. While initial studies predominantly focused on English-language disinformation, there has been a growing recognition of the need to investigate disinformation in non-English languages to develop a comprehensive understanding of its global impact, though the efforts are yet to catch momentum.

In their paper "Fake News Detection Model for Regional Language," Nair, Akhil, and Harisankar propose a machine learning-based approach for detecting fake news in Malayalam, a regional language in India. The authors note that fake news has become a widespread problem, particularly in the age of social media, and that it can have serious consequences for society. The authors provide a detailed description of their proposed model, which is both

effective and efficient in detecting fake news in Malayalam. The proposed model has significant implications for policymakers, journalists, and social media platforms, as it can be used to combat the spread of fake news and promote factual reporting. (Nair, Akhil & Harisankar, 2022).

Shu et al. (2016) provide a comprehensive survey of techniques for identifying and mitigating fake news. They discuss various techniques for detecting and classifying fake news, including linguistic, content-based, and social network-based features. The authors also describe the challenges of evaluating fake news detection models, such as the lack of standardized datasets and the difficulties of assessing the real-world impact of fake news. The paper also discusses the role of social media platforms and policymakers in addressing the problem of fake news. The article emphasizes the need for interdisciplinary collaboration and effective policies to combat the issue of fake news. (Shu et al., 2016)

Raj Kishore Patra and Neha Pandey In their study, "Disinformation on Novel Coronavirus (COVID-19): A Content Analysis of News Published on Fact-Checking Sites in India", analyzed news articles related to COVID-19 that were published on fact-checking sites in India. Their findings revealed that the most common types of disinformation related to COVID-19 in the Indian media were conspiracy theories, false cures, and political misinformation. They also found that the majority of the articles they analyzed were focused on debunking such disinformation, and that fact-checking sites in India played an important role in countering the spread of false information about COVID-19.

Abraham et al. (2021) analyzed the spatial drivers behind the spread of anti-Muslim fake news during the onset of the COVID-19 pandemic in India. Specifically, they focused on the Tablighi Jamaat, a Muslim convention in New Delhi that became publicly recognized as a COVID-19 hotspot on March 30, 2020. The next day, there was a spike in anti-Muslim fake news on Twitter, falsely accusing Muslims of intentionally spreading the virus. The researchers used Twitter data to build a comprehensive dataset of georeferenced tweets that identified anti-Muslim fake news and analyzed the spatial distribution of these tweets to determine the relationship between the location of Muslims and the prevalence of anti-Muslim fake news. The findings revealed that districts with a higher concentration of Muslims were more likely to be targeted by anti-Muslim fake news during the COVID-19 pandemic. In addition, districts with higher levels of education and internet penetration were also more likely to be targeted.

(Shu et al., 2021) in their study aimed to investigate the effectiveness of different correction modalities in mitigating the spread of false information about COVID-19. Through a series of experiments, participants were exposed to false information about COVID-19 and then received a correction through different modalities, including textual, video, and combined textual and video corrections. The authors evaluated the effectiveness of each modality in reducing belief in the false information and increasing knowledge about the truth. The findings showed that video corrections were the most effective in reducing belief in the false information and increasing knowledge about the truth. Textual corrections were also effective but to a lesser degree, and the combined textual and video corrections did not show a significant improvement over the video corrections alone. The authors suggest that video corrections may be more effective than textual corrections because they are more engaging and memorable.

Operational Definitions

A) Political Misinformation:

The political genre of misinformation in this study is defined as misinformation that is deliberately spread with the aim of achieving political gains or promoting political propaganda. This includes false claims made either in favor of or against politicians or political parties. For the purpose of this study, communal and religious misinformation are excluded from the political category to prevent overlapping and to acknowledge their potentially higher social consequences, particularly in the state of Kerala. The operationalization of political misinformation includes alliance politics in the state.

B) Religious/Communal Misinformation:

Religious/communal misinformation in this study refers to the misinformation related to any religion or community that aims to create hatred or intolerance towards a particular religious group or community, or to promote biased or false beliefs about any religion. This type of misinformation includes content shared on digital platforms that targets individuals who follow or do not follow a particular religion, or those belonging to a specific community, with the intent of creating a divide among them.

C) Health Misinformation

Health Misinformation in this study refers to the spread of false or misleading information related to health, medical treatments, and wellness. This includes claims about the efficacy of treatments, medical advice, and preventative measures, as well as misinformation about diseases, vaccines, and public health policies.

D) False Claim

The term "false claim" refers to a type of misinformation that includes a completely fabricated statement or information that is not based on any facts or evidence. This also includes any accompanying media that does not belong to any other original context, such as images or videos that are manipulated or falsely attributed. False claims in this study are identified as a distinct type of misinformation that lacks any basis in truth or reality.

E) False/Missing Context

The term "False/Missing Context" is used in this study to refer to a type of misinformation where media content from one context is used in another context to mislead people. This includes instances where media content is completely unrelated to the topic at hand but is being used to support a false narrative. On the other hand, missing context refers to instances where the context of a piece of media content is unknown or omitted, which can lead to misinterpretation or misrepresentation of the information presented. In both cases, false or missing context can contribute to the spread of misinformation and is therefore considered an important category of misinformation in this study.

Objectives

The study aims to evaluate the patterns of misinformation in Malayalam language in the aspects of genres, media formats and claim reviews. The objectives of the study are:

- To identify the most prevalent genres, media formats, and types of claims used in spreading misinformation in Malayalam, in order to understand the patterns of misinformation dissemination.
- To examine the relationship between the genres and media formats of misinformation in Malayalam, and to analyze the impact of misinformation on different user groups.

- To investigate the relationship between the genres and claim reviews of misinformation in Malayalam, and to recommend effective strategies to combat the spread of misinformation.

Methodology

This study employs a qualitative content analysis methodology to analyze fact-check stories published on IFCN signatory fact-check portals during a specific period. The study utilizes a purposive sampling technique to select fact-check stories in the Malayalam language that are related to misinformation.

The IFCN signatory fact-check portals in Malayalam are India Today, Fact Crescendo, News Checker and NewsMeter. The fact-check stories published by these websites from 1st December 2022 to 28th February 2023 were selected for the study. The titles, URLs and the date of publication have been tabulated in order to categorize.

The selected fact-check stories are then categorized based on the type of claim, subject, and media format. The subjects of the claims are categorized as Political, Communal, Religious, Health, Sports, Disaster, Entertainment, Emotional, Nationalistic and Spam. The media formats are categorized as text, image, video, and a combination of these. The type of claims are categorized as false, partially false, missing/false context and altered media.

The data has been analyzed using descriptive statistics, including frequency counts and percentages. The results are presented in tables and graphs to provide a comprehensive overview of the trends of misinformation in Malayalam during the specific period.

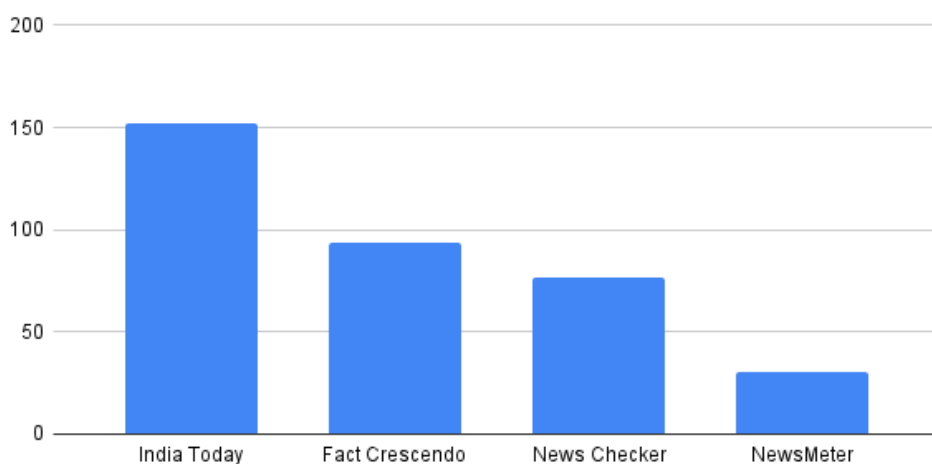
Findings & Analysis

Fact-checking organizations observe stories circulating on social media and analyze the reach of various types of content based on the data shared by Meta to identify those that require fact-checking. The fact-checkers then provide sufficient evidence for each story and work objectively to ensure their findings are accurate and unbiased. In Malayalam, fact-checking portals cover a wide range of topics, from politics to health to entertainment. With an average count of 30 to 40 stories per month, these portals play a crucial role in combating misinformation in the Malayalam language.

For studying the dynamics of Misinformation in Malayalam, all the fact-check stories published between 1st December 2022 to 28 February 2023 have been

selected. A total of 353 Fact-check articles published by four IFCN signatories were collected for analysis. The following figure shows the number of stories published by each organization during the time period.

Number of Fact-check Articles Published (1st December 2022-28 February 2023)



It is learned that the number of fact-check articles published by each organization vary due to various factors, including the editorial policy, work structure, human resource etc. There are several organizations with dedicated fact-check desks while certain others work with single fact-checkers for a language. Based on this, a specific target is assigned for the fact-checkers every month. This reflects in the number of articles published by each organization.

As the data collected from four IFCN signatories in Malayalam, the first phase of analysis was done for each organization to find out the genre, media format and claim review of each fact-checking portal and hence to identify a pattern.

India Today

India Today, one of the leading media organizations in India is an IFCN signatory which publishes fact-check articles in Malayalam. During the period of study, India Today has published 152 fact-check stories on various genres of misinformation. Analysing the genre, it is found that majority of the fact-check articles are on political misinformation. (Figure 1.1)

India Today: Genres of Misinformation

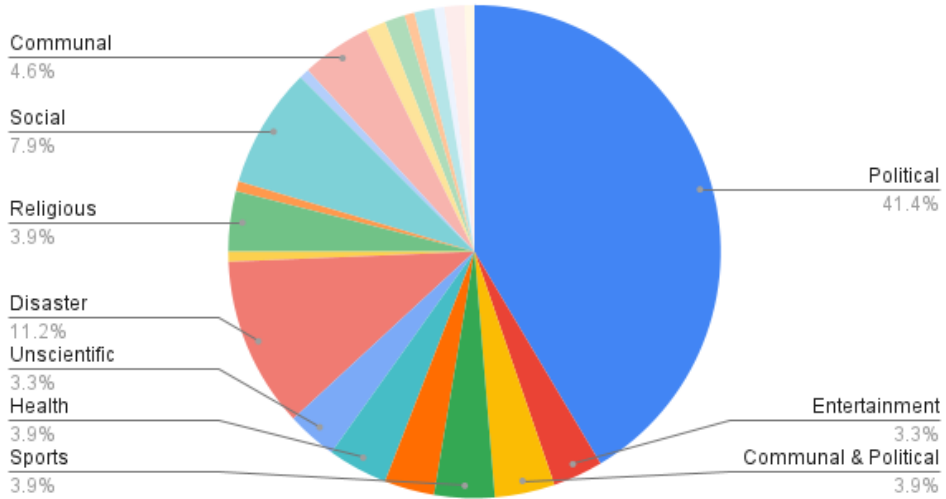


Figure 1.1

Based on a review of the fact-check articles published by India Today, it is evident that political misinformation comprises a substantial proportion of the articles, with 63 out of the total 153 articles (approximately 50%) focused on this category. The second-highest category of misinformation in the India Today fact-check articles pertains to disasters with 11.2%. Communal and health-related misinformation are the most frequently debunked genres, followed by the aforementioned political and disaster-related misinformation.

In the course of its fact-checking activities, India Today has observed that video is the most frequently used media format for disseminating misinformation, accounting for 44.7% of the total articles. Images are the second most commonly used format, making up 30.3% of the misinformation. In contrast, text-based misinformation is the least prevalent, with only 7.2% of the total articles. Graphic content is used in 17.8% of the misinformation. (Figure 1.2)

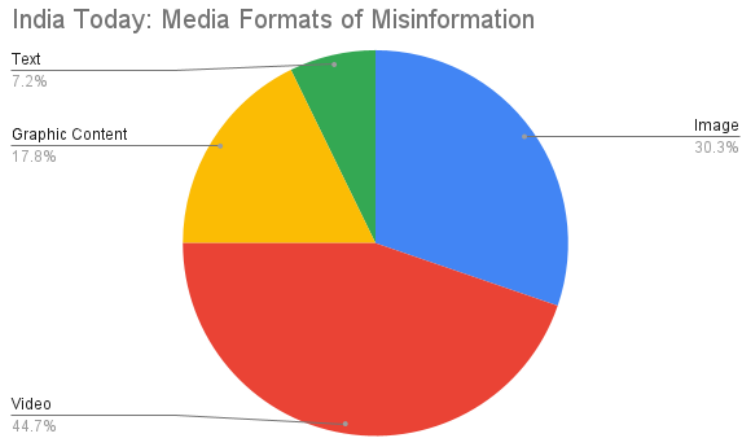


Figure 1.2

A review of the fact-check articles published by India Today indicates that false or missing context is the most prevalent form of misinformation, accounting for 40.1% of the total claims reviewed. Furthermore, completely false and partly false claims constitute an equal share of 23.7% of the total claims reviewed and 12.5% of the misinformation reviewed by India Today involved altered media, such as doctored images or videos. (Figure 1.3)

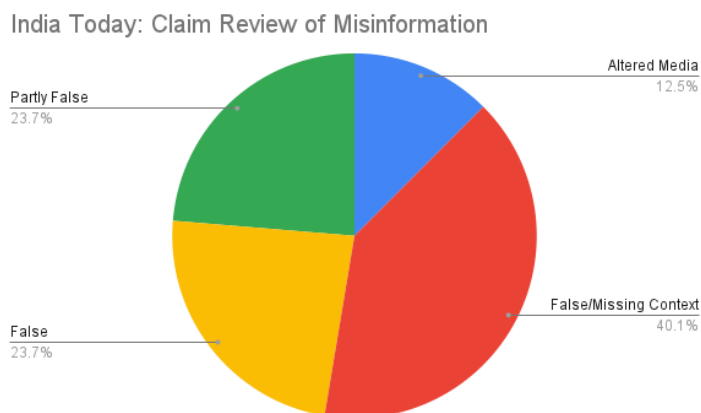


Figure 1.3

Fact Crescendo

According to the 94 fact-check articles published by Fact Crescendo during the study period, it is clear that political misinformation is the most prevalent type of misinformation, comprising 35.1% of the total fact-checks. Disaster and health misinformation accounted for 10.6% of the fact-checks, highlighting the potential danger that misinformation can pose during emergencies or health crises. Sports misinformation accounted for 9.6% of the fact-checks, and social misinformation accounted for 7.4% of the fact-checks. (Figure 2.1)

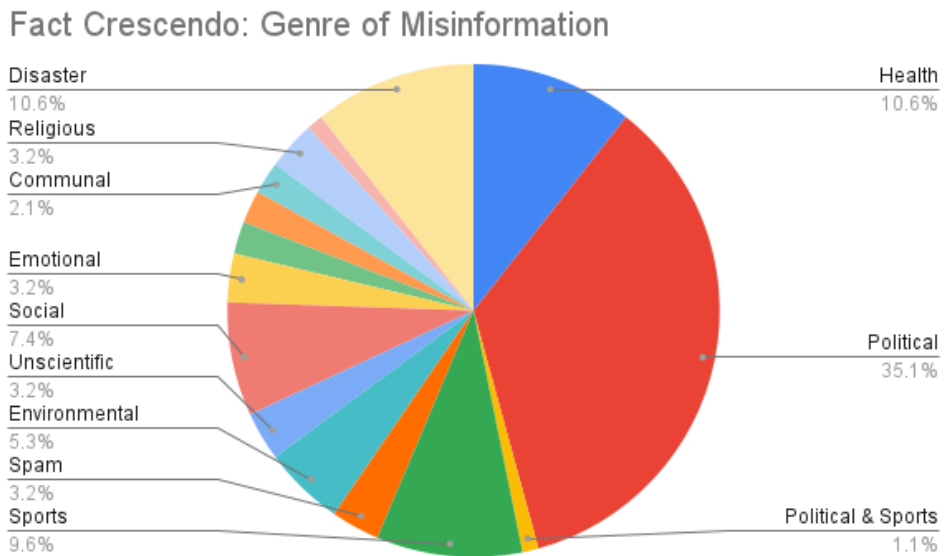


Figure 2.1

An analysis of the media formats of misinformation debunked by Fact Crescendo reveals that video is the most frequently used format, comprising 54.3% of the total misinformation. Images are the second most commonly used format, accounting for 27.7% of the misinformation, followed by text at 10.6%. Graphic content, such as memes or infographics, are used in 7.4% of the misinformation. (Figure 2.2)

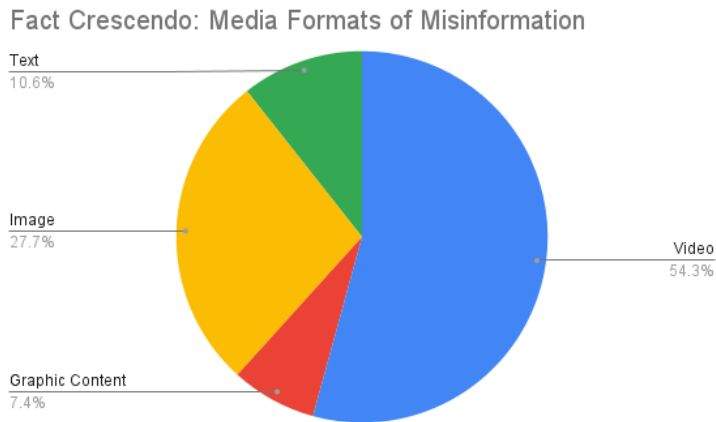


Figure 2.2

The claim review of Fact Crescendo's fact-check articles reveals that false or missing context is the most common form of misinformation, comprising 41.5% of the total claims reviewed. False claims are also prevalent, accounting for 38.3% of the claims reviewed. The use of altered media, such as manipulated images or videos, is another common tactic, accounting for 17% of the claims reviewed. Partly false claims constitute a relatively small proportion of the claims reviewed, at 3.2%. (Figure 2.3)

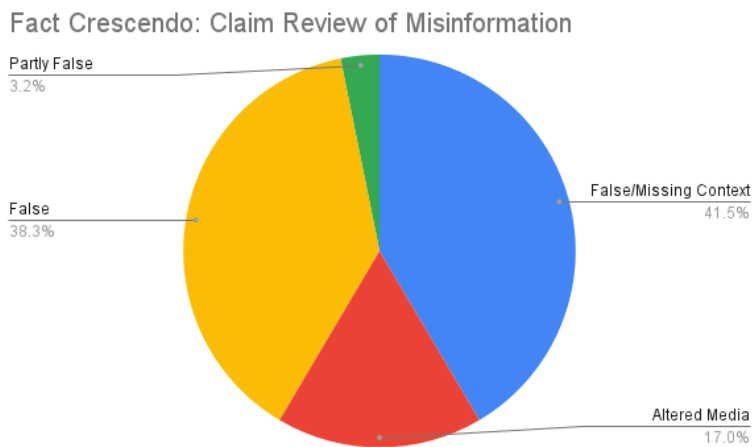


Figure 2.3

News Checker

An analysis of News Checker's fact-check articles during the study period reveals that political misinformation was the most prevalent category, accounting for 41.6% of the total 77 fact-check articles published. Health-related misinformation was the second-most common category, comprising 11.7% of the total fact-check articles, followed by disaster and religious misinformation at 6.5% each. Additionally, communal, unscientific, and sports-related misinformation contributed to 5.2% of the total fact-check articles each. (Figure 3.1)

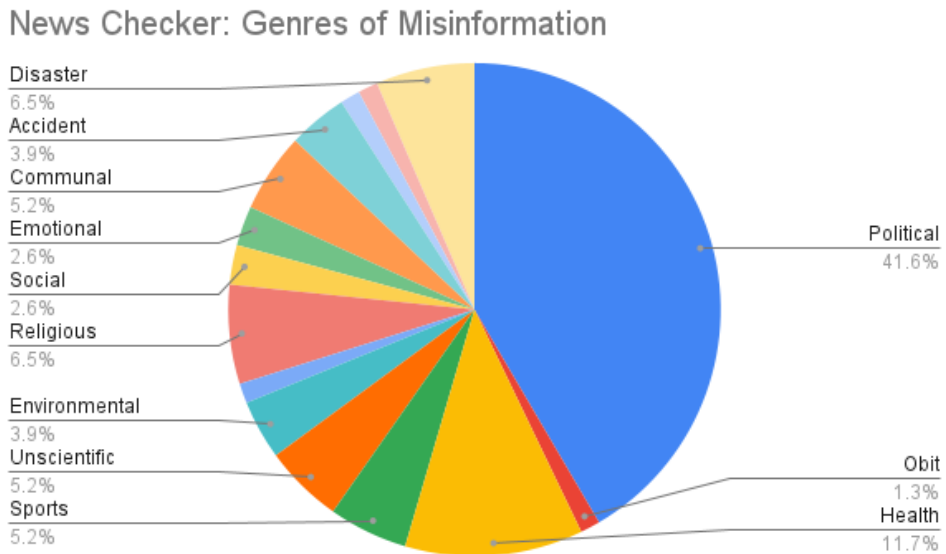


Figure 3.1

An analysis of News Checker's fact-check articles further reveals that the most prevalent media format used to spread misinformation is images, accounting for 45.5% of the total fact-check articles. Video is the second most prevalent media format, comprising 44.2% of the total fact-check articles. Text was the least commonly used media format in misinformation debunked by News Checker, accounting for only 9.1% of the total fact-check articles. There was one fact-check article about an audio based misinformation spread on WhatsApp. (Figure 3.2)

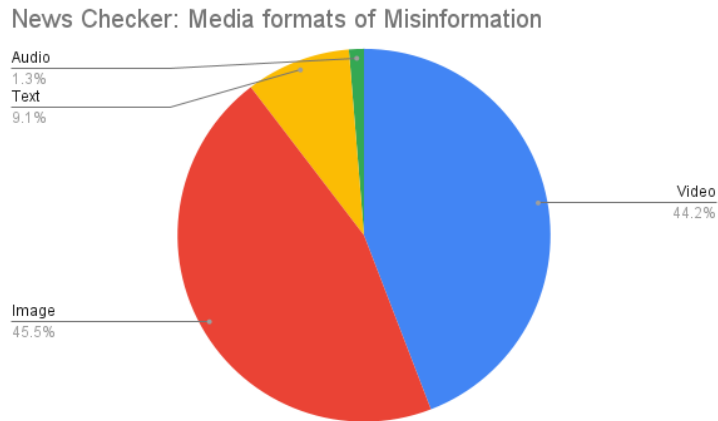


Figure 3.2

Analysing the claim review of fact-check articles by News Checker, it reveals that false or misleading context was the most prevalent claim category among the misinformation debunked, accounting for 39% of the total fact-check articles. False claims contributed to 27.3% of the total fact-check articles, while altered media and partly false claims accounted for 16.9% of the total fact-check articles. (Figure 3.3)

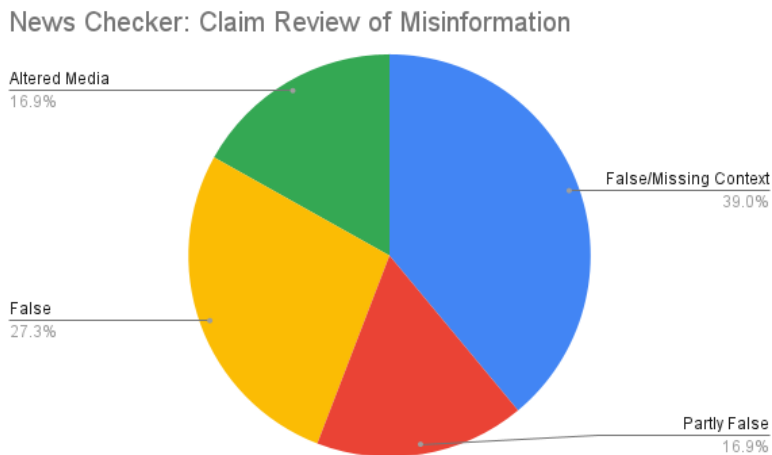


Figure 3.3

News Meter

Upon analyzing News Meter's fact-check articles during the study period, it was found that political misinformation was the most prevalent genre, accounting for 23.3% of the total articles. Emotional content was also prevalent, accounting for 16.7% of the total fact-check stories. Health misinformation followed closely behind, comprising 13.3% of the total fact-check articles. Spam content debunking made up 10% of the total fact-check articles, while social and communal misinformation accounted for 6.7%. (Figure 4.1)

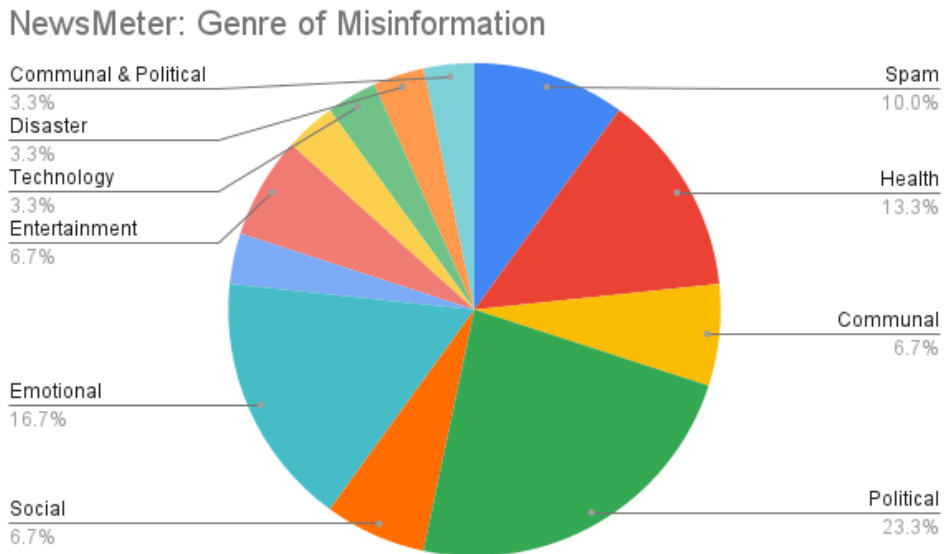


Figure 4.1

Analyzing the media formats, it was found that video was the most prevalent media format used to spread misinformation, comprising 40% of the total fact-check articles. Images were also a popular media format, making up 33.3% of the total fact-check articles. Text was the third most used media format, accounting for 23.3% of the total fact-check articles. Graphic content was the least used media format in misinformation debunked by News Meter, comprising only 3.3% of the total fact-check articles. (Figure 4.2)

NewsMeter: Media Format of Misinformation

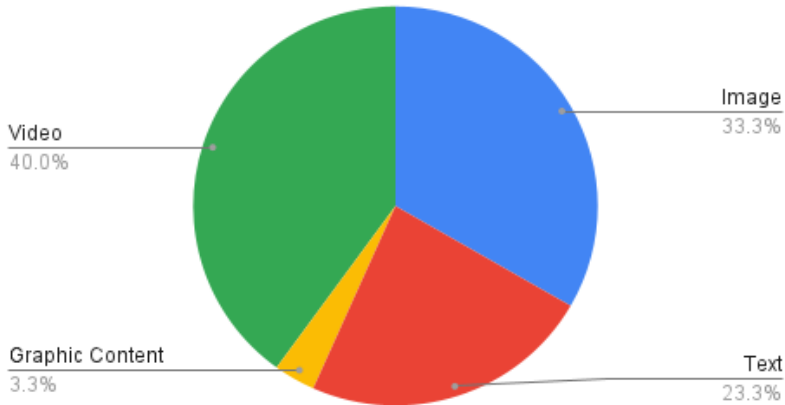


Figure 4.2

False claims comprise the largest proportion of misinformation, accounting for 46.7% of the total fact-check articles. Claims that use false or missing context were found to be the second most prevalent type of misinformation, making up 40% of the total fact-check articles. Partly false claims and altered media were the least common types of misinformation, making up only 6.7% of the total fact-check articles. (Figure 4.3)

NewsMeter: Claim Review of Misinformation

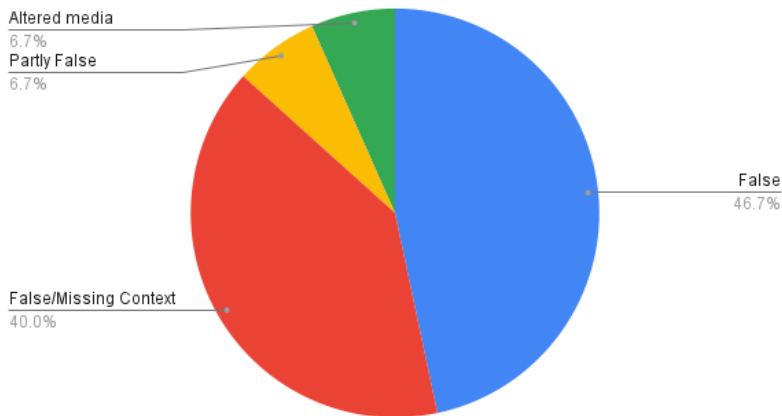


Figure 4.3

A summary of the analysis of fact-checking articles published by India Today, Fact Crescendo, News Checker, and News Meter shows that political, communal, and health misinformation are the most common genres. Video and image are the most frequently used media formats, while false or missing context is the most common type of misinformation claim.

Combined Data Analysis

While analyzing fact-checking articles published by individual portals provides valuable insights into specific aspects of misinformation, combining data from multiple portals can offer a more comprehensive picture. A combined analysis can reveal common trends and patterns, highlighting the most prevalent types of misinformation, media formats, and claim reviews. By looking at the data holistically, we can gain a better understanding of the overall landscape of misinformation and the efforts being made to combat it.

Based on the combined data from India Today, Fact Crescendo, News Checker, and News Meter, the analysis reveals that political misinformation is the most prevalent genre, accounting for 38.2% of the total fact-check articles. This is followed by disaster-related and health-related misinformation, which account for 9.3% and 8.2% respectively. Sports-related misinformation accounts for 5.4% of the total where we can see that the disaster related misinformation are related to the recent Turkey - Syria earthquake and sports related misinformation are from FIFA world cup football held in Qatar. So these two can be considered as seasonal misinformation.

Social and communal/religious misinformation makeup 6.2% and 4.2% of the total, respectively. It is worth noting that religious and communal misinformation can overlap at times. (Figure 5.1)

Upon analyzing the media format of the combined data from the four IFCN signatories, it was found that video is the most commonly used format for spreading misinformation, with a percentage of 46.5%. Images were the second most commonly used media format at 32.6%, followed by text at 11%. Graphic content was found in 9.6% of the misinformation, while audio was the least used format at only 0.3%. (Figure 5.2)

Misinformation in Malayalam: Genres

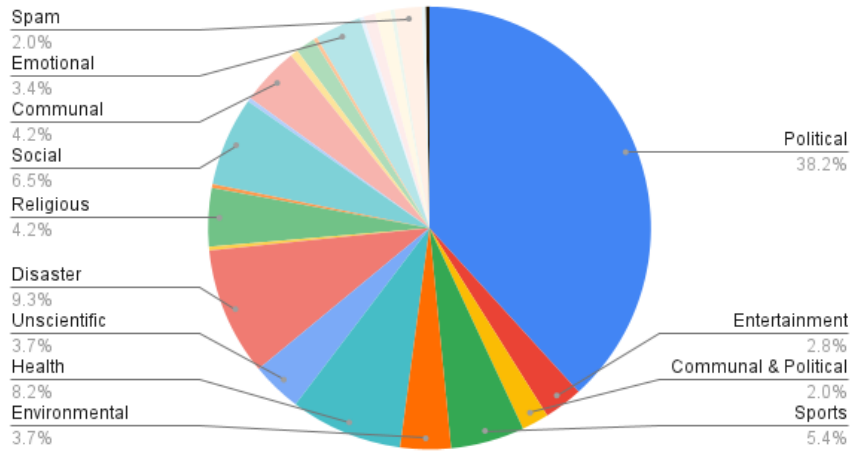


Figure 5.1

Misinformation in Malayalam: Media Formats

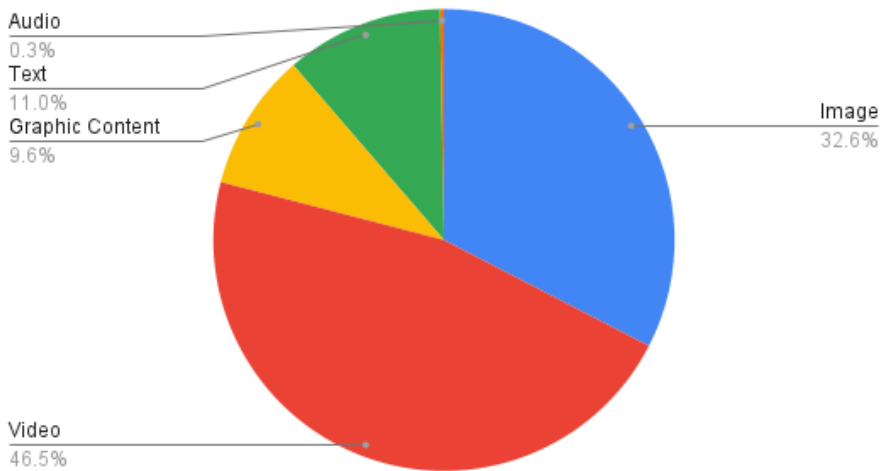


Figure 5.2

The combined analysis of claim review from four IFCN signatories reveals that false/missing context is the most common type of misinformation, accounting for 40.2% of all claims reviewed. False claims follow closely behind, accounting for 30.3% of claims reviewed, while partly false claims and altered media account for 15.3% and 14.2%, respectively. (Figure 5.3)

Misinformation in Malayalam: Claim Review

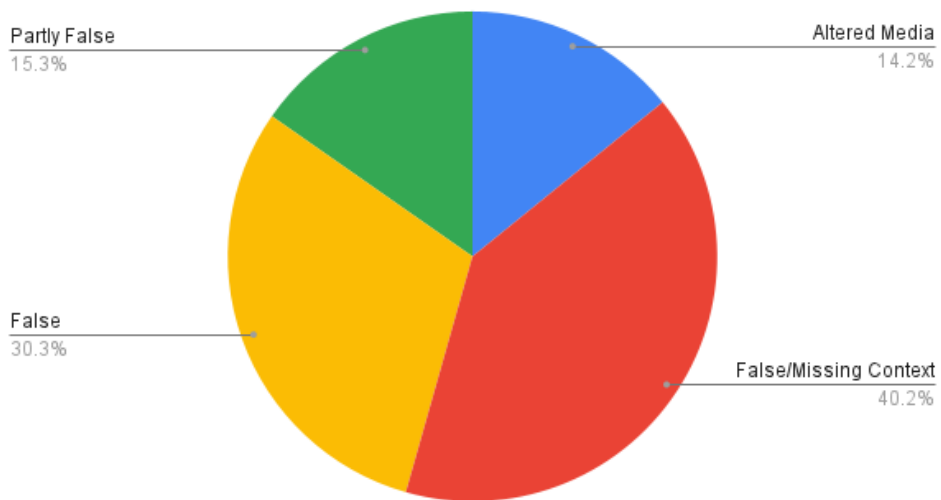


Figure 5.3

The first phase of combined analysis on the genres, media formats, and claim reviews of misinformation fact-checked by four IFCN signatories - India Today, Fact Crescendo, News Checker, and News Meter - reveals that political misinformation is the most prevalent type, followed by health, disaster, social, and religious/communal. Video and image formats are the most commonly used for spreading misinformation, and false or missing context is the most common type of claim review. These findings highlight the need for increased vigilance and critical thinking when consuming information online, particularly around politically charged topics and health-related issues.

In the second phase of combined data analysis, the relation between the genres of misinformation and the media formats used to spread them is analysed. Additionally, it is also investigated whether there is any correlation between the genre of misinformation and the accuracy of the fact-checks performed on them. By examining these relationships, we hope to gain a deeper understanding of the ways in which misinformation is disseminated and how it can be effectively debunked. The top three genres of misinformation - political, health, and religious/communal - have been selected.

Genres of Misinformation and Media Formats

Based on the analysis of media formats used for political misinformation, it was found that out of 135 instances of political misinformation, 67 were in image format, 38 in video format, 17 in graphic content format, and only 13 in text format. The high prevalence of image and video formats in political misinformation can be attributed to their ease of sharing and potential to evoke emotions among viewers. Additionally, graphic content may be used to present data in a misleading or biased manner. The low usage of text format may suggest that political misinformation is more effective when presented visually rather than in a written format. (Figure 5.4)

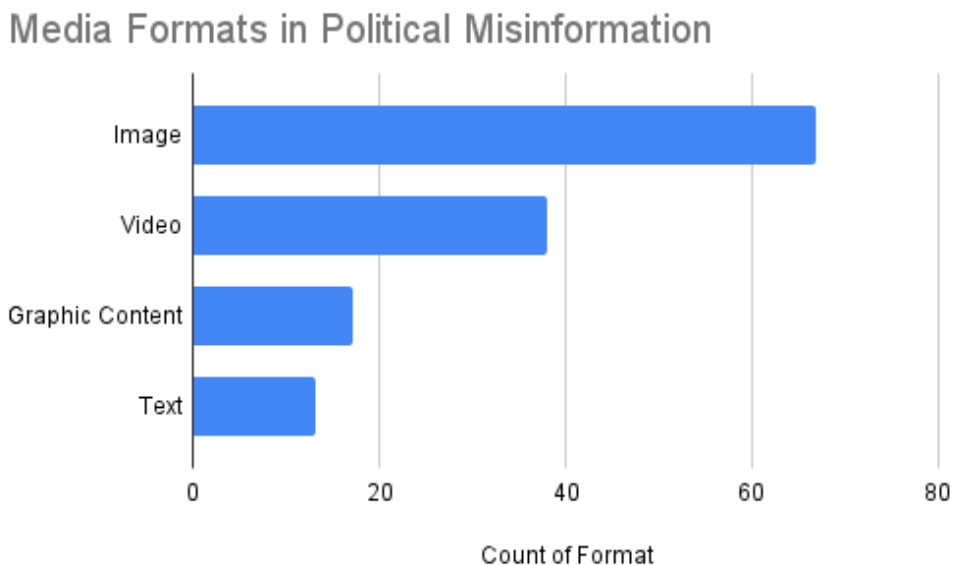


Figure 5.4

Analysing the media formats of health misinformation, it appears that video is the most popular format, with 13 out of 29 health misinformation being in video format. This suggests that creators of health misinformation are relying heavily on visual aids to make their false claims more compelling to viewers. Text is the second most common format with 11 out of 29 health misinformation, which indicates that some creators are still relying on written content to spread false health claims. Only 5 out of 29 health misinformation is in image format, which is the least popular format for spreading health misinformation. (Figure 5.5)

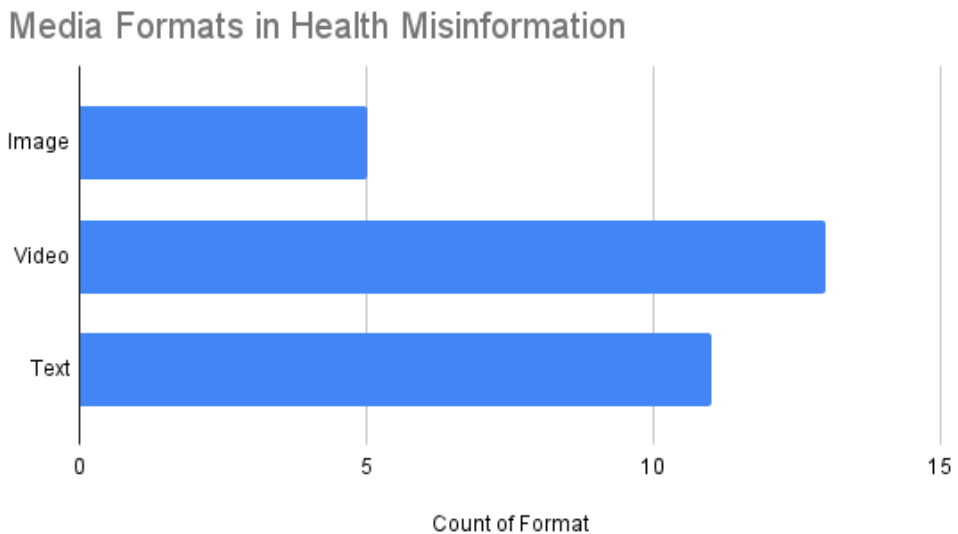


Figure 5.5

The media formats of communal/religious misinformation is also analysed and found that video is the most common format with 17 instances, followed by image with 13 instances. Graphics and text formats are relatively less common with only 5 and 2 instances respectively. This suggests that video and image formats are more effective in spreading communal/religious misinformation. It is important for fact-checkers to focus on debunking such misinformation in these formats to prevent their spread. (Figure 5.6)

Media Format of Communal/Religious Misinformation

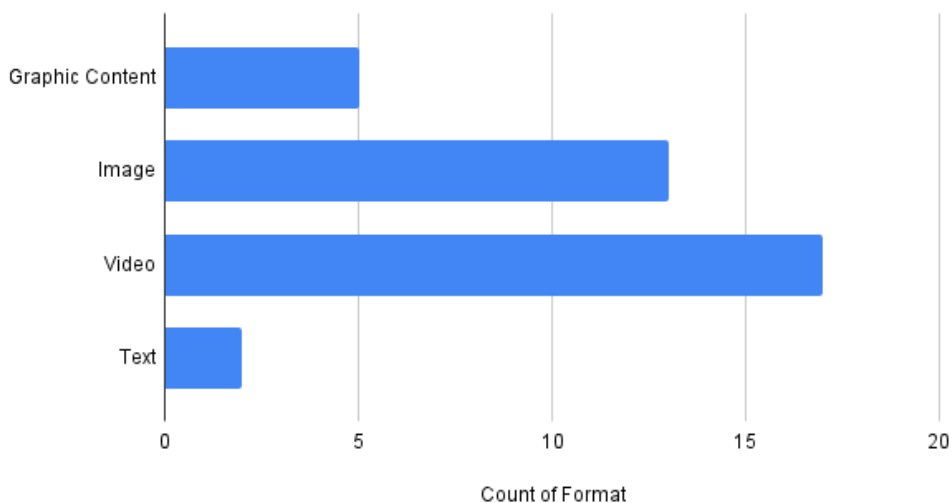


Figure 5.6

The cross-category analysis of the top three genres of misinformation - political, health, and religious/communal - revealed interesting insights into the media formats preferred by purveyors of misinformation. The analysis showed that visual communication through images and videos is preferred in most cases. Political misinformation was predominantly in the form of images, followed by videos, while health misinformation was more evenly distributed between videos and text. Religious/communal misinformation was also largely in video and image formats. The preference for visual formats highlights the need for fact-checkers to prioritize the verification of multimedia content.

Genres of Misinformation and Claim Reviews

The claim review of the three most prevalent genres of misinformation - political, health, and religious/communal - are analysed here. It aims at getting insight into the ways in which misinformation is being spread and the types of tactics being used to deceive people. Specifically, whether the misinformation is categorized as false, false/missing context, altered media, or partly false, and how this varies across the different genres are being analysed.

Out of 135 political misinformation, 46 were rated false/missing context, 32 were rated false, 30 were altered media, and 27 were partly false. This indicates that false/missing context claims were the most common type of

misinformation in the political genre, followed by false claims. Altered media and partly false claims were comparatively lower in number. This indicates that political misinformation is often intentionally manipulated or taken out of context to support a particular agenda or viewpoint. The high percentage of false or misleading information highlights the need for increased fact-checking and critical thinking when it comes to political news and information. (Figure 5.7)

Claim Review in Political Misinformation

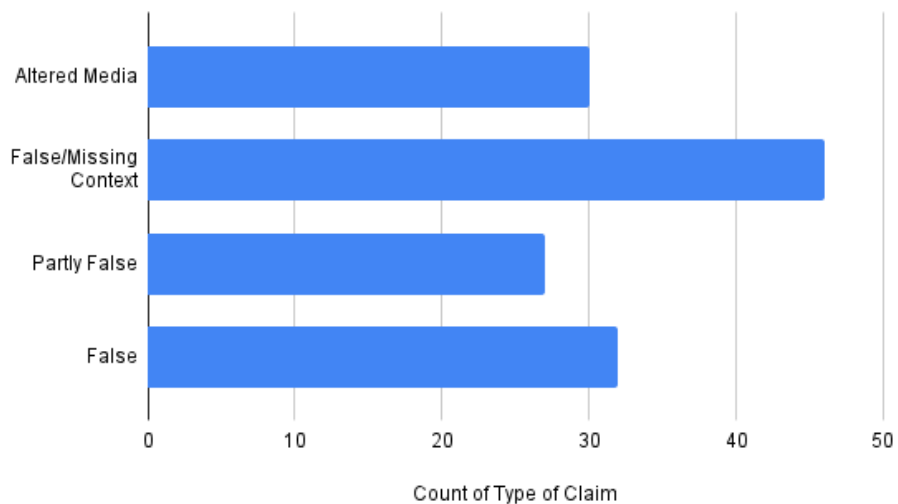


Figure 5.7

Based on the claim review of health misinformation, false claims had the highest count with 18 cases, followed by false/missing context with 6 cases, partly false with 3 cases and altered media with 2 cases. This suggests that false claims are the most common type of health misinformation being circulated. (Figure 5.8)

Based on the claim review analysis of religious/communal misinformation, it was found that false claims were the most prevalent with a count of 13. False/missing context claims followed closely behind with a count of 12, while partly false claims had a count of 7 and altered media claims had a count of 5. This suggests that religious/communal misinformation is often spread with the

intention of completely fabricating information or manipulating the context of true information to support a particular agenda. (Figure 5.9)

Claim Review in Health Misinformation

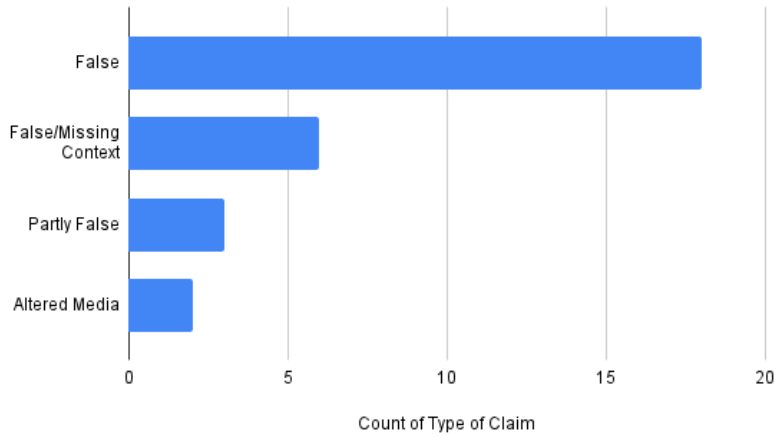


Figure 5.8

Claim Review of Religious/Communal Misinformation

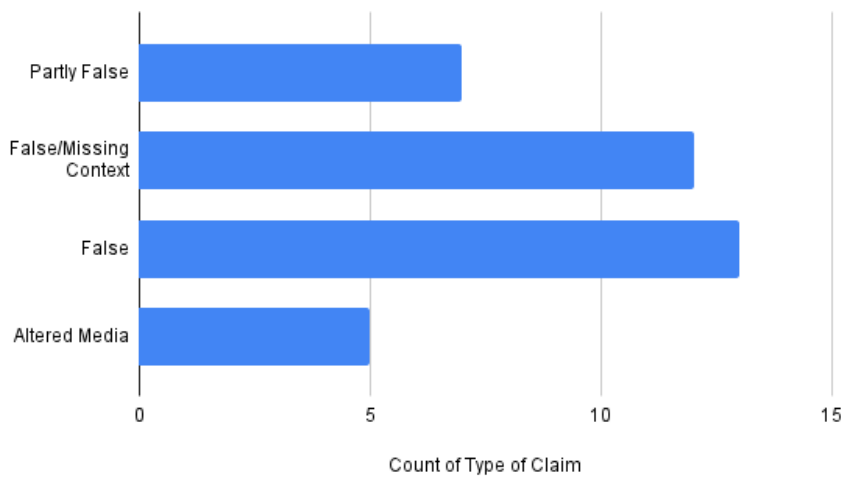


Figure 5.9

Based on the analysis of genres and claim review of misinformation, it can be observed that false and false/missing context claims are the most prevalent across all genres - political, health, and religious/communal. Altered media and partly false claims are also present but in lower numbers. This suggests a deliberate attempt to spread false information and manipulate the facts. The analysis also revealed that visual media formats - images and videos - are preferred for spreading misinformation in all genres. Therefore, it is crucial to be vigilant and fact-check information before sharing or believing it, especially if it is in a visual format.

A comprehensive summary of the second phase analysis is given below in Table 1.1.

Top-three genres of Misinformation	Total count	Media Format					Claim Review			
		Text	Image	Video	GFX	Audio	False	False/Missing Context	Partly False	Altered Media
Religious/Communal	37	1	16	13	7	0	13	12	7	5
Health	29	5	13	11	0	0	18	6	3	2

Table 1.1

Discussion

Misinformation has become a widespread issue not only in the global context but also in regional languages such as Malayalam. The study focused solely on the misinformation that has been fact-checked by IFCN signatories,

indicating that there is a significant amount of local misinformation that goes unchecked. Therefore, it is crucial to develop individual resistance against misinformation by promoting media and digital literacy among the public.

The findings of this study indicate that political misinformation is the most prevalent genre, which poses a significant threat to the democratic process of the nation, particularly as it can sway the younger generation who are increasingly using social media. With the potential to misinform and influence voter decisions, there is a pressing need to combat this rampant political propaganda. It is imperative to establish media and digital literacy programs that specifically target young adults, which can serve as an effective means of mitigating the negative consequences of misinformation. Therefore, proactive measures are necessary to develop individual resistance to misinformation and to promote the importance of media literacy and digital literacy among the youth.

Religious and communal content is another area with a high amount of misinformation. The spread of such misinformation can fuel prejudices and create divisions among communities, leading to social disharmony and even violence. It is essential to educate individuals to recognize and reject such content and to promote media literacy to stop its spread. Additionally, there is a need for responsible reporting by the media to prevent the propagation of such content. Overall, combating religious and communal misinformation is crucial for promoting social cohesion and ensuring the safety and security of the community.

The analysis also reveals the prevalence of health-related misinformation, which can have serious consequences on public health. This misinformation can spread quickly and mislead people about important health issues, leading to confusion and potentially dangerous outcomes. Therefore, it is crucial to address health misinformation through fact-checking and spreading accurate information from credible sources. Additionally, media literacy and critical thinking skills can empower individuals to identify and avoid health-related misinformation, leading to better health outcomes for themselves and their communities.

The term "pre-bunking" which is gaining attention in the fight against misinformation is also important. Pre-bunking refers to providing accurate information to people before they encounter false or misleading claims. This proactive approach helps people to develop resistance against misinformation and reduces the chances of its spreading. As seen in the study, there are instances of seasonal misinformation related to sports and disasters, which can be predicted to some extent. The recent Turkey-Syria earthquake resulted in a

high amount of misinformation related to the disaster and the FIFA World Cup held in Qatar recently also resulted in a significant amount of misinformation under the sports category. Pre-bunking can be a useful tool in combating misinformation related to such events.

The analysis of media formats in this study reveals that video content is the most widely used format for spreading misinformation, followed by images. This highlights the importance of visual communication in the spread of misinformation, especially in the digital age where social media platforms are a primary source of news and information for many. As the use of digital gadgets is ubiquitous among the younger generation, it is crucial to introduce tools and techniques for identifying manipulated images and doctored videos. In addition, integrating AI-based techniques into these platforms can significantly improve the effectiveness of misinformation detection and prevention.

The prevalence of false/missing context in the analyzed misinformation indicates a need for more effective fact-checking and context-checking tools. AI tools and digital databases could be utilized to cross-check claims against existing information and provide additional context. In addition, it is important to educate individuals on how to identify and verify context, especially in a rapidly evolving news landscape where context can be easily manipulated or distorted.

Conclusion

This study also identifies the need for increased awareness and vigilance in combating the spread of misinformation, as well as the importance of media literacy in this effort. Realizing the facts about the patterns of misinformation being spread, steps to be taken on increasing digital literacy and verification skills.

One key finding of the study is the need to focus on addressing false claims and missing context as these were found to be the most prevalent types of misinformation in Malayalam. The study also found that video and images, particularly out of context, were frequently used to spread misinformation. This highlights the importance of improving fact-checking capabilities and increasing public awareness about the risks of sharing unverified information. Mitigation strategies must be planned in accordance with the existing issues which needs to be addressed, and understanding the target group.

In terms of media literacy, the study underscores the need for education and awareness-raising initiatives that help individuals to critically evaluate

information and sources, and to understand the potential consequences of sharing false or misleading content. This can include targeted campaigns aimed at specific groups, such as youth or elderly populations, as well as efforts to improve media literacy in schools and community settings.

It is important to note that the current study has certain limitations. One of the major limitations is that it only collected samples from IFCN signatories, which might have missed out on local content. While it is true that local fact-checking is limited, it is still important to consider local content, which may have a significant impact on the population. Additionally, the study had to rely on overlapping genres, which may not have accurately reflected the actual genre of certain misinformation. However, the study tried to overcome this limitation by picking the most suitable genre for each sample. Another challenge is with audio verification, which is not done by IFCN signatories, and audio verification tools are limited. Though the period of study is limited, it does not significantly impact the findings of the study, as the spread of misinformation is a constant problem. Finally, the study identified seasonal content as a limitation, which is inherently difficult to address, as it arises unpredictably over time. Despite these limitations, the study provides valuable insights into the nature of misinformation in the Malayalam language and highlights the need for continued efforts to combat it.

It is recommended to conduct more research on media literacy among younger generations, especially the student community, as political propaganda through visual communication can greatly influence their voting decisions and impact the future of democratic country like India. In addition, there is a need for further studies on the possibility of AI and computerized pre-bunking and identifying context to develop tools that can help the common man. Such tools should be made easily accessible to the public to promote digital literacy and help individuals identify and combat misinformation.

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