

The Propagation Strategy and Governance Mechanism of Online Rumors

Mingyang Hu

*Heilongjiang University, Harbin, China
1959890957@qq.com*

Abstract. This paper aims to systematically review the propagation mechanism of online rumors and explore the reasons for their rapid spread in specific social psychological and online environments, as well as subsequent governance strategies. It provides an in-depth analysis of the channels, speed, scope of rumor propagation, and their impact on social public opinion and individual psychology. The main findings indicate that factors such as the prominence of social contradictions during periods of transformation, the anonymity of online media, the amplifying effect of social media, and the increasing public demand for information collectively promote the rapid spread of online rumors. The conclusion suggests that the governance of online rumors should integrate legal, technological, and educational measures, establish mechanisms for early warning, diversion, governance, and reconstruction, enhance the regulatory responsibilities of social platforms, and improve public information literacy to create a healthy and orderly online environment.

Keywords: Online rumors, Propagation mechanism, Online environment, Social media

1. Introduction

As the internet technology evolved at a very fast pace, the internet has gained vital role in the dissemination of information greatly enriching the lives of people and their access to knowledge. Nevertheless, the issue of internet rumors has taken on a new high profile and has become a significant concern to the social stability, integrity, and the course of the social opinion.

Rumors spread online not only cause personal rights to be ruined but also disturb the order of the people. Panic, irrational behavior like hoarding, and impacts on the normal functioning of the society are usually caused by rumors on matters of public safety, natural calamities, epidemics and other related issues. Meanwhile, the online rumors destroy social trust and decrease the amount of faith in the government, media, and businesses among the population and endanger social cohesion and stability. More importantly rumors may be utilised as a weapon to control the masses, disrupt political judgments, and endanger social security.

As a reaction to the evils caused by online rumors, it is important to discuss their mechanisms of spread in details and create methods of governance. The paper provides the most important processes of rumor spread, including information cascades, group polarization, and the spiral of silence, and integrates domestic and global experience of governance to come up with suggestions to reinforce laws and regulations, enhance media literacy, and tighten controls in platforms, to have an effective system of collaborative governance on internet rumors.

2. Literature review

2.1. Current research on online rumors

Online rumors refer to false, incorrect, or unverified information that spreads widely across the internet. Internet users treat these false or unverified pieces of information as true and correct, spreading and processing them, often resulting in various negative psychological and behavioral consequences [1]. Professor Li Dan Chen, in his book *Public Opinion Studies*, argues that rumors are a public response to social life, an emergency coping mechanism for solving complex issues. Consequently, rumors should be viewed as opinions or emotional tendencies expressed by the public in specific social contexts. Given that China is currently undergoing a critical period of social transformation, dissatisfaction and complaints are inevitable, and rumor-mongers take advantage of the public's lack of understanding of sudden events to fabricate lies and distort facts, misleading internet users. Therefore, the formation and spread of online rumors are closely tied to the social psychological activities of rumor creators, spreaders, and receivers. The spread of rumors largely results from the irrational interaction and close coordination between these three factors [2].

In recent years, with the popularization of the internet and the development of social media, online rumors have shown an explosive growth trend. According to authoritative institutions such as the China Internet Union Rumor Refutation Platform, online rumors span a wide range of fields, including but not limited to sudden events, public health, food and drug safety, and political figures. Especially during major social events or natural disasters, online rumors tend to spread rapidly, seriously affecting public perception and social order. With the continuous development of new media technology and the comprehensive integration of mobile internet into everyday life, social media, which is characterized by strong immediacy, interactivity, and distortion, has not only become an important channel for citizens to express their interests but also the main conduit for spreading online rumors related to sudden events. The reality of "everyone holding a microphone" has made intelligent dissemination a reality, and the communication channels have taken on characteristics of networking, flattening, and decentralization [3].

In the era of social media, it has become an important subject to continuously innovate and optimize institutional mechanisms to effectively prevent and resolve various rumor risks, especially in the context of sudden events. A statistical analysis of papers on online rumors in Chinese academic journals from 1994, when the internet first emerged in China, to 2022 reveals that the development of research on online rumors has gone through four stages: "blank period," "gradual growth period," "sharp growth period," and "high-level fluctuation period." This suggests that the development of research on online rumors in China follows the pattern of "not started—gradual growth—sharp increase—high fluctuation." Research on online rumors in China is closely linked to the development of the internet industry, especially the progress of online communication technology, the proliferation of online rumors, and major public events [4].

With the development of science and technology in recent years and the frequent occurrence of major social incidents, the prevalence of online rumors has increased. Moreover, the rapid development of modern internet technologies and social media calls for more standardized requirements for the online environment. As a result, the governance of online rumors has attracted widespread attention. Currently, China has implemented a series of measures, including the introduction of laws and regulations, the establishment of rumor-refuting platforms, the launch of rumor-themed programs, the online China Internet Union Rumor Refutation Platform, and the hosting of the "Network Rumor Co-governance" forum. At the 2022 World Internet Conference in Wuzhen, China proposed the progressive idea of abandoning zero-sum thinking and the "winner-takes-all" model, continuously striving to build a comprehensive internet governance framework, working with countries around the world to jointly govern cyberspace [5]. Countries such as the United States and

those in Europe, which have developed the internet earlier, have already established relatively mature systems and practices for the governance of online rumors. As early as May 1997, the Internet Society (ISOC), the International Telecommunication Union (ITU), and the World Intellectual Property Organization (WIPO) formed the International Ad Hoc Committee (IAHA) to sign an agreement in Geneva, establishing a management body to oversee domain names, IP addresses, port numbers, network communication protocols, AS numbers, and RFCs. In the 1990s, when the internet was just emerging in the United States, the government declared a "hands-off" policy to promote the development of the "information superhighway." However, as internet-related issues became more pronounced, the United States passed the Telecommunications Act in 1996, explicitly recognizing the internet as a domain that, like the real world, requires regulation. Around the year 2000, in response to the rapid development of internet applications, various European countries and some developing nations introduced laws, policies, and measures concerning internet management [6]. In 1996, the United Kingdom established the Internet Watch Foundation, a self-regulatory organization initiated by internet service providers under the government's guidance. This organization works on four fronts: providing a public hotline for complaints, implementing industry regulations such as the "3R Internet Safety Protocol," encouraging content classification and labeling, and conducting internet safety education [6]. Regarding the balance between freedom of speech and the spread of false or harmful information, the European Commission believes that a proper balance should be struck between "freedom of speech and public interests," ensuring that policies intended to promote the development of the internet do not harm the interests of the majority due to abuse by a few.

3. The mechanism of online rumor spread

3.1. The spreaders of online rumors

The spread of online rumors requires specific spreaders and conditions. The behavioral characteristics of rumor spreaders include: first, proactivity, as they actively seek opportunities to disseminate rumors through various channels; second, ambiguity, as they intentionally blur the source and authenticity of information to increase the rumor's credibility; third, emotionality, as they trigger emotional reactions in the audience, making the rumor spread more rapidly.

The rumor generators and spreaders of the rumors online are among the sources of rumor-generation and rumor-diffusion. They can create rumors due to different reasons like attention seeking, psychological fulfilment and making malicious attacks. Spreaders usually use the lack of information and the desire of people to know something with the fast publication of unconfirmed information. Moreover, the internet offers a huge platform through its openness and anonymity on which rumors can be spread. In the virtual world, individuals are able to express their views freely without making them much responsible. This anonymity gives the courage to some of them to make up and propagate rumours without the fear of prosecution. As an example, in May 2023, police in Shanghai questioned people, including Meng and Zhang, who made and shared the rumor that three female teachers at a kindergarten in Shanghai were arrested on prostitution charges. These people took advantage of the anonymity of the internet and created fake news that was highly disseminated and strongly destabilized the peace of the nation.

Third, information asymmetry is one of the main preconditions of spreading online rumor. There are also cases when individuals do not have adequate knowledge about certain events or issues and rumors tend to take the place of such a gap in knowledge. People would tend to believe and propagate rumours that appear plausible whenever confronted by circumstances of uncertainty. As an example, during the initial period of the COVID-19 pandemic, people did not know much about the virus and numerous rumors about its origin and treatment went viral. One of these rumors, which said the virus has been artificially manufactured, was widespread despite the fact that international authorities and

most virologists and immunologists had already made the point that the virus was a natural phenomenon and had not been created by people. Nevertheless, these rumors were able to mislead some members of the population despite these clarifications.

3.2. Media platforms for the spread of online rumors

The social media is at the center of spreading rumors. Its proliferation and speed of transmission make rumors spread quickly and extensively and far outreaching the reach of traditional media. In case of a knife attack in the UK, in July 2024, rumors circulated quickly on social media, and they claimed that the perpetrator was a refugee who wanted asylum. This rumor resulted in demonstrations and turned into violent riots.

Also, the social media is interactively and shareable, which gives around-the-clock handy environments to spread rumors. The rumors can be easily shared and commented on by the users, therefore, increasing their dissemination. As an example, Yang of Nantong had created a rumor that her nephew lost his winter vacation homework in Paris and shared it on social media, which attracted the attention and discussion of a large number of people.

Nevertheless, social media may be used as one of the important sources of rumor-busting. The social media can help authoritative organizations and professionals to release corrections and refutations on time. The users are also allowed to make their own judgment in doubting and disproving rumors, thus slowing down its propagation. As an example, with the spread of the rumor that "SF Express will no longer pick-up nationwide starting February 3," the official SF Express account promptly refuted the rumor on social media, practically eliminating any further spread of the rumor. Research indicates that in large-scale events, refutation messages on social media can result in a substantial decrease in the pace and scale of spread of rumors.

3.3. Audience groups in the spread of online rumors

The audience of online social media platforms possesses characteristics such as ease of access to information, real-time updates, and interactivity, all of which make the spread of online rumors faster and more widespread [7].

These platforms break down the time and space limitations of traditional media, enabling users to obtain information at any time. After receiving rumors, the audience may propagate them due to cognitive biases, inadequate information literacy, herd mentality, or emotional needs. The motivations of rumor spreaders are diverse, and they include economic interests, such as self-media outlets fabricating false information to gain followers; political purposes, such as using rumors to attack opponents or create chaos; and personal emotions or psychological factors, such as jealousy, hatred, or boredom-driven mischief.

For instance, some self-media platforms fabricate and spread false information to increase their viewership and followers, riding on current hot topics and sensationalizing issues to attract traffic, which leads to illicit gains. In the case of a rumor in Nanjing and Suzhou about compulsory education reforms shortening the education cycle and incorporating high school into compulsory education, the individuals involved spread the false information to attract attention and increase property sales, causing negative social effects.

Additionally, political motives are another key driver of rumor creation. Some political forces may use rumors to attack their opponents, create disorder, or influence public opinion. During elections in certain countries, various political rumors often emerge, attempting to sway voters' judgments. For example, some officials and media outlets criticized China's response to the H1N1 pandemic, calling it an "overreaction," while representatives from the World Health Organization and infectious disease

experts argued that China's measures were appropriate and effective, in line with the country's conditions. This was an example of politically motivated rumors.

Moreover, personal emotions and psychological factors can also contribute to the creation of rumors. Some individuals may fabricate rumors out of jealousy, hatred, or a desire for revenge. Others might do so simply out of boredom or for a prank, without considering the consequences of their actions. For instance, in April 2013, Jiang fabricated a rumor on Weibo about a case of H7N9 infection being discovered in Songmen, Wenling. After being investigated, Jiang admitted that it was a false rumor created to boost his popularity and attract attention.

4. Strategies for governance of online rumors

4.1. Enhancing public media literacy

In the age of information explosion, the public is exposed to a vast amount of information daily, but their time to absorb it is limited. Therefore, in the era of new media, platforms should actively take measures to improve the public's media literacy. First, platforms need to strengthen the selection and review of information to ensure the authenticity and reliability of the content being disseminated, thus preventing the spread of false information and low-quality content. By establishing rigorous review mechanisms and verifying the sources of information, platforms can effectively curb the spread of sensational headlines and fake news. Second, platforms should focus on cultivating users' legal and ethical awareness. On one hand, platforms should set user behavior guidelines to guide users in complying with laws and regulations when disseminating information, avoiding illegal behaviors such as cyberbullying and doxxing; on the other hand, they should conduct legal education campaigns to enhance users' legal literacy. Building on this foundation, platforms should leverage their advantages to promote positive energy, advocate social morals, and create a healthy and constructive online environment.

Furthermore, platforms should provide diverse information channels to help users enhance their information screening and analytical abilities. They should recommend content from authoritative media and professional authors to guide users in focusing on valuable information. By using data analytics to offer personalized information recommendations, platforms can help users accurately access the information they need from the overwhelming volume of content, thus avoiding the problem of information overload.

4.2. Strengthening internet technology and regulatory mechanisms

In the governance of online rumors, technological tools, regulatory mechanisms, and laws and regulations complement each other and are crucial. Advanced technologies such as natural language processing and data mining can be used to monitor online public opinion in real time, provide early warnings for potential rumors, and automatically aggregate and identify rumors through artificial intelligence software, improving the efficiency of rumor handling. Platforms can also use data verification and management mechanisms to prevent the misuse of information at its source, while strengthening cross-platform cooperation to block the transmission paths of rumors. For example, platforms like Sina Weibo and Douyin have implemented real-time monitoring and quick handling mechanisms that effectively suppress the spread of rumors.

Moreover, it is necessary to enhance regulatory mechanisms. Governments should develop an all-inclusive system of checking, alerting, and dealing with online rumors, define and lead responsibilities, reinforce collaboration, and harshly penalize rumor publishers. Also, platforms must play a leading role by ensuring that systems of rumor monitoring, warning, and handling are put in place to identify and contain the spread of rumors in a timely fashion. By integrating technology and control so intensively, it is possible to create a smart, digital rumor control network that would serve

as a firewall against online rumors at the technology level. The internet rumors can only be tamed under the two-fold slog of technology and regulation in the quest to have a clean and orderly online space.

5. Conclusion

This study analyzes the mechanisms of online rumor propagation, the reasons behind their spread, and strategies for their governance. The research finds that the spread of online rumors is influenced by factors such as social conflicts, the anonymity of the internet, the amplification effect of social media, and the public's information needs. These factors intertwine, causing rumors to spread rapidly and negatively impacting social public opinion, individual psychology, and social order. The governance of rumors requires a combination of legal, technological, and educational measures, the establishment of early warning, diversion, governance, and reconstruction mechanisms, as well as strengthening the regulatory responsibilities of social media platforms, improving public media literacy, and creating a healthy online environment.

At the theoretical level, the study enriches the discussion on the mechanisms of online rumor propagation, especially in the analysis of information cascade, group polarization, and the suppression of minority opinions, offering new perspectives for future research. At the practical level, the governance strategies proposed in the study provide valuable references for policymakers, platform operators, and the public, helping to build a collaborative multi-party rumor governance system. The findings offer important insights for policy formulation and practical application. Governments should improve laws and regulations, define rumors clearly, establish legal responsibilities, strengthen inter-departmental collaborative supervision, and combat the spreading of rumors. Platforms should optimize rumor monitoring and handling mechanisms, and the public should enhance their media literacy and improve their ability to distinguish false information. Through these measures, online rumors can be effectively curbed, ensuring the clarity and stability of cyberspace.

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