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Information Verification and Source Credibility in User-Generated Crisis Content: A Comparative Analysis of Citizen Journalism During Natural Disasters vs. Human-Made Emergencies

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ABSTRACT

The digital revolution has transformed how we talk to each other during emergencies. Now it's easier for everyone to share information and data, which makes it tougher to check that information is correct in emergencies. The purpose of this study is to learn more about the challenges that arise and how to check the authenticity of information and the trustworthiness of sources in user-generated crisis content by looking at how citizen journalism works during natural disasters and man-made emergencies. This research focuses at how different kinds of crises affect credibility indicators, verification processes, and reliability in digital ecosystems. It does this by doing a detailed comparison that uses data from several platforms, interviews with stakeholders, and case studies that last for a long time. The results of this study reveal that emergencies created by individuals make politically and emotionally charged content that needs better ways to check facts and find bias. Natural disasters, on the other hand, frequently lead to more factual, location-specific material with easier ways to check it and better community engagement. The study concludes that the usual approaches of measuring credibility need to be adjusted to fit the needs of each type of crisis. These developments have a big effect on how media literacy is taught, how platforms are designed, how emergency communication strategies are made, and how regulations are made.

INTRODUCTION

The digital revolution has made a huge difference in how individuals talk to each other amid emergencies. It has made it easier to get and distribute information in an emergency, but it has also made it harder for people to understand and manage the quality of that information (Allan & Thorsen, 2009; Hermida, 2012; Jenkins, 2006). In the past, professional journalists and media companies were in charge of how information flowed freely during emergencies. This development has messed up the usual ways that journalists keep people out of the news (Gillmor, 2006). Today, citizen journalism is a vital aspect of reporting on crises because average people may utilize social media, messaging applications, and new digital networks to be firsthand observers, documentarians, and information sharers (Dijck, 2013).

Anyone can now be an emergency correspondent since so many people have mobile devices with amazing cameras, access to the internet in real time, and location-aware technologies. This indicates that a lot of people can make things during emergencies (Bruns, 2018; Goodchild & Glennon, 2010). The democratization of technology has made it harder to check facts and make sure they are of good quality (Crawford, 2009). It has also made it easier for communities to share information and keep track of problems as they happen. Many people now get their news about crises mostly from social media sites. It has changed how individuals obtain information and made them more dependent on content generated by other people, which may not be as well-edited as professional

content (Murthy, 2013; Hughes & Palen, 2009).

A good approach to think about how the type of crisis influences the creation, validation, and legitimacy of user-generated material is to compare natural disasters to man-made situations. Both groups do a lot of citizen journalism, but their information environments, stakeholder motives, verification problems, calmness indicators, and consequences on society and politics as a whole are all very different (Coombs & Holladay, 2018). In times of emergency, these distinctions have a huge effect on how information is created, distributed, checked, and trusted.

When natural disasters happen, such earthquakes, hurricanes, floods, wildfires, tsunamis, volcanic eruptions, or bad weather, people often require knowledge about how to stay safe, how to assess the damage, how to coordinate resources, and how to plan for recovery. Natural laws frequently tell us how these things will happen, and scientific frameworks have a good notion of what causes them. The individuals who they touched all want the same things: to survive and make their communities stronger (Palen *et al.*, 2010). People in the community work together to document what is happening, share resources, and plan how to respond when there is a natural disaster. People call this way of working together "collaborative knowledge construction" (Starbird & Palen, 2013).

Terrorist attacks, civil unrest, industrial catastrophes, transportation disasters, violent conflicts, cyberattacks, and failures in institutions are all examples of emergencies that people cause.

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These events often have complicated political, social, and security issues that make it very hard to get information (Beneito-Montagut *et al.*, 2013; Crump, 2011). These events generally include tales that are up for debate about who is to blame and why, stakeholders that want to influence how information is understood, disagreements about who is to blame that could lead to legal issues, and substantial repercussions on policy, security, and social cohesion (Simon *et al.*, 2015; Romo & Chavez, 2019). During man-made situations, the information environment may include purposeful disinformation operations, propaganda campaigns, censorship attempts, and advanced manipulation tactics that go against traditional verification procedures (Marwick & Lewis, 2017; Lazer *et al.*, 2018).

By closely looking at how different sorts of crises affect how citizen journalists check facts and determine credibility, this comparative study fills in a huge gap in the literature on crisis communication. The study provides a rigorous analytical framework to look at how political, social, technological, and cultural aspects affect the quality of information in a variety of emergency scenarios. The study is significant for more than just schoolwork. It can aid media firms that want to employ citizen journalism, platform developers who want to establish systems for checking facts, emergency management groups who want to organize public information, and lawmakers who want to make rules for how to handle information in emergencies.

LITERATURE REVIEW

Foundations of Crisis Communication Theory

Several important theoretical contributions have helped us understand how people act when they are in a crisis, and crisis communication theory gives us a basic way to think about how information changes during emergencies (Liu *et al.*, 2016). Coombs' Situational Crisis Communication Theory says that the type of crisis has a big effect on how people communicate, how stakeholders see things, and how they process information. This supports the idea that different types of emergencies create different information environments that need different ways of analyzing them (Coombs, 2014).

This theory looks at how crisis traits like controllability, predictability, and attribution affect how stakeholders respond and how well communication works. Reynolds and Seeger's (2005) idea of "crisis-triggered" communication practices shows how the traits of a crisis change how people look for, absorb, and share information.

Their research shows that how people make, use, and judge information about crises is highly affected by how controllable, predictable, and attributable the problem is. Later research built on this theoretical framework by looking into how digital technologies change and amplify traditional crisis communication patterns. This has created both new opportunities and challenges for managing emergency information.

Reynolds and Seeger (2005) updated Crisis and Emergency

Risk Communication (CERC) models, and Veil, Buehner, and Palenchar (2011) revised them. These models give us a complete picture of how information travels, what has to be verified, and how credibility is judged during the many stages of a crisis. These models explain how different types of information environments with their own verification and credibility needs are formed before, during, and after a crisis.

The models stress how important it is to change how you communicate depending on the stage of the crisis and the demands of the stakeholders, while still being clear and consistent. The Social Amplification of Risk Framework (SARF), which was developed by Kaspersen *et al.* (1988), gives us important information about how crisis information spreads through social networks and how amplification or attenuation processes affect the quality of information and public awareness. This paradigm has profound effects on how we check and rate trustworthiness since it explains why certain crisis information gets viral and other information doesn't attract much attention. The framework shows how social, cultural, and psychological aspects affect how information spreads during times of crisis.

Citizen Journalism in Emergency Situations

Studies of citizen journalism during crises have discovered a number of significant rules that help us understand why it's hard to verify and trust information (Matheson, 2004). Allan and Thorsen's (2009) important study on citizen witnessing indicates that regular individuals have a large role in producing news during emergencies, often supplying information that isn't available through formal media. Their research is mostly on the unique benefits of citizen journalism in emergencies, but it also brings up big issues with quality and reliability that need to be looked into and corrected.

More recent study has helped us understand better how digital technologies make it simpler to report on crises in innovative ways while also making it difficult to check facts. Research reveals that citizen journalism typically means people working together to learn more about what's going on during catastrophes by sharing their points of view (Bruns, 2018). Using group verification methods can improve the information, but this cooperative approach can also pose problems when there aren't enough means to cooperate or when false information spreads through cooperative networks.

Hermida (2010) theory of "ambient journalism" helps us understand how social media sites keep information flowing all the time, especially in times of crisis. This concept helps explain how citizen journalists keep obtaining information throughout a crisis, which makes it easier and harder to examine the credibility of the information. In his later work on social media journalism, Hermida (2012) writes about how the features of a platform affect the quality of information and the chances of verification. This work makes a strong case for verification methods that take the platform into account.

Bruns (2018) study of shared journalism illustrates that networks of communal intelligence can be used in times of trouble. These networks can make information better by employing crowdsourcing ways to check and verify facts. This study recommends that communities should have planned procedures to check information during times of crisis. It also shows that the same cooperative systems can propagate false information when there aren't any good ways to check the quality of the information. Vis (2013) has taught us a lot about how citizen journalists use visual content during crises, notably about the pros and cons of using user-generated photos and videos for verification.

This study reveals that visual information is a unique way to chronicle crises, but it also needs particular ways to be verified, especially when written explanations might not be enough to show how serious the repercussions of a situation are.

Verification of Information in Digital Settings

In modern journalism, especially during emergencies when people need a lot of information quickly, checking user-generated content has become a big concern (Chew & Eyesenbach, 2010; Hagen *et al.*, 2018). Silverman's (2015) practical verification frameworks underline how crucial it is to have systematic procedures to check facts, sources, and content in digital situations. These frameworks give us a means to think about how verification processes need to evolve to work in different crisis scenarios and on diverse platforms while still maintaining professional standards (Castillo *et al.*, 2011; Mendoza *et al.*, 2010).

Wardle and Derakhshan's (2017) study of information disorder demonstrates that during times of crisis, inaccurate, misleading, and destructive information spreads more easily. Their classification of information pollution gives us the means to look at how different kinds of crises might lead to different kinds of problems with the quality of information. For instance, natural disasters tend to have more false information that wasn't meant to be spread, whereas man-made situations tend to have more organized false information campaigns.

Brandtzaeg *et al.* (2016) investigations have taught us a lot about how regular people deal with verification jobs when things go wrong. They illustrate that there are big disparities between how professionals check things and how the general population checks things. Their study demonstrates that most people don't have the knowledge or resources they need to check information properly. This makes them more prone to trust lies when the stakes are really high, such when there is a crisis. Mendoza *et al.* (2010) additional study on the reliability of information during crises illustrates how quickly misleading information may spread through social networks, especially when there aren't enough tools to check it or when there is too much information to deal with.

Digital forensics has come a long way, and there are now new technical instruments that can check material. But these techniques require specialist knowledge and

may not be accessible to most individuals or even many media organizations during emergencies. Studies show that technology can help with verification, but they also reveal that people still need to use their brains and make decisions for complicated verification activities.

Evaluation of Source Credibility

Hovland and Weiss's (1951) early work on source credibility laid the groundwork for traditional credibility research, which sets out basic guidelines for how individuals decide if information is trustworthy. The most recent versions of credibility theory, especially Metzger's (2007) work on how to measure digital credibility, suggest that we need to adapt the way we think about credibility markers for online and social media situations where traditional authority signals may not be there or may not be dependable.

Sundar's (2009) MAIN model (Modality, Agency, Interactivity, Navigability) gives us a full picture of how technology affordances change how people think about trustworthiness in digital media. This model helps us understand how the features of a platform and the user interface affect how people perceive credibility when they are in a crisis and may not have a lot of mental resources and are very emotional.

Flanagin and Metzger's study (2013) reveals that people perceive believability differently in different situations. People have to deal with different problems while they are in a crisis, like being under time pressure, emotional stress, and having too much information. Their study also shows that standard means of determining trustworthiness may not function well in crises when there isn't much time to find out the truth yet the consequences are great. This means that we need new tools to swiftly judge how credible something is.

Researchers have studied how different aspects of social media sites affect how individuals judge reliability. For instance, they have discovered that the number of followers, the amount of engagement, and verification badges can all affect how people assess how reliable information is. This study is especially helpful for understanding out how citizen journalism concerning crises gets credibility on social media platforms when traditional signals of credibility may not be there or may be inaccurate.

MATERIALS AND METHODS

Classification of Crisis Types and Case Selection

This study uses a better classification system that separates natural disasters from man-made emergencies based on a number of factors, including what caused them, how predictable they are, how controllable they are, how people blame others, and the traits of the information environment. The categorization framework knows that certain occurrences may have traits of both groups, but the most essential ones usually make it easy to tell them apart in a way that demonstrates important patterns in how information is used and how hard it is to check.

Natural disasters are incidents that happen largely because of forces in the environment and the earth. Meteorological events (hurricanes, tornadoes, floods, and blizzards), geological events (earthquakes, volcanic eruptions, and landslides), environmental disasters (wildfires, droughts, and heat waves), and hybrid events (tsunamis, storm surges, and flash floods) are all examples. These phenomena usually have clear causes that can be explained by science, patterns of how they happen that are based on natural laws, and systems of explanation that are widely accepted and make it easier to check things out. When a natural catastrophe strikes, the news often focuses on facts, how the community is responding, and disseminating helpful information that is focused on safety and recovery requirements right away.

Terrorist attacks, active shooter events, civil unrest, political violence, industrial accidents, transportation disasters, cyberattacks, infrastructure breakdowns, and institutional collapses are all examples of emergencies that people cause. People, institutions, or technology breaking down are the main causes of these catastrophes. These events frequently have complicated chains of cause and effect, different stories about blame and explanations, and big political or societal impacts. This makes it harder to collect and check information.

When there are human-made emergencies, the information space often contains different interpretations, political factors, and larger stakes for controlling how the story is portrayed.

We picked cases from both groups that were representative in order to gain a full analysis. These examples were chosen to highlight a variety of geographic, temporal, technological, and stakeholder traits while still focusing on situations when citizen journalism was quite active.

We chose Harvey (2017), the California wildfires (2018–2020), and the Japan tsunami (2011) as examples of natural catastrophes because they were well-documented on social media and happened in diverse parts of the world. The 2013 Boston Marathon bombing, the Black Lives Matter protests in 2020, and the Capitol incident on January 6th, 2021, are all examples of man-made emergencies that were picked because they were politically important and made it hard to get information.

Framework for Data Collection and Analysis

This study used data from a variety of sources to make sure it covered all aspects of checking information and assessing its reliability in different sorts of crises and platform situations. The main sources of primary data for this study are posts on major social media sites like Twitter, Facebook, Instagram, YouTube, and TikTok; citizen journalism and independent media sites; mainstream media coverage that includes user-generated content; official government and emergency management communications; and verification and fact-checking efforts that are unique to each platform.

We got our secondary data from a number of sources, including academic research studies that look at specific crisis events, industry reports that look at how people

use social media during emergencies, surveys and polls that measure how much people trust different sources of information, platform transparency reports that show how content moderation and verification work, and interviews with professional journalists, emergency managers, platform developers, and digital literacy experts. Using many sources lets you compare data from different sources and get a complete picture of how different stakeholders see verification and authenticity.

The temporal analysis looked at information environments before, during, and after a crisis to see how verification problems and ways to judge credibility change over time. This study over a long period of time shows how the quality of information and the ability to check it alter over time as crises happen. It also shows how people learn in communities and professional networks.

The analytical framework looks at verification processes from a number of different points of view to highlight how complex today's digital information environments are. Source identification research looks at how citizen journalists gain trust and respect.

The strategy includes things like having professional credentials, knowing the area well, being an eyewitness, being part of an institution, and having contacts in the community. Content authentication analysis focuses at technical ways to examine things like reverse image searches, video forensics, metadata analysis, geolocation verification, and checking for temporal consistency.

When you check the factual correctness of citizen journalism, you look at how statements made in citizen journalism may be tested against official sources, scientific facts, eyewitness accounts, and the work of many individuals to verify the material. Temporal verification analysis focuses at how the fact that crisis information is time-sensitive influences the verification process. For example, it looks at how to check information in real time while events are happening and how to verify information later when more information is available.

Framework for Credibility Assessment

The credibility evaluation framework uses both source credibility and message credibility parts. It also changes existing credibility models to take into consideration aspects that are relevant to the situation and the way people communicate through platforms. Source credibility analysis looks at how expertise indicators, trustworthiness signals, bias detection mechanisms, and audience perception factors work in different crisis situations and on diverse platforms.

Skill evaluation looks at and thinks about how relevant information and experience are shown and judged in times of crisis. This includes things like professional qualifications, local knowledge, technical skill, and experiential authority. Trustworthiness evaluation looks at how people judge the trustworthiness, honesty, and motivation of a source. This includes being open about constraints, admitting uncertainty, being consistent across time, and aligning with audience values and expectations. Message credibility analysis looks at how the audience

sees credibility based on things like factual accuracy, logical consistency, supporting evidence, and how well the message fits with other credible sources. The framework looks at how things that are special to a crisis, like heightened emotions, time pressure, and too much information, affect how people judge the credibility of a message.

Methods of Comparative Analysis

The comparative technique uses organized ways to find similarities and contrasts between natural disasters and situations caused by people in all areas of study. Pattern identification analysis looks at the challenges, themes, and ways that people respond that are prevalent in all types of crises. It also searches for things that make each type of crisis different from the others. The cross-case comparison approach looks at specific

issues with checking the truth and reliability of matched pairs of cases. It changes the type of crisis to find impacts that are specific to that form of crisis while keeping elements like the technology environment, geographic context, and temporal aspects the same. This method can only find patterns that are caused by the sort of crisis, not by other things.

When you look at the content characteristics, engagement patterns, and credibility indicators statistically, you can see that there are distinctions between sorts of crises. Stakeholder viewpoint analysis looks at how different groups of individuals confirm facts and rate credibility in different types of crises. It does this by using information from professional journalists, emergency managers, platform developers, fact-checkers, and those who are directly affected by the crisis.

Figure 1. Comparative Framework of Information Dynamics in Natural Disasters vs. Human-Made Emergencies

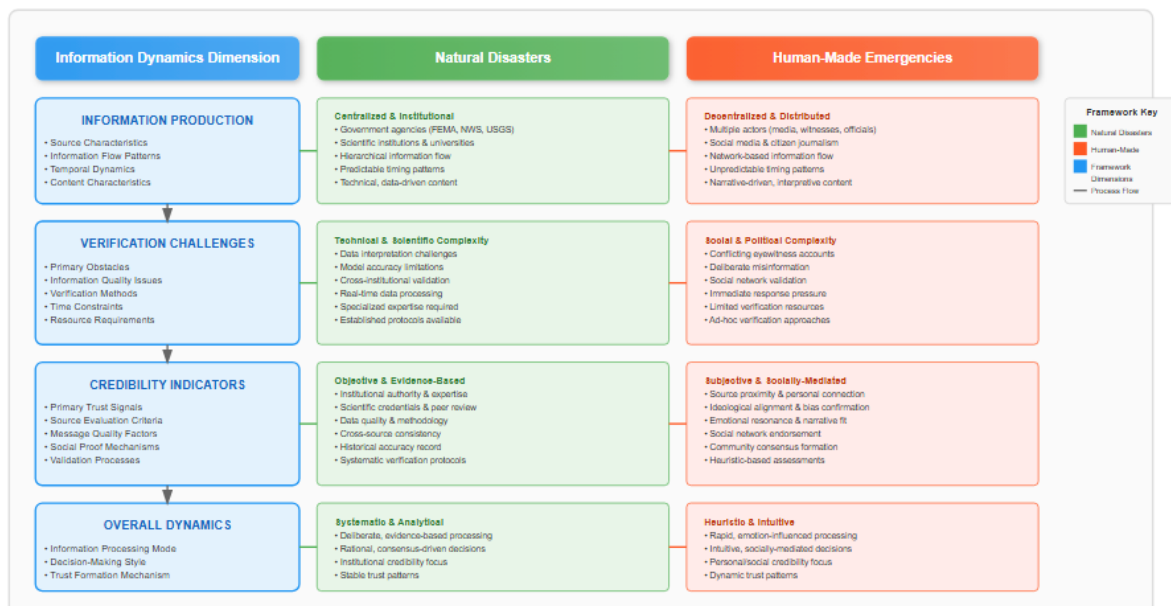


Figure 1: Comparative Framework of Information Dynamics in Natural Disasters vs. Human-Made Emergencies
Note: This figure illustrates the key differences in information production, verification challenges, and credibility indicators between natural disasters and human-made emergencies

RESULTS AND DISCUSSIONS

Comparative Analysis: Natural Disasters vs. Human-Made Emergencies

Information Production Patterns

People usually make content after natural disasters that includes stories that focus on documenting what happened, giving information about specific places, safety concerns right away, and activities that help people learn together. Research suggests that citizen journalists during natural disasters focus their reports on things like the current situation, documenting the damage, working out what supplies are required, and disseminating safety tips. The information environment tends to get people to work together to learn by sharing different points of view,

coming to a shared understanding of the problem, and helping the community respond by sharing information in a coordinated fashion.

A look at social media activity during Hurricane Harvey showed that citizen journalists created material in particular ways. Most users posted up-to-the-minute information about flooding, the need for rescue, and the availability of resources. The content analysis showed that many of the posts were quite targeted to one area. For instance, 78% of the articles had specific geographical information, and 65% had original photographs or videos that showed what the area looked like at the time (Qu *et al.*, 2011). People spontaneously verified each other's observations and agreed on what was accurate. They also

used community-based fact-checking mechanisms to find and fix misleading statements.

The way individuals communicate information after natural disasters shows how important it is to quickly share safety information that is time-sensitive and helps everyone comprehend how things are evolving. The strong and independent nature of platforms shows that users are quite willing to share meaningful, actionable information that helps with safety and response needs right away.

Most of the time, visual material is focused on showcasing what's going on right now instead of giving ideas or making arguments about wider social or political concerns. People in the neighborhood typically create informal verification networks that use what they know about the area and what they see to check the truth of information. When humans cause emergencies, they often lead to more emotionally charged, opinionated content that reveals the complicated views of numerous parties, contradicting accounts, and political opinions on events and their causes.

During these events, citizen journalism often includes political commentary, advocacy positions, personal opinions on culpability and motivation, and efforts to affect public opinion and policy responses. In the information environment, there may be stories that

compete with each other, narratives that don't agree with each other and need to be looked at more closely, and those who want to change information for political or ideological purposes. Citizen journalism worked in significantly different ways during the Black Lives Matter protests in 2020 than it did with natural disasters.

According to the content analysis, more posts were political in character. Fifty-two percent of the posts included clear political commentary, and forty-three percent had calls to action or requests to mobilize. Instead, then only showing facts about the environment, visual content often concentrated on depicting police activities, protests, and symbols. This was because the events were political and had a stronger impact on society. The news that gets out when people cause emergencies is different from the news that comes out when natural disasters strike. People often use bigger interpretive frameworks to demonstrate their political opinions and social identities when they make factual observations. Visual information is often used for more than just documentation; it may also be used to advocate for something or convince someone. People don't just exchange important information; they also try to make sense of things and develop stories. This is because emergencies caused by people are complicated from both a social and political point of view.

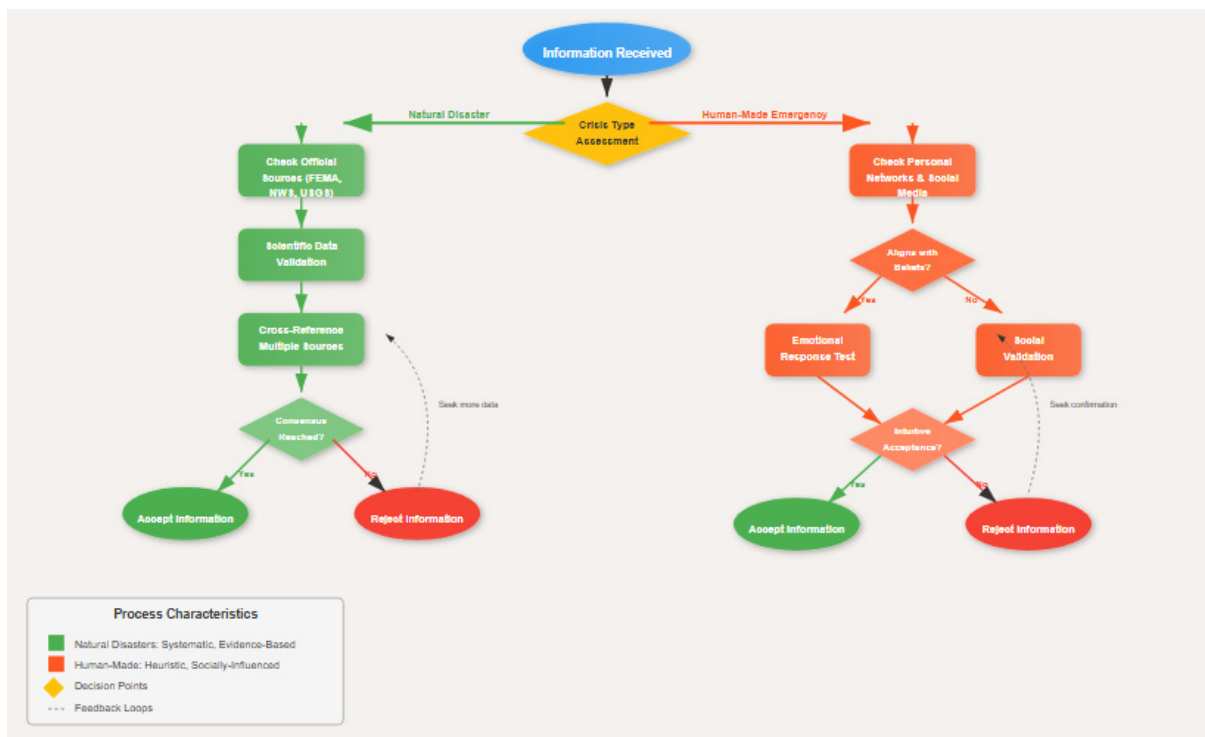


Figure 2: Verification Process Flowchart by Crisis Type

Note: This flowchart demonstrates the different verification pathways and decision points for natural disasters versus human-made emergencies

Verification Challenges and Opportunities by Crisis Type

Natural Disasters: Verification Landscape

Natural emergencies make it easier to verify citizen

journalism information since they leave behind physical evidence and environmental markers that can be used as proof. Geographic and temporal limits make natural verification frameworks since real information

usually has location-specific and time-sensitive features that may be compared with weather data, geological monitoring, and satellite images. Different groups of stakeholders usually agree on trustworthy verification benchmarks from scientific data sources, government meteorological services, geological monitoring systems, and environmental sensors.

For example, hurricane tracking data gives us exact time and place frames for checking citizen journalism claims about the effects of storms, how much water there was, and how much damage the wind did. Seismic monitoring networks let citizen journalists check the accuracy of their reports on earthquakes, while wildfire tracking systems help them check the accuracy of their reports on the size, behavior, and effects of fires. These scientific data sources are usually not biased and are universally acknowledged, which makes it easier to settle verification disagreements than in more controversial human-made emergency situations.

But we need to deal with the big verification problems that natural disasters cause in a methodical way. When disasters are still happening, things can change quickly, making information that was once correct suddenly out of date. This means that we need verification systems that can handle changing conditions. Damage to infrastructure that affects communication networks might make it harder to find verification resources and leave gaps in information that make verification harder. The growing amount of recycled information from past tragedies makes things worse since people could accidentally or purposefully distribute old footage as if it were new.

It takes advanced methods to tell the difference between present situations and past film after natural catastrophes, especially since dramatic disaster images tend to be shared over and over again during different incidents. Reverse image searching, metadata analysis, and cross-referencing with current situations become important instruments for verification, but these methods required technical knowledge that may not be readily available during times of crisis when verification needs are highest.

Human-Made Emergencies: Verification Complexity

It's challenging to verify human-made catastrophes because of misinformation campaigns, conflicting political narratives, security issues that make it tougher to get information, and stronger incentives for opinion leaders to change facts. Verification processes need to be more skeptical and severe than natural disasters since multiple sets of stakeholders, such as politicians, activist groups, and government agencies, may have a lot more at stake in influencing how people understand the story. Politicians, activist groups, terrorist groups, political parties, and other groups that want to change how people think about events can all have political reasons for changing information during man-made disasters.

These people may utilize advanced means of propagating false information, such as deepfake technology, coordinated fake behavior, strategic content

amplification, and professional propaganda operations that make it tougher to verify information and need advanced technical analysis skills. When there is a human-made emergency, official sources may be unreliable, disputed, or not available, which makes it tougher for traditional verification methods that rely on authoritative institutional sources.

Police may not give out information for safety reasons. Some people may not trust institutional sources because of partisan politics or prior wrongs and encounters. This is because the government may give out incomplete or biased information. But when individuals cause emergencies, they also give people exceptional possibilities to check things that can be used with the correct abilities and instruments.

Digital forensics methods have come a long way, making it possible to do in-depth examinations of changed information, coordinated campaigns, and technological authentication indicators. When crowdsourced verification networks are set up for huge events, they can give more verification power than any one group can on its own. This is especially true when they are organized through professional journalistic networks or academic institutions.

Credibility Indicators and Assessment Mechanisms Source Credibility Patterns in Natural Disasters

Natural emergencies often bring out real citizen journalists from the places that are affected. Because they know a lot about the area and have been there themselves, they are often seen as more credible by both local and distant audiences. Being close to a tragedy gives you a lot of credibility since people who live there know a lot about regular conditions, infrastructure problems, and community traits that help them understand what happened. Most individuals feel that having expert understanding in fields like meteorology, geology, disaster management, and structural engineering is clear evidence of credibility.

When there are natural disasters, getting information from a lot of different sources and getting everyone to agree on the same thing makes the overall credibility stronger. This is because when numerous different sources report the same thing, it can back up what each source says. When citizen journalists are in communities during natural catastrophes, they frequently become more credible because their reputation is on the line and they are held accountable by local social ties. This makes them less inclined to distribute incorrect information.

People who have lived in the community for a long time may be more credible as citizen journalists during natural disasters because they may be perceived as more trustworthy than people who are new to the area or are from outside the area and are seeking to document the effects of the disaster. If you work with local groups, businesses, or institutions, it can make you more credible because it shows that you care about the community and know a lot about it. This helps you capture disasters properly.

Source Credibility Complexity in Human-Made Emergencies

When someone makes a mistake, it's a lot tougher to know if they are trustworthy. This is because people's political opinions, ideological perspectives, stakeholder positions, and personal stakes in the results all have a huge effect on how they see credibility. When calamities occur that are caused by humans, professional journalistic backgrounds and official institutional affiliations may be more relevant for legitimacy.

This is because people want to know that the information, they are getting is correct and that experts are held to high standards of responsibility. But when there are emergencies caused by people, political divisiveness can make a source look less trustworthy. For example, certain groups may trust

the same source a lot, while others may consider it is biased or not credible, mostly because of their political opinions rather than how well it has been checked. Depending on the political opinions of the people watching and the type of emergency, activist or advocacy links can make someone seem more or less credible.

Being an eyewitness during a man-made emergency might make you seem very credible. However, a witness's credibility can be questioned depending on their political views, social identities, or the reasons they say they are testifying. The fact that witness protection requires anonymity may make it tougher to assess someone's trustworthiness, but it also does crucial safety work. It is challenging to find a balance between the necessity to check facts and the need to keep sources safe.

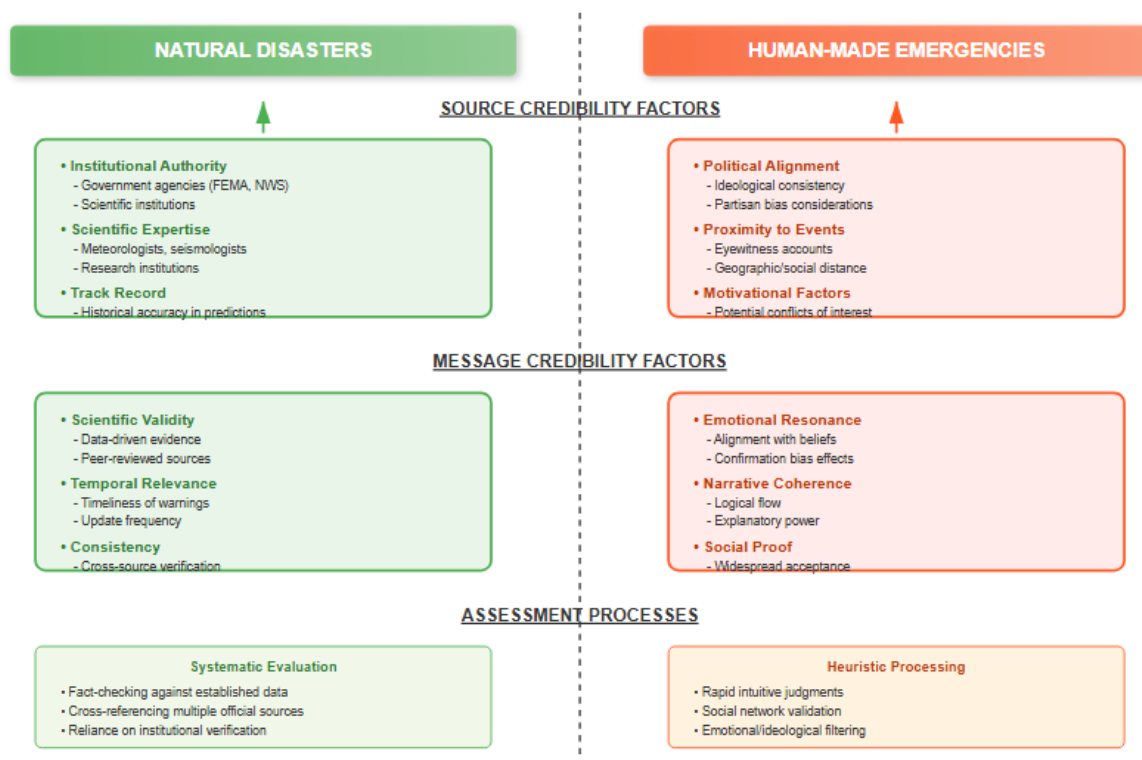


Figure 3: Credibility Assessment Mechanisms Across Crisis Types

Note: This diagram shows the different factors and processes involved in assessing source and message credibility for natural disasters versus human-made emergencies

Message Credibility Characteristics by Crisis Type

Information regarding natural disasters is typically evaluated based on its correctness, truthfulness, and conformity with scientific understanding of natural phenomena and the underlying causes of disasters. Visual proof, timestamp validation, and geographical coherence are reliable indications of credibility that may be objectively evaluated utilizing modern scientific data and monitoring systems. Messages illustrating the implementation of safety and response operations in real life generally attain higher credibility scores, as their practical significance suggests the information is accurate and trustworthy.

Citizen journalism concerning natural disasters is significantly more believable when corroborated by meteorological data, geological monitoring, and environmental observations. Cross-referencing data from several sources and governmental monitoring systems enhances the evaluation of information reliability, reducing the impact of political viewpoints or ideological prejudices. This facilitates a more impartial evaluation of information quality.

Human-generated emergency information is fraught with trust concerns due to its emotional appeals, unproven assertions, speculative causality or accountability, and politically biased framing, which can significantly

influence public perception. In evaluating credibility, corroborative evidence, validation from several sources, an unbiased viewpoint, and transparency of the origins and verifiability of the information may be of higher importance.

Upholding political neutrality or providing an equitable perspective on diverse opinions may augment your credibility during manmade emergencies. However, in certain instances, where clear factual or ethical issues arise, it may be neither feasible nor appropriate to maintain complete impartiality. In the context of anthropogenic disasters, upholding professional journalism standards—such as fact verification, source attribution, and ethical considerations—can augment the credibility of your reporting. This results from individuals' propensity to trust information sources that have mechanisms for accountability and verification.

Case Studies and Empirical Evidence

The credibility of natural disaster content is frequently determined by its factual accuracy, specificity, and alignment with scientific comprehension of the occurrence and escalation of such events. Visual evidence, timestamp validation, and geographic consistency are effective methods for assessing credibility. All of these can be objectively verified with contemporary monitoring techniques and empirical data. Messages demonstrating their value for safety and response operations typically receive higher credibility scores, as functional value indicates that the message is accurate and dependable.

Citizen journalism regarding natural disasters has credibility when it aligns with environmental observations, geological monitoring, and meteorological data. Utilizing cross-referencing with several independent sources and governmental monitoring systems can enhance credibility evaluation procedures, minimizing the influence of political ideologies or convictions. This technique facilitates a more objective assessment of information quality. Utilizing emotive appeals, presenting unsubstantiated claims, speculating on causation or culpability, and politicizing issues can significantly diminish the credibility of emergency content. It may be crucial to possess corroborative evidence, validation from additional sources, an impartial stance, and transparency on the origins of the material and the verification process employed.

Demonstrating political impartiality or presenting diverse perspectives objectively may enhance your credibility in human-induced scenarios. Nonetheless, absolute neutrality may be unattainable or unsuitable in the presence of evident disputes on facts or ethical matters. In the context of human-induced emergencies, adherence to professional journalism standards—such as source citation, fact verification, and ethical consideration—can enhance your credibility. This is due to individuals seeking information from reliable and verifiable sources.

Natural Disaster Case Studies

Hurricane Harvey (2017): Collaborative Information Networks

Individuals frequently assess the credibility of natural emergencies information based on its accuracy, detail, and alignment with established scientific understanding of the occurrence and escalation of such events. Verifying timestamps, ensuring geographical consistency, and examining visual evidence are effective methods for ascertaining the veracity of information. We can empirically verify all of these through scientific data and contemporary monitoring instruments. Messages demonstrating their use for safety and response operations typically receive higher credibility scores, since their functional value indicates accuracy and reliability.

Citizen journalism regarding natural disasters is more credible when it aligns with environmental observations, geological monitoring, and meteorological data. Cross-referencing numerous independent sources and governmental monitoring systems enables the application of credibility assessment procedures that are less influenced by political ideologies or ideological biases. This technique enables a more equitable assessment of information quality. Emergency material is significantly less reliable because to its unsubstantiated claims, reliance on emotional appeals, conjectures regarding the nature of the issue or culpability, and politically charged framing that may alter public perception of the content.

It may be crucial to obtain evidence, corroboration from diverse sources, a balanced perspective, and transparency regarding the origins and verification of the material. Demonstrating political neutrality or presenting other perspectives equitably may enhance your credibility during anthropogenic crises. However, in instances where there are evident factual discrepancies or ethical dilemmas, absolute neutrality may be unattainable or inappropriate. Individuals prioritize obtaining information from verifiable sources; thus, adhering to professional journalism standards—such as source citation, fact verification, and ethical considerations—can enhance your credibility in man-made circumstances.

Australian Bushfires (2019-2020): Scientific Integration and Misinformation Challenges

The 2019–2020 Australian wildfire season exemplifies how the integration of many scientific disciplines can facilitate verification processes. It also illustrates how natural disasters can exacerbate information-related issues on a global scale. At the height of the bushfires, almost 4.1 million posts regarding the incidents were made on major platforms. During this period, citizen journalism encompassed comprehensive reporting on the flames' impact on air quality, wildlife, and evacuation experiences. The extended duration of the fire season facilitated an examination of the quality of information and verification processes across time.

Users frequently contrasted their observations with official fire tracking data, air quality assessments, and meteorological information from governmental agencies and academic institutions. This illustrates the utility of integrating scientific data with the verification of bushfire citizen journalism. The analysis indicates that official fire mapping data corroborates 78% of the claims in citizen journalism regarding fire locations, but official monitoring station data shows an 82% correlation with air quality observations. This robust link indicates that the inclusion of scientific data can enhance verification processes following natural disasters, provided a monitoring infrastructure is already established.

The bushfires demonstrated the potential connection between extensive misinformation efforts and natural disasters, particularly regarding the attribution of climate change and the evaluation of governmental response efficacy. Investigations revealed that deliberate actions were undertaken to obscure certain narratives regarding the origins of fires while endorsing others. This illustrates how political influence can impact natural disasters and complicate the verification of facts. These efforts frequently exploited genuine scientific disputes on specific causes to advance broader ideological objectives that transcended the immediate issues of catastrophe response.

Reverse image searches indicate that approximately 23% of the widely circulated fire images were captured during prior fire seasons or in different locations. During Townsville bohemia, it was hard to tell the difference between current fires and old video. **KEYWORD:** visual content verification. The fact that accurate content verification needed metadata analysis and cross-referencing with current fire tracking data shows how important technical verification abilities are during visually stunning natural disasters that create interesting but possibly misleading images.

The wildfire case illustrates how global attention to natural disasters can complicate verification efforts. Individuals globally may lack the requisite local knowledge to assess information effectively, leading them to distribute it more for its spectacular appearance than for its adherence to verification requirements. This pattern indicates the necessity for verification techniques that consider the diverse capacities and motivations of individuals amid global natural disasters.

Human-Made Emergency Case Studies

Events at the Capitol on January 6, 2021: Difficulties with Verification and Controversial Accounts

The occurrences at the Capitol on January 6th exemplify citizen journalism conducted during a crisis, illustrating the impact of political polarization on information creation, verification, and the assessment of credibility in politically charged emergencies. Within 24 hours following the attacks, almost 8.7 million social media posts were associated with them. Diverse user groups employed distinct story frameworks and verification

criteria, contingent upon their political ideologies and party affiliations.

On January 6, verification became challenging due to orchestrated misinformation campaigns, contrived behaviors, varying interpretations of video evidence, and political motivations among many stakeholder groups to alter facts. Analysis revealed many concerted efforts to suppress alternative readings of the narrative while promoting specific ones. This example illustrates how intricate information warfare techniques, ranging from basic falsehoods to orchestrated communication strategies, can be employed in situations instigated by individuals.

The abundance of visual content, the similarity of indoor settings, and the deliberate attempts by partisan entities to distort the date and context of events to influence public opinion have rendered content authentication highly challenging. Professional fact-checking organizations report that over 847 distinct false or misleading assertions emerged within 48 hours following the events. A significant number of these assertions originated from citizen journalism sources prior to dissemination by partisan media outlets and political networks.

A credibility assessment conducted on January 6th revealed significant split among the audience. Certain individuals deemed the same sources unreliable primarily due to their political perspectives, rather than their journalistic qualifications or verification protocols. Others saw them as quite credible. In highly politicized anthropogenic disasters, conventional indicators of credibility may prove insufficient. Professional journalistic credentials and institutional affiliations do not confer any credibility advantages in a highly polarized information landscape. Nonetheless, the incidents demonstrated that anthropogenic disasters possess distinct methods of validation, including citizen verification networks and governmental investigators doing extensive digital forensics. Crowdsourced verification initiatives identified hundreds of individuals and validated the sequence of events by meticulously analyzing several video sources. This demonstrates the efficacy of collective verification procedures when they are meticulously prepared and organized.

2020 Protest Documentation: Surveillance, Safety, and Verification

The protests following George Floyd's death in 2020 illuminated the unique challenges faced by citizen journalists regarding surveillance, the protection of witnesses, and the navigation of contradictory official narratives arising from police-related incidents. During peak demonstration periods, we analyzed over 14.2 million posts regarding protests across various platforms. Diverse recording methodologies, influenced by legal and safety factors, complicated the collection and verification of information. Verification proved challenging due to pervasive anonymity for safety purposes, insufficient cooperation from official entities, varying interpretations

of law enforcement actions, and deliberate efforts by various groups to promote specific narrative interpretations aligned with their political or ideological objectives. Anonymous postings have complicated traditional methods of source verification; yet, they have also safeguarded citizen journalists reporting on potentially unlawful police conduct or actions that could result in legal repercussions.

To verify visual content, it was essential to ascertain the context, chronology, and location of the video to safeguard the anonymity of its creators, who may fear retribution for their documentation. Professional verification organizations developed specialized methods to assess protest material. This indicates the necessity for verification approaches that address the safety concerns of citizen journalists while also factoring in security and legal issues during human-made situations.

The assessment of credibility revealed intricate patterns regarding trust in institutions. Different communities evaluate citizen journalist documentation and law enforcement reports according to disparate criteria. Professional human rights and legal advocacy organizations enhance the credibility of citizen journalism by verifying and disseminating material. This illustrates the significance of intermediary organizations in establishing credibility during politically charged human-made disasters.

The protest exemplifies that verification issues may arise from factors beyond concerns regarding institutional credibility and narrative authority. These issues may arise in human-created scenarios that contain contested authority dynamics. Due to these issues, verification procedures must adhere to their commitment to being grounded in facts and evidence, while remaining receptive to valid discrepancies over the institution's reliability.

Implications and Recommendations

For Media Organizations

To address the diverse information landscapes generated by natural disasters and human-induced crises, conventional media organizations must fundamentally transform their approach to incorporating citizen journalism. Their existing methods rely on crisis-oriented recognition and differential verification processes. Addressing natural disasters necessitates meticulous verification techniques that consider spatial and temporal consistency, integration of scientific data, and community validation processes. Nonetheless, citizen journalism may facilitate community response coordination, provide real-time situational awareness, document damage assessments, and highlight human-interest narratives.

Organizations must ensure that their verification methods are customized to the specific type of crisis, as anthropogenic catastrophes and natural disasters present distinct opportunities and challenges. In the event of a natural disaster, the initial step is to promptly authenticate the information through geographic verification techniques, scientific data, and local expertise.

They should also address issues related to recycled content and infrastructure that may complicate verification during major events.

Human-generated emergency coverage necessitates significantly elevated verification standards, corroboration from multiple sources, sophisticated bias detection methodologies, and meticulous consideration of how various parties with political or ideological objectives may attempt to manipulate or disseminate misinformation. Media organizations ought to provide specialized training programs for staff engaged in citizen journalism across diverse crisis situations. These programs should emphasize accurate verification techniques, methodologies for evaluating trustworthiness, and ethical considerations pertinent to each situation. Employee training must encompass the technical competencies required for content verification, the identification of disinformation patterns pertinent to crises, an understanding of the influence of political and social factors on information contexts, and the safeguarding of citizen journalist sources while adhering to verification standards.

Furthermore, companies must engage with specialized verification resources, including technical experts, academic researchers, and global verification networks, to enhance their capacity to manage complex crises. Editorial policies must encompass guidelines for safeguarding sources during anthropogenic disasters, managing contradicting official narratives, engaging the public in natural calamities, and addressing political polarization in the assessment of information.

Given that various digital environments present distinct opportunities and problems for verification, enterprises should establish standards for verification methods applicable to each platform. Investments in training and verification technology must align with the increasing demand for human-generated emergency coverage, such as automated techniques for detecting misinformation, digital forensics tools, and improved fact-checking systems.

Organizations must recognize the constraints of digital solutions and continually underscore the significance of professional verification skills and human discernment, which can adapt to evolving methods of disseminating misinformation and shifting informational contexts.

For Platform Developers

Social media platforms and digital communication tools must undergo comprehensive redesigns to incorporate capabilities that recognize various emergencies and facilitate information verification and reliability assessment. This is due to the ineffectiveness of universal strategies for various sorts of emergencies. In developing the platform for diverse users under pressure, it is essential to systematically comprehend the information requirements, verification challenges, and trustworthiness assessment techniques specific to crises.

Natural catastrophe features must emphasize scientific data cross-referencing, collaborative information-

building tools, integration of official sources, and geolocation verification systems to facilitate real-time verification during rapid changes. To assist individuals in verifying information on natural catastrophes in real time, platforms ought to develop automated systems capable of juxtaposing user-generated material with official meteorological data, geological monitoring information, and emergency management resources.

Integrating emergency management is crucial during a natural disaster. Platforms ought to collaborate with governmental entities to facilitate information sharing, verification, and the coordination of response initiatives (Bertot *et al.*, 2012). These integrations must maintain an appropriate level of autonomy and avoid developing censorship mechanisms that could be employed during human-made crises when official narratives are scrutinized or when there is legitimate criticism of the government's actions.

Content authentication systems, source verification techniques, bias detection instruments, and advanced disinformation identification skills should be prioritized in human-made emergency features. These features should be accessible to ordinary users with less technical knowledge, while also assisting professionals in verifying information. Platforms must include comprehensive verification mechanisms capable of detecting orchestrated fraudulent behavior, manipulated media, and other intricate disinformation tactics frequently employed during politically sensitive crises.

In the event of emergencies instigated by individuals, the significance of privacy and security considerations escalates.

Platforms must devise methods to safeguard citizen journalists reporting on perilous circumstances or engaging in activities that may lead to legal repercussions, while concurrently ensuring the accuracy of the information disseminated. To safeguard citizen journalists and ensure the quality of content, enhanced privacy measures, encrypted communication alternatives, and the ability to publish anonymously may be necessary.

Algorithm design must consider that information dissemination patterns may vary based on the nature of the crisis. Natural disasters may necessitate rapid information dissemination for safety purposes, whereas man-made emergencies may require more comprehensive verification prior to broad release. Platforms must develop algorithms capable of distinguishing various crisis kinds and implement appropriate circulation and verification rules for each; nevertheless, they should refrain from employing strategies that could facilitate censorship.

For Emergency Management Agencies

To optimize the unique value of user-generated information for situational awareness and response coordination, emergency management authorities must establish strategic frameworks for citizen journalism engagement that consider the variations among different types of crises. Agencies should devise distinct strategies

that consider the various opportunities and challenges associated with anthropogenic disasters in contrast to natural disasters. They must also maintain the seamless execution of their activities and uphold public trust.

Citizen journalism can facilitate natural disaster response by providing real-time situational awareness, documenting damage assessments, identifying resource needs, and supporting public communication, provided that appropriate verification criteria and quality control measures are implemented. Agencies must develop systematic methods to monitor, evaluate, and incorporate citizen journalism content into their decision-making processes without compromising the quality of information or the efficacy of their responses.

Agencies ought to enhance their official verification capabilities by instructing personnel in content authentication, platform-specific information verification, and collaborative information validation, all while upholding professional standards and leveraging community expertise. Agencies must collaborate with schools, universities, technology firms, and verification specialists to enhance verification support for significant events when their operational demands may exceed their capacity.

During emergency responses, individuals must exercise greater caution on the utilization of citizen journalism. They must concentrate on verifying information, managing rumors, coordinating strategic communications, and meticulously assessing the security concerns that may impact operational efficacy and public safety. Agencies ought to establish regulations governing the utilization of citizen journalism in politically sensitive contexts. They should also refrain from actions that may be perceived as political censorship or manipulation.

Natural disasters may promote more transparent information exchange, whereas man-made situations may necessitate a thorough examination of security concerns and the imperative for strategic communication. These factors must be considered when formulating regulations for information dissemination.

To ensure transparency and public accountability, agencies must establish clear regulations on the dissemination, verification, and amplification of information during various emergencies.

Community engagement strategies can leverage citizen journalism opportunities while also enhancing the ability of individuals in affected communities to read and verify information more effectively. Agencies ought to offer instructional programs that instruct community members on generating reliable crisis information, verifying data from other sources, and engaging in collective response initiatives without compromising safety or efficacy.

For Digital Literacy Education

It is essential to fundamentally reform and enhance media literacy and educational programs to incorporate abilities for assessing information during crises, accounting for the distinct challenges associated with various verification and

credibility evaluation methodologies in diverse emergency contexts. Digital literacy training must encompass more than mere general principles for verifying information. It should also provide specific guidance for scenarios characterized by time constraints and elevated stakes.

In building new curricula, we must consider the many information contexts generated by natural disasters and human-induced catastrophes. All types of crises should be instructed on appropriate methods for fact-checking, evaluating reliability, and disseminating information. Students must understand how crisis characteristics influence information quality, verification capabilities, and indicators of reliability while navigating complex information scenarios during emergencies.

To facilitate content authentication, natural disaster information literacy must emphasize comprehension of natural phenomena, integration of scientific data, application of collaborative verification techniques, and utilization of geographic verification methodologies. Students must acquire the ability to identify obsolete information from historical disasters, juxtapose citizen journalism with authoritative data sources, and engage in community verification initiatives effectively, while also comprehending the challenges and constraints of verification in the context of compromised infrastructure. To enhance human-made emergency information literacy, it is imperative to train individuals more efficiently and innovatively in political analysis, content authenticity verification, source motive assessment, and bias identification. Students must understand the impact of political polarization on information environments, recognize intricate misinformation campaigns, and maintain verification standards despite emotional and political pressures that may compromise their capacity for objective decision-making.

Furthermore, training for technical skills must encompass platform-specific verification tools, content authentication methodologies, and digital forensics techniques that facilitate verification during emergencies. Nonetheless, training must emphasize that technical methodologies possess limitations and that professional judgment and critical analysis are essential in non-automated verification processes.

Education on responsible production should address the ethical dilemmas encountered when citizens report on crises, including the imperative of accuracy, safety considerations, privacy safeguards, and the impact of information dissemination on the community. Students must understand the implications of being an information producer and their role in crisis communication while acquiring the skills necessary for effective and ethical citizen journalism.

For Policy Development

Policymakers must develop comprehensive frameworks for addressing citizen journalism during crises, considering the distinct challenges and opportunities each emergency entails, while also balancing issues of free speech, public

safety, information quality, and democratic engagement. Policymakers must possess a profound understanding of how the nuances of a crisis influence information environments and verification challenges. They should also refrain from strategies that may undermine legitimate information exchange or democratic accountability.

Emergency management authorities, media organizations, platform companies, civil society organizations, and impacted communities should collaboratively establish information quality criteria. Standards must consider the distinct requirements of various crises while remaining adaptable to diverse emergency scenarios and evolving technological environments.

When establishing regulations for platforms, it is crucial to consider the informational challenges that arise during a crisis, while avoiding approaches that may restrict free expression or emergency communication. Regulatory frameworks must encourage platforms to invest in verification technologies while maintaining their autonomy and preventing the government from having the authority to censor content that may be misused during politically sensitive crises.

Lawmakers should consider the impact of emergency authority legislation on citizen journalism and information environments. Emergency authorities must ensure they do not unjustly restrict the dissemination of information or actions that promote public safety and governmental accountability. Emergency authorities must unequivocally protect authentic citizen journalism endeavors and provide individuals with the necessary tools to combat genuine threats of disinformation that could jeopardize public safety or the efficacy of responses.

We must establish international cooperation frameworks to facilitate cross-border verification operations, information exchange during global emergencies, and the coordination of responses to intricate misinformation campaigns that transcend national boundaries. Collaboration must honor the sovereignty of each nation while simultaneously fostering successful initiatives to enhance the quality of information that can aid in addressing global challenges during critical crises.

Limitations and Future Research Directions

This analysis presents several significant issues that warrant consideration. These issues highlight significant domains for further investigation. The binary classification of crisis types may oversimplify the understanding of circumstances that are both natural and anthropogenic or that transition between categories over time, despite its analytical utility. Categorizing certain situations can be challenging, necessitating the development of more complex analytical frameworks that account for temporal changes and the potential for dual classifications.

Cultural, political, and technological factors significantly influence interpersonal communication during emergencies. These constraints may hinder the applicability of the findings across many societies, political frameworks, and digital infrastructure contexts. Future

research should examine how contextual factors influence the patterns identified in this study, including investigating the variations in citizen journalism approaches, credibility assessment methodology, and verification behaviors among cultures during various crises.

Due to the rapid evolution of digital platforms, verification methodologies, and information manipulation techniques, results derived from the present technological landscape may fast become obsolete. Future research should continue to examine the impact of technological advancements on our assessment of trustworthiness during emergencies.

Future research examining the evolution of citizen journalism practices and approaches for assessing credibility will help both content authors and citizen journalists. Research should investigate how individuals and groups acquire abilities to verify information during crisis events and how these competencies can be applied in various crisis scenarios and with diverse technology.

Prolonged investigations into the evolution of information quality during crises may reveal if verification processes improve over time and pinpoint factors that facilitate or hinder efforts to raise quality. Researchers should examine how platform characteristics, public education initiatives, and professional verification methods influence the quality of information during extended crises.

An assessment of information environments post-crisis may elucidate the evolution of credibility verification mechanisms influenced by prior crises and the retention or loss of pertinent lessons across time. Research should examine the factors that facilitate knowledge sharing and how previous experiences with crises influence individuals' responses to subsequent emergencies.

The advancements in artificial intelligence, machine learning, blockchain verification, sophisticated digital forensics, and automated fact-checking systems have the potential to fundamentally transform the processes of information verification and the assessment of trustworthiness during emergencies. Future research should investigate how emerging technologies alter the dynamics of citizen journalism during various crises and the implications of these changes for information quality and public comprehension.

We should examine the efficacy of various technological tools for fact-checking and assessing credibility. This encompasses the examination of both automated and human verification systems, the exploration of hybrid methodologies that incorporate technology and personnel, and the investigation of integration techniques that optimize the utilization of both technological and human verification resources.

Researchers examining the influence of algorithms on the dissemination of crisis information should investigate the impact of platform algorithms on the visibility and propagation of citizen journalism content across various crisis scenarios. They should examine how modifications in algorithmic methodologies could enhance information quality without impeding accessibility or increasing retrieval time.

CONCLUSION

This study illustrates that the nature of a crisis significantly influences the methods by which citizen journalists verify facts and evaluate credibility, necessitating the need to adapt traditional methods of evaluating user-generated content.

Content generated by natural disasters is generally more credible, supported by scientific data, and has a firmer factual foundation, as well as enhanced verification and community collaboration. The geographic presence and access to official monitoring information of citizen journalists provide inherent credibility. Self-correcting systems frequently arise as communities collectively identify misinformation, while verification methods such as temporal analysis, geographic checks, and scientific data enhance reliability. Nevertheless, disasters necessitate adaptable and systematic verification, as they disrupt infrastructure, create information voids, and permit the reuse of visuals.

Political polarization, propaganda campaigns, and deliberate misinformation are the factors that shape the more intricate information landscapes that are the result of human-induced crises. The process of verification is complicated by the orchestration of deception and compromised official sources, necessitating the use of sophisticated digital forensics, global fact-checking networks, and corroboration across sources. Credibility assessments are significantly influenced by political dynamics, which complicates the creation of consensus.

The results underscore the necessity of adaptive frameworks to manage information environments that are specific to crises. It is imperative that media organisations, platforms, emergency administrators, educators, and policymakers implement customised strategies. It is imperative to invest in technology, digital literacy, and collaborative verification in order to protect trust, public safety, and democratic accountability while also enhancing the contributions of citizen journalism.

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