Research Article

Influence of social media on disaster response in Hargeisa, Somaliland

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Abstract

Keywords

Social media,
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Coordination,
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This study aims to analyze the influence of social media platforms on enhancing disaster response mechanisms in Somaliland, focusing on how these digital tools facilitate communication, coordination, and community engagement during disasters. The research employs a quantitative, correlational design and utilizes stratified sampling to survey 59 respondents through structured questionnaires. The specific objectives include assessing the utilization of social media by governmental and non-governmental organizations for emergency communication, investigating public engagement on social media during disasters, and examining the role of social media in coordination among disaster response agencies.

Results indicate a mean score of 2.990 with a standard deviation of 0.957 for the utilization of social media by organizations. Public engagement on social media during disasters shows a mean score of 2.938 with a standard deviation of 0.978. Coordination among disaster response agencies via social media has a mean score of 2.521 with a standard deviation of 0.963. The findings reveal varying degrees of effectiveness and engagement, highlighting areas for improvement in leveraging social media for disaster response in Somaliland. These findings can guide policymakers and organizations in improving disaster management strategies

I. Background of the study

Disasters are unfortunately a common occurrence across the globe, both natural and man-made. The Philippines was struck by a magnitude 7.4 earthquake on December 2nd, causing widespread damage and displacing over 300,000 people.

Rescue efforts are still ongoing. (Relief Web, 2023).

According to the NIFC (2023) the western United States and Canada are grappling with the aftermath of a severe wildfire season, which has burned millions of acres of land and displaced thousands of people.

In similar Ongoing conflicts in countries like South Sudan, the Democratic Republic of Congo, and Ethiopia create humanitarian crises and exacerbate existing vulnerabilities. (Internal Displacement Monitoring Centre (IDMC,2023)

The Ebola virus outbreak in West Africa, primarily affecting Guinea, Liberia, and Sierra Leone, was one of the deadliest epidemics in recent history. The outbreak resulted in thousands of deaths, overwhelmed healthcare systems, and had significant socioeconomic impacts on the affected countries. It highlighted the challenges of containing and managing infectious diseases in resource-constrained settings. (UNDRR 2014-2016)

In Somaliland experiences recurring droughts, particularly in the northern regions. The 2016-2017 drought was particularly severe, causing widespread crop failure, livestock deaths, and displacement. While the situation has improved in recent years, the threat of drought remains a constant concern. (FAO), " (SDRSP), 2018).

There are several definitions of social media, According to Manning (2014) , social media refer to new forms of media that involve interactive participation.

Similarly Social Media has been defined as websites which allow profile creation and visibility of relationships between users (Boyd & Ellison, 2008)

Moreover, Social media has been referred to as "social media sites" (Diga& Kelleher, 2009), or a set of information technologies which facilitate interactions and networking (Kapoor et al., 2017; Ostriches-Singer &Zalmanson, 2013).

In this study, social media can be defined as online platforms and websites that allow users to create and share content, interact with others, and participate in virtual communities.

According to Dr. Amina Hassan, a prominent researcher in the field of emergency communication, social media can be categorized

or standardized based on her extensive studies. Dr. Hassan's research focuses on the use of social media platforms by governmental and non-governmental organizations during crisis situations. She utilizes a mixed-methods approach, combining qualitative interviews and quantitative data analysis, to gain a comprehensive understanding of the topic.

Similarly, the Pew Research Center is a well-known research organization that conducts surveys and studies on various aspects of social media. They employ quantitative research methods, such as large-scale surveys, to measure social media usage, demographics, and public opinion on social media-related topics.

Moreover, Bernie Hogan is a researcher who focuses on social network analysis and the measurement of online social relationships. He employs both quantitative and qualitative methods to study social media networks, including analyzing network structures, measuring tie strength, and examining patterns of interaction and information flow.

Although disaster can be define in a various types, According to the Cisin and Clark (1962): disaster "Any event that seriously disrupts normal activities.

Similarly Disasters are serious disruptions to the functioning of a community that exceed its capacity to cope using its own resources. (IFRC, 2017)

Moreover Fritz (1961): defines "A highly disruptive event that is sudden, calamitous, and overwhelming for the people.

In this paper a disaster can be describe is an event or series of events that cause significant damage, destruction, and distress, resulting in a disruption of normal functioning and posing a threat to human life, property, and the environment.

In this study disaster can be measure, According to the Jeannette Sutton is a prominent scholar in the field of disaster communication and social

media. She has conducted extensive research on the role of social media in disaster response and recovery, including examining public engagement and information dissemination on platforms such as Twitter. Her work often involves measuring the impact of social media on public behavior and decision-making during disasters.

In similar Jeannette Sutton employs a mixed-method research approach, combining quantitative analysis of social media data with qualitative interviews and content analysis. Her work focuses on understanding the dynamics of public engagement, information dissemination, and the role of social media in disaster response and recovery.

Moreover Emma S. Spiro employs a mixed-method research approach, combining qualitative interviews, observations, and network analysis to understand how social media is used for coordination among disaster response agencies. Her research focuses on the communication patterns, information flows, and collaborative practices facilitated by social media platforms.

Somaliland, a self-declared republic in northwestern Somalia, faces a multitude of disaster risks, characterized by complex interactions between environmental factors, socio-economic vulnerabilities, and limited institutional capacity.

Droughts the most frequent and impactful disaster, with recurring periods of prolonged dry spells causing water scarcity, crop failures, and livestock deaths. The 2017 drought, for example, led to widespread food insecurity and displacement, affecting over 60% of the population. (FAO, 2017).

Social media platforms, such as Facebook, Twitter, and WhatsApp, have gained significant popularity worldwide and have been increasingly utilized during crisis situations. However, their specific impact on disaster response in Somaliland remains understudied. This study aims to address this research gap and contribute to

the existing literature on disaster management and communication.

According to the UNICEF (2017) report offers insights into the humanitarian situation in Somaliland, including the challenges faced in disaster response. The report acknowledges the potential role of social media in improving communication and coordination during disasters. However, it emphasizes the need for further research to explore and understand the effectiveness and impact of social media within the specific context of Somaliland.

In similar Somaliland National Disaster Management Agency. (2019) the annual disaster report by the Somaliland National Disaster Management Agency provides an overview of the past year's disaster events and response efforts. It acknowledges the importance of efficient communication channels, including social media, in enhancing disaster response and emphasizes the need for further research.

Moreover, UNDP Somaliland. (2019) report provides a situation analysis of the impact of drought and recovery efforts in Somaliland. It highlights the need for improved communication and information sharing during disasters in the region and recognizes the potential role of social media in disaster response.

II. Problem statement

Somaliland, a region in the Horn of Africa, faces a constant threat from natural disasters and manmade disasters. Droughts, floods, civil wars, fires that broke out Somaliland Like waaheen and wajaale markets other extreme weather events have become a recurring challenge, jeopardizing the well-being of its communities. Despite advancements in development, a critical gap exists in effectively responding to these disasters, specifically in leveraging the transformative potential of social media.

Social media platforms have become ubiquitous communication tools, offering unprecedented opportunities for information sharing, public engagement, and collaborative action. However, in the context of disaster response within Somaliland, the potential of social media remains largely untapped. This underutilization creates a cascade of problems that hinder effective response efforts.

Limited social media use by emergency response organizations creates a gap in timely and critical information reaching the public. Citizens affected by disasters may struggle to access crucial updates, warnings, and instructions, hindering preparedness and potentially increasing risks. Are governmental and non-governmental organizations (NGOs) actively utilizing social media platforms for emergency communication? Is the content they provide clear, concise, and delivered in a timely manner to ensure public understanding and informed action?

Furthermore, the level of public engagement with social media during disasters in Somaliland is unclear. Do people actively seek out disaster-related information on these platforms? Are they comfortable participating in discussions, sharing their experiences, and providing feedback through social media channels? Understanding these aspects of public behavior is crucial for crafting effective communication strategies. Are citizens empowered to utilize social media as a tool for self-organization, resource mobilization, and information dissemination during emergencies?

Finally, the role of social media in facilitating coordination and information sharing among disaster response agencies in Somaliland needs further exploration. Can these platforms be used more effectively to streamline communication and improve situational awareness for a more efficient and collaborative response? Currently, the lack of a coordinated approach on social media might lead to fragmented information, hindering a comprehensive picture of the unfolding emergency and potentially causing inefficiencies in response efforts.

By comprehensively assessing these areas – the utilization of social media by emergency response organizations, the level of public engagement, and the potential for inter-agency coordination – this research seeks to bridge the gap and unlock the true potential of social media for improving disaster preparedness, response, and recovery efforts in Somaliland. Ultimately, this will lead to a more prepared and resilient Somaliland, better equipped to navigate the challenges posed by natural disasters.

III. Objectives of the study

• The main purpose of this study is to comprehensively analyze the influence of social media platforms in enhancing disaster response mechanisms in Somaliland, with a focus on understanding how these digital tools facilitate communication, coordination and community engagement during disasters.

The specific objectives of this research are as follows

1. To Assess the Utilization of Social Media Platforms for Emergency communication by governmental and non-governmental organizations in Somaliland.
2. To investigate the level of Public Engagement on Social Media platforms during disaster events in Somaliland.
3. To Examine the Role of Social Media in Coordination Among Disaster Response Agencies in Somaliland.

Significance of the study

This study on the influence of social media in disaster response in Somaliland sets the stage for future researchers by highlighting the significance and potential of this emerging field of inquiry. By examining the use of social media platforms in facilitating communication, empowering communities, managing information, and analyzing resilience and vulnerability, this study provides a comprehensive framework for understanding the multifaceted dynamics of social

media in disaster response. The findings and insights gained from this research can inspire future researchers to delve deeper into specific aspects, such as the impact of social media on specific disasterprone regions within Somaliland, exploring novel approaches to harness its power for early warning systems, and developing targeted interventions to bridge digital divides. By building upon this foundation, future researchers can contribute to the growing body of knowledge, ultimately enhancing disaster response strategies and promoting community resilience in Somaliland and beyond.

Studying social media's role in disaster response is crucial for saving lives and building resilience. It unlocks rapid information sharing for early warnings and preparedness, empowers citizens to aid response efforts, and fosters community support for recovery. This research helps optimize disaster response, from real-time updates to volunteer mobilization, ultimately leading to a safer and more responsive society in the face of crisis.

Government and Disaster Management Agencies: NDRA The government of Somaliland and disaster management agencies can benefit from the research findings on the role of social media in disaster response. They can use the insights to enhance their disaster response strategies and policies. The research can provide valuable information on how social media can be integrated into existing emergency communication systems, enabling more effective dissemination of information to the public during disasters. This can help improve coordination, resource allocation, and response times, ultimately enhancing the overall disaster management capabilities of the government and agencies.

Local Communities and Civil Society Organizations: Local communities in Somaliland can benefit from the research by gaining a better understanding of how social media can support disaster response efforts. The findings can help raise awareness among community members about the potential benefits and limitations of

social media in disaster situations. This knowledge can empower individuals to actively engage in disaster response activities, such as sharing critical information, organizing community-based initiatives, and mobilizing resources through social media platforms. Civil society organizations can also leverage the research findings to develop targeted programs and interventions that utilize social media for community engagement and support during disasters

International Aid Organizations and Donors: International aid organizations and donors operating in Somaliland can benefit from the research on the role of social media in disaster response. The findings can inform their strategies and approaches to supporting disaster-affected populations in the region.

Understanding how social media can be effectively utilized during disasters can enable aid organizations to leverage these platforms for information dissemination, needs assessment, and coordination of relief efforts. Additionally, the research can help donors identify innovative projects and initiatives that utilize social media tools and technologies to enhance disaster response and recovery in Somaliland.

Technology Companies: Technology companies that develop and maintain social media platforms have a stake in understanding the role of their platforms in disaster response. Research on the topic can help these companies identify areas for innovation and improvement. They can develop features, algorithms, and tools specifically designed to enhance the use of social media during disasters, such as real-time translation capabilities, geolocation services, or crisis mapping tools.

IV. Literature review

Utilization of Social Media Platforms for Emergency Communication

According to the Johnson (2015) conducted a comprehensive case study exploring the role of

social media platforms in emergency communication during Hurricane Katrina. The study took place in New Orleans, USA, and aimed to gain insights into how social media platforms were utilized during the disaster.

The target population of the research included individuals who were directly affected by Hurricane Katrina. By focusing on their experiences and perspectives, the study aimed to provide a deeper understanding of the role social media played in emergency communication during this specific event.

To conduct the research, Johnson (2015) employed a qualitative research methodology. A case study design was chosen to capture the unique context of Hurricane Katrina and the specific utilization of social media platforms. This approach allowed for a detailed exploration of individual experiences, perceptions, and challenges faced during the emergency.

Data analysis was conducted using thematic analysis. By identifying and analyzing recurrent themes in the collected data, the study aimed to uncover patterns and insights related to the role of social media platforms in emergency communication.

The research did not employ a specific model but rather focused on understanding the real-life implications of social media use during Hurricane Katrina. The findings of the study emphasized the crucial role played by social media platforms in emergency communication. It was revealed that social media facilitated the dissemination of critical information, enabled real-time updates, and fostered coordination among affected individuals and relief efforts.

However, the study also identified several challenges associated with social media use during emergencies. These challenges included the spread of misinformation, difficulties in verifying the credibility of information, and the digital divide, which limited access to social media platforms for some individuals.

Overall, Johnson's (2015) research provided valuable insights into the role of social media platforms in emergency communication during Hurricane Katrina. The findings highlighted both the benefits and challenges associated with their utilization, contributing to a better understanding of how social media can be effectively leveraged in future disaster management strategies.

In similar smith (2018) conducted a research study in London, UK, titled "Assessing the effectiveness of social media platforms for emergency communication." The study aimed to evaluate the effectiveness of utilizing social media platforms as a means of communication during emergency situations.

The target population of this research comprised emergency responders, including firefighters, paramedics, and other professionals involved in emergency response activities. By focusing on the perspectives of these individuals, the study sought to gain insights into their experiences, perceptions, and attitudes towards the use of social media platforms for emergency communication.

Smith's research employed a mixed-methods research approach, combining both quantitative and qualitative methods. The design of the study included surveys and interviews to collect data from the emergency responders in London. The surveys provided quantitative data, which was analyzed using statistical methods to identify trends and patterns. The interviews, on the other hand, generated qualitative data that was analyzed through thematic analysis to uncover themes and insights.

The research findings of Smith's study shed light on the effectiveness of social media platforms for emergency communication, as perceived by the emergency responders in London. The study revealed diverse perspectives among the respondents. While some responders acknowledged the benefits of social media platforms for information dissemination, coordination, and real-time updates during emergencies, others expressed concerns related to

the reliability of information, privacy, and the potential for information overload.

The research highlighted the importance of considering the advantages and limitations of social media platforms as part of emergency communication strategies. It emphasized the need for careful planning, training, and protocols to ensure effective and responsible use of social media during emergencies. The study provided valuable insights that can inform emergency response strategies and communication protocols in London and similar contexts.

In 2020, Li conducted a research study in Tokyo, Japan, with the title "Examining the role of social media platforms in enhancing community resilience during disasters." The aim of the study was to investigate how social media platforms contribute to enhancing community resilience in disaster-prone areas.

The target group of this research comprised community members living in Tokyo, Japan, who are situated in areas prone to disasters such as earthquakes, tsunamis, or typhoons. By focusing on the experiences and perspectives of these community members, the study sought to gain insights into the role of social media platforms in fostering resilience within these communities.

To achieve the research objectives, Li employed a qualitative research methodology. The study utilized focus groups and interviews to collect data from community members. By engaging in group discussions and individual interviews, the research aimed to obtain in-depth and diverse perspectives on the utilization of social media platforms for enhancing community resilience.

Data analysis in this research involved both content analysis and thematic analysis. Content analysis was employed to examine the content shared on social media platforms during disasters, while thematic analysis was used to identify recurring themes and patterns in the data collected from focus groups and interviews.

The study did not adopt a specific model but rather focused on understanding the reallife implications of social media usage for community resilience during disasters. The findings of the research highlighted the ways in which social media platforms contribute to disaster preparedness and community resilience. It was revealed that social media facilitated information sharing, increased community engagement, and enabled collaboration among community members, local authorities, and organizations involved in disaster response.

However, the research also identified challenges associated with social media use during disasters. These challenges included the need for digital literacy among community members, concerns about the reliability and credibility of information shared on social media, and the potential for the spread of misinformation.

Public engagement on social media platforms during disasters

According to the jones (2016) conducted research on the role of social media in public engagement during natural disasters, with a specific focus on the location of New York City.

Jones's study aimed to explore how social media platforms played a significant role in facilitating public engagement during the occurrence of Hurricane Sandy in New York City. The research employed a mixed-methods approach, combining online surveys and semi-structured interviews to gather comprehensive data from the affected population.

In terms of methodology, the study utilized online surveys with a sample size of 500 respondents to obtain quantitative data. These surveys focused on gauging the public's usage of social media platforms during the disaster, their reliance on these platforms for information, and their engagement with emergency services. The quantitative data collected from the surveys were analyzed using descriptive statistics to identify trends and patterns.

To complement the quantitative findings, semi-structured interviews were conducted with 20 participants. These interviews aimed to capture the qualitative aspects of public engagement on social media during Hurricane Sandy. The interviews focused on exploring participants' experiences, perceptions, and interactions on social media platforms, particularly in relation to information sharing, community building, and relief efforts. The qualitative data collected from the interviews were analyzed using content analysis and thematic analysis to identify key themes and insights.

The findings from Jones's research highlighted the crucial role played by social media platforms in facilitating public engagement during natural disasters. The quantitative data revealed that a significant portion of the affected population relied on social media for real-time updates, access to emergency services, and community support. This demonstrated the importance of social media as a communication tool during disasters, enabling individuals to stay informed and connected.

The qualitative findings further emphasized the impact of social media in public engagement. Participants reported using social media platforms to share information, resources, and personal experiences, creating a sense of community and solidarity among those affected by the disaster. Social media was also found to be instrumental in coordinating relief efforts, mobilizing volunteers, and connecting individuals with necessary services and support.

However, the study also identified challenges associated with social media use during disasters. One of the main concerns was the spread of misinformation, as social media platforms can be prone to the rapid dissemination of unverified or inaccurate information. This highlighted the need for effective information management and verification processes to ensure the reliability and credibility of information shared on social media during emergencies.

In similar liu M (2017) conducted research on enhancing public engagement through social media during wildfires, specifically focusing on the location of Melbourne.

Liu's study aimed to explore how social media platforms can be utilized to improve public engagement during wildfires in Melbourne. The research employed a case study approach, combining document analysis and interviews with key stakeholders involved in emergency response and community organizations.

The study began by analyzing official documents related to wildfire response in Melbourne, including emergency management plans, communication strategies, and policies. The document analysis aimed to understand the existing practices and approaches employed by authorities in engaging the public during wildfire events.

To gain further insights, Liu conducted interviews with key stakeholders, including emergency responders and community organizations involved in wildfire response. The interviews focused on understanding their perspectives, experiences, and strategies related to utilizing social media for public engagement during wildfires.

The findings from Liu's research highlighted the significant role that social media platforms can play in enhancing public engagement during wildfires. The document analysis revealed that authorities recognized the potential of social media in disseminating real-time updates, safety information, and warnings to the public. They also acknowledged social media's ability to foster community resilience and facilitate communication between authorities and the affected population.

The interviews with key stakeholders further emphasized the importance of social media in public engagement during wildfires. Emergency responders highlighted the benefits of utilizing social media platforms, such as Twitter and Facebook, to provide timely updates, share

evacuation routes, and address public concerns. Community organizations emphasized the role of social media in mobilizing resources, coordinating volunteer efforts, and fostering community support.

However, the research also identified challenges associated with using social media during wildfires. One of the main concerns was the credibility of information shared on social media platforms, as misinformation can spread rapidly during crisis situations. This highlighted the need for authorities to actively monitor and verify information shared on social media to ensure the accuracy and reliability of public communication. Overall, Liu's research demonstrated the potential of social media platforms in enhancing public engagement during wildfires in Melbourne. The study emphasized the importance of utilizing social media for real-time information sharing, community coordination, and resource mobilization. It also underscored the need for effective monitoring and verification processes to address the challenges associated with misinformation.

A Study was done by zhang (2019) on public engagement and social media usage during earthquakes, specifically focusing on the location of Tokyo.

Zhang's study aimed to explore the role of social media in facilitating public engagement during earthquakes in Tokyo. The research sought to understand how individuals and organizations utilized social media platforms to disseminate information, coordinate response efforts, and foster community support during seismic events.

To accomplish this, Zhang employed a mixed-methods research approach, combining quantitative data analysis and qualitative interviews. The quantitative analysis involved analyzing social media data, such as tweets, posts, and hashtags, related to earthquakes in Tokyo. This analysis aimed to identify patterns and trends in social media usage during seismic events, including the frequency of posts, the type of

information shared, and the level of public engagement.

Additionally, Zhang conducted interviews with key stakeholders, including individuals who experienced earthquakes in Tokyo and representatives from emergency response organizations. These interviews aimed to gather insights into their experiences, perceptions, and strategies related to utilizing social media for public engagement during earthquakes. The qualitative data from the interviews were analyzed using content analysis and thematic analysis to identify key themes and insights.

The findings from Zhang's research highlighted the significant role of social media in facilitating public engagement during earthquakes in Tokyo. The quantitative analysis of social media data revealed that individuals and organizations actively used platforms such as Twitter, Facebook, and Instagram to share real-time information, provide updates on the situation, and offer support to those affected by the earthquakes. The analysis also indicated that hashtags played a crucial role in aggregating relevant information and facilitating community engagement.

The qualitative interviews further emphasized the importance of social media in public engagement during earthquakes. Participants reported using social media platforms to disseminate safety information, coordinate rescue and relief efforts, and seek help and support. Social media was found to be particularly effective in reaching a wide audience quickly, allowing for rapid information sharing and mobilization of resources.

However, the research also identified challenges associated with social media usage during earthquakes. One of the main concerns was the spread of rumors and misinformation, which could cause panic and hinder response efforts. This highlighted the need for accurate and reliable information dissemination, as well as effective monitoring and verification processes.

Overall, Zhang's research shed light on the significant role of social media in facilitating public engagement during earthquakes in Tokyo. The study emphasized the importance of utilizing social media platforms for real-time information sharing, coordination of response efforts, and community support. It also underscored the need for responsible social media use, accurate information dissemination, and effective monitoring to address the challenges associated with misinformation.

Social Media in Coordination among Disaster Response Agencies

In this research conducted by Park (2021) in South Africa, the focus was on understanding the role of social media in coordinating efforts among disaster response agencies. The study aimed to explore the benefits, challenges, and strategies associated with the use of social media in disaster response coordination in the South African context.

To gather data, the researcher employed a qualitative research approach, utilizing focus group discussions and content analysis. Three focus groups were conducted, comprising a total of 24 participants from various disaster response agencies in South Africa. The discussions were transcribed, coded, and analyzed thematically to identify common themes and perspectives on social media usage for coordination.

The findings of this research shed light on the increasing adoption of social media platforms by disaster response agencies in South Africa for coordination purposes. The focus group discussions revealed several benefits associated with social media usage, including real-time information sharing, public engagement, and resource allocation. Agencies found social media platforms to be effective in disseminating alerts, coordinating volunteers, and providing timely updates to the affected population.

The content analysis of social media posts made by the agencies during a recent disaster event further supported the findings. The analysis showed that agencies utilized social media platforms to communicate critical information, share situational updates, and coordinate response efforts. This demonstrated the active engagement of agencies in leveraging social media for effective coordination during emergencies.

However, the research also highlighted some challenges associated with social media usage for coordination. These challenges included the need for developing social media strategies, establishing guidelines for information verification, and ensuring adequate resources and training for agency personnel. The study emphasized the importance of addressing these challenges to maximize the potential of social media in coordinating disaster response efforts.

According to the research conducted by Martinez (2019) in Brazil, the topic of interest was the role of social media in coordinating efforts among disaster response agencies. This study aimed to provide a comprehensive understanding of how social media platforms are utilized by these agencies in Brazil for effective coordination during emergency situations.

The methodology employed in this research was an action research approach, which involved participant observation and interviews. The researcher actively participated in emergency response operations, closely observing and documenting the use of social media for coordination purposes. In addition, interviews were conducted with key personnel from local disaster response agencies to gather their insights and perspectives. This combined approach allowed for a rich and in-depth understanding of the use of social media in coordinating disaster response efforts.

The findings of this research highlighted the integral role of social media platforms in coordinating response efforts among disaster response agencies in Brazil. The observations during emergency operations showed that agencies actively utilized social media platforms to share real-time updates, coordinate rescue

operations, and engage with the affected population. This demonstrated the significance of social media in enhancing situational awareness and facilitating communication among agencies.

The interviews conducted with agency personnel further emphasized the benefits of social media usage in disaster response coordination. The participants highlighted the importance of social media in enabling effective information dissemination, enhancing collaboration, and improving overall coordination efforts. They also expressed the need for clear guidelines and protocols to ensure the responsible and efficient use of social media during emergencies.

Overall, this research by Martinez (2019) provided valuable insights into the use of social media in coordinating disaster response efforts in Brazil. The findings underscored the significance of incorporating social media into emergency response protocols and highlighted the potential benefits of its usage in terms of real-time information sharing, collaboration, and engagement with the affected population.

Further research in this area could explore the specific impact of different social media platforms on coordination efforts, the challenges faced by agencies in utilizing social media during emergencies, and the development of guidelines and training programs to maximize the effectiveness of social media in disaster response coordination in Brazil.

Similarly research conducted by Chen (2020) in China, the topic of interest was the utilization of social media in coordinating efforts among disaster response agencies. This study aimed to explore the role and effectiveness of social media platforms in facilitating coordination and communication during emergency situations in China.

The research employed a mixed-methods approach, combining quantitative surveys and qualitative interviews. A survey was administered to disaster response agency personnel across different regions of China to gather data on their

usage of social media for coordination purposes. Additionally, in-depth interviews were conducted with key stakeholders to gain insights into their experiences and perspectives regarding the use of social media in disaster response coordination.

The findings of this research shed light on the increasing reliance on social media platforms by disaster response agencies in China for coordination and communication during emergencies. The survey results indicated that a significant proportion of agencies actively used social media platforms to share information, coordinate response efforts, and engage with the affected population. The interviews further highlighted the benefits of social media in enhancing situational awareness, facilitating real-time communication, and promoting collaboration among agencies.

However, the research also revealed certain challenges and limitations associated with social media usage in disaster response coordination. These challenges included the need to ensure the accuracy and reliability of information shared on social media platforms, addressing the digital divide among different population groups, and managing the potential for misinformation and rumors. The study emphasized the importance of developing strategies, protocols, and training programs to overcome these challenges and maximize the effectiveness of social media in coordinating disaster response efforts in China.

Overall, the research conducted by Chen (2020) provided valuable insights into the use of social media in coordination among disaster response agencies in China. The findings highlighted the growing importance of social media platforms in enhancing communication, collaboration, and information sharing during emergencies. The study also emphasized the need for agencies to address the challenges and limitations associated with social media usage to ensure its responsible and effective utilization in disaster response coordination.

Further research in this area could explore the specific impact of social media on different types

of disasters in China, the role of social media influencers in disseminating accurate information during emergencies, and the long-term effects of social media usage on coordination efforts among disaster response agencies in the country.

Research Methodology

Research design is the systematic approach and framework utilized to guide the process of conducting research, including the selection of data collection methods, analysis techniques, and overall research methodology. According to Neuman (2014), research design is "the plan and structure for investigating the research questions or hypotheses. The study will adopt quantitative specifically correlational research design. Correlational research involves examining the relationship between two or more variables without manipulating them or establishing causality. It focuses on understanding the degree

and direction of association between variables, allowing researchers to explore how changes in one variable are related to changes in another variable (Cooper & Schindler, 2019).

The purpose of this study is to investigate the influence of social media on disaster response in Somaliland, exploring its role in information dissemination, coordination of relief efforts, and community engagement during emergencies, specifically a cross-sectional survey research design Will adopt. Cross-sectional research involves collecting data from a group of individuals or entities at a single point in time, without following them over a period. It aims to provide a snapshot "Cross-section" of the population, enabling researchers to examine the characteristics, behaviors, or attitudes of the participants at that specific moment (Bryman, 2016)

Results and Discussion

Table 1 Demographics

	Characteristics	Frequency	Percentage
Gender	Male	37	63%
	Female	22	22%
Marital status	Single	32	55%
	Married	24	40%
	Divorce	2	3.4%
	widowed	1	1.7%
Age group	18-24 years	9	15%
	25-34 years	21	36%
	35-44 years	15	25%
	45-54 years	11	18%
	55 years and above.	3	3%
Highest Level of education	Primary	1	2%
	Secondary	1	2%
	Diploma	10	17%
	Bachelor degree	26	44%
	Master's degree	21	35%
Years of experience in disaster response	Less than one year	7	11.1%
	1-3 years	23	36.5%
	4-6 years	25	39.7%
	7-10 years	4	6.3%
Access to social media	Yes	58	98%
	No	2	2%
Social media usage among respondents	Daily	50	84
	Multiple times a day	5	8.5
	Several times a week	4	6.8

Data interpretation

The survey data provides a comprehensive overview of the respondents' demographics, educational background, and experience in disaster response. The gender breakdown shows a clear majority of female participants at 63%, while the remaining 37% are male. The marital status of the respondents indicates that the majority (55%) are single, with 40% being married and a small percentage (3.4% and 1.7%) being divorced or widowed, respectively.

Regarding the age distribution, the largest group of respondents (36%) is in the 25-34 years age range, followed by the 35-44 years

Table 2 Utilization of social media on disaster response

Statement	SDA	DA	N	A	SA	M	SD	Interpretation
1. Governmental organizations in Somaliland effectively use social media for emergency communication.	20	18	11	7	3	2.288	1.145	Disagree
2. Non-governmental organizations in Somaliland effectively use social media for emergency communication	2	28	13	12	4	2.797	1.030	Neutral
3, Social media platforms are reliable sources of information during disasters in Somaliland.	1	20	25	12	1	2.864	0.819	Neutral
4.I often see updates from governmental and nongovernmental organizations on social media during disaster events	2	35	24	6	2	2.508	0.858	Neutral
5. Social media platforms provide real-time updates and alerts that are crucial for effective emergency communication.	0	13	14	23	9	3.475	1.006	Neutral
6. Social media platforms facilitate two-way communication, allowing the public to provide feedback and seek clarification during emergencies.	1	11	15	25	7	3.441	0.987	Neutral
7. Social media platforms enable emergency management Organizations to reach diverse demographic groups, ensuring inclusive emergency communication.	0	12	27	17	3	3.186	0.8195	Neutral

8. Social media platforms allow for the rapid dissemination of emergency information, enabling timely response and action.	1	11	17	25	5	3.373	0.945	Neutral
9. Emergency management organizations actively utilize social media platforms to disseminate critical information during emergencies	1	34	18	5	1	2.508	0.751	Neutral
10. Social media platforms enhance the reach and accessibility of emergency communication to a wider audience.	1	13	12	28	5	3.390	0.983	Neutral
11. Emergency management Organizations find social media platforms to be effective in engaging and interacting with the public during emergencies.	1	32	15	5	6	2.712	1.018	Neutral
12. Emergency management Organizations consider social media platforms as an essential tool in their overall emergency communication strategy.	1	35	15	3	5	2.593	0.949	Neutral
Aggregate score						2.990		

Data Interpretation

The data table presents respondents' perceptions of the effectiveness and use of social media for emergency communication in Somaliland. Each statement is rated on a 5-point Likert scale, with 1 being Strongly Disagree and 5 being Strongly Agree. The mean scores and standard deviations indicate the overall sentiment and variability in responses.

The perception of governmental organizations' effectiveness in using social media for emergency communication is generally negative, with a mean score of 2.288 and a standard deviation of 1.145. Non-governmental organizations are perceived slightly better, with a mean score of 2.797 and a standard deviation of 1.030.

The perception of governmental organizations' effectiveness in using social media for emergency communication is generally negative, with a mean

score of 2.288 and a standard deviation of 1.145. Non-governmental organizations are perceived slightly better, with a mean score of 2.797 and a standard deviation of 1.030.

Regarding the reliability of social media platforms during disasters, the mean score is 2.864 with a standard deviation of 0.819. The frequency of updates from both governmental and non-governmental organizations on social media during disaster events is perceived neutrally to slightly negatively, with a mean score of 2.508 and a standard deviation of 0.858.

However, the perception shifts positively when considering the role of social media in providing real-time updates and alerts, with a mean score of 3.475 and a standard deviation of 1.006. The ability of social media platforms to reach diverse demographic groups for inclusive communication is also seen more positively, with a mean score of 3.186 and a standard deviation of 0.8195.

The rapid dissemination of emergency information via social media is perceived positively, with a mean score of 3.373 and a standard deviation of 0.945. However, the active utilization of social media by emergency management organizations is perceived neutrally to slightly negatively, with a mean score of 2.508 and a standard deviation of 0.751.

The perception of social media enhancing the reach and accessibility of emergency communication to a wider audience is positive, with a mean score of 3.390 and a standard deviation of 0.983. The effectiveness of social media in engaging and interacting with the public during emergencies receives a neutral to slightly negative perception, with a mean score of 2.712

and a standard deviation of 1.018. Lastly, the consideration of social media platforms as an essential tool in emergency communication strategy is viewed neutrally to slightly negatively, with a mean score of 2.593 and a standard deviation of 0.949.

The aggregate mean score of 2.990 reflects an overall mixed sentiment about the effectiveness and use of social media for emergency communication in Somaliland. While there are positive views on specific functionalities of social media, such as real-time updates and inclusive communication, there is a general neutrality or slight negativity regarding the overall effectiveness and active use by both governmental and non-governmental organizations

Table 3 Level of public engagement

No	Statements	SDA	DA	N	A	SA	M	SD	Interpretations
1	People actively seek out disaster-related updates and information on social media.	1	8	15	26	9	3.55	0.969	Agree
2	Social media platforms encourage individuals to actively participate in discussions and share information during disasters.	1	27	21	8	2	2.712	0.852	Neutral
3	Engagement with disaster-related content on social media platforms motivates individuals to take personal preparedness actions (emergency kits, evacuation plans).	0	25	18	11	5	2.932	0.980	Neutral
4	Social media platforms provide a valuable space for public feedback and suggestions regarding disaster response and recovery efforts.	5	24	16	11	3	2.71	1.305	Neutral
5	Public engagement on social media platforms leads to a greater sense of community ownership and responsibility for disaster preparedness and recovery.	2	29	14	11	3	2.729	0.9796	Neutral
6	Social media platforms have transformed public engagement during disasters, fostering a more collaborative and participatory approach to crisis management.	3	13	27	15	1	2.966	0.870	Neutral

7	Public willingness to share personal experiences and updates on social media platforms increases during disasters.	1	16	30	7	5	2.893	0.900	Neutral
8	Social media platforms encourage individuals to actively participate in discussions and share information during disasters.	2	12	32	9	4	3.017	0.881	Neutral
	Aggregate score						2.938		

Data interpretation

Table 2 shows the public engagement with social media platforms during disasters, based on data collected using a Likert scale to measure the extent of agreement or disagreement with various statements regarding public engagement and social media.

People actively seek out disaster-related updates and information on social media: The responses showed 1% strongly disagree, 8% disagree, 15% neutral, 26% agree, and 9% strongly agree, with a mean score of 3.576 and a standard deviation of 0.969. The majority (35%) agreed or strongly agreed, indicating a strong tendency for people to seek out disaster-related information on social media.

Social media platforms encourage individuals to actively participate in discussions and share information during disasters: The responses included 1% strongly disagree, 27% disagree, 21% neutral, 8% agree, and 2% strongly agree, with a mean score of 2.712 and a standard deviation of 0.852. A significant portion (28%) disagreed or strongly disagreed, suggesting that many individuals do not feel encouraged by social media to actively participate in discussions during disasters.

Engagement with disaster-related content on social media platforms motivates individuals to take personal preparedness actions: The data indicated 0% strongly disagree, 25% disagree, 18% neutral, 11% agree, and 5% strongly agree,

with a mean score of 2.932 and a standard deviation of 0.980. A notable percentage (25%) disagreed, showing a lack of motivation among many individuals to take personal preparedness actions based on social media engagement.

Social media platforms provide a valuable space for public feedback and suggestions regarding disaster response and recovery efforts: The responses were 5% strongly disagree, 24% disagree, 16% neutral, 11% agree, and 3% strongly agree, with a mean score of 2.71 and a standard deviation of 1.035. A considerable portion (29%) disagreed or strongly disagreed, indicating that many do not find social media valuable for public feedback on disaster response. Public engagement on social media platforms leads to a greater sense of community ownership and responsibility for disaster preparedness and recovery: The data showed 2% strongly disagree, 29% disagree, 14% neutral, 11% agree, and 3% strongly agree, with a mean score of 2.729 and a standard deviation of 0.9796. A significant percentage

(31%) disagreed or strongly disagreed, suggesting that public engagement on social media does not significantly enhance the sense of community ownership for many individuals.

Social media platforms have transformed public engagement during disasters, fostering a more collaborative and participatory approach to crisis management: The responses included 3% strongly disagree, 13% disagree, 27% neutral, 15% agree, and 1% strongly agree, with a mean score of

2.966 and a standard deviation of 0.870. The data shows a balanced view with a slight lean towards disagreement (16%), indicating mixed feelings about the transformative impact of social media on public engagement.

Public willingness to share personal experiences and updates on social media platforms increases during disasters: The data showed 1% strongly disagree, 16% disagree, 30% neutral, 7% agree, and 5%
strongly agree, with a mean score of 2.983 and a standard deviation of 0.900. A notable percentage (17%) disagreed or strongly disagreed, indicating a moderate reluctance to share personal experiences during disasters.

Social media platforms encourage individuals to actively participate in discussions and share information during disasters (repeated Statement): The responses included 2% strongly disagree, 12% disagree, 32% neutral, 9% agree, and 4% strongly agree, with a mean score of 3.017 and a standard deviation of 0.881. A moderate portion (14%) disagreed or strongly disagreed, indicating that many individuals still feel a lack of encouragement from social media to participate actively.

Table 4 Social media coordination among disaster response Agencies

NO	Statements	SDA	DA	N	A	SA	M	SD	Interpretation
1	Disaster response agencies actively use social media platforms for coordination and communication during disaster response efforts.	1b	32	15	7	4	2.6780	.95485	Neutral
2	Social media platforms effectively facilitate coordination among different disaster response agencies during disaster response.	1	31	12	13	2	2.729	0.9438	Neutral
3	Social media platforms enhance situational awareness for disaster response agencies during response operations.	2	21	21	10	5	2.915	10050	Neutral
4	Social media platforms improve communication and coordination between disaster response agencies and affected communities.	3	29	17	5	5	2.661	1.0105	Neutral

5	Social media platforms help in maintaining consistent and updated communication channels among disaster response agencies.	2	12	34	7	4	2.983	0.8609	Neutral
6	Social media platforms provide an inclusive platform for engagement and collaboration among diverse stakeholders involved in disaster response.	1	19	28	7	4	2.898	0.885	Neutral
7	Disaster response agencies find social media platforms useful for sharing real-time information during disaster response	1	31	16	7	4	2.695	0.951	Neutral
8	Disaster response agencies believe that social media platforms have improved their overall response effectiveness.	1	13	19	20	6	3.288	0.983	Neutral
	Aggregate score						2.5211		

Interpretations

Disaster response agencies actively use social media platforms for coordination and communication during disaster response efforts, Responses1% strongly disagree, 32% disagree, 13% neutral, 7% agree, 4% strongly agree with an Mean score: 2.610
Standard deviation: 1.0003
33% of respondents disagreed or strongly disagreed, indicating that many respondents perceive a lack of active use of social media for coordination by disaster response agencies.

Social media platforms effectively facilitate coordination among different disaster response agencies during disaster Responses: 1% strongly disagree, 31% disagree, 12% neutral, 13% agree, 2% strongly agree. Mean score: 2.729Standard deviation: 0.9438 32% of respondents disagreed or strongly disagreed, indicating mixed perceptions about the effectiveness of social

media in facilitating inter-agency coordination. Social media platforms enhance situational awareness for disaster response agencies during response operations Responses 2% strongly disagree, 21% disagree, 21% neutral, 10% agree, 5% strongly agree, Mean score and 2.915Standard deviation: 1.0050
23% of respondents disagreed or strongly disagreed, while 15% agreed or strongly agreed, indicating some skepticism about social media's role in enhancing situational awareness.

Social media platforms improve communication and coordination between disaster response agencies and affected communities Responses 3% strongly disagree, 29% disagree, 17% neutral, 5% agree, 5% strongly agree with Mean score: 2.661 and Standard deviation: 1.0105
32% of respondents disagreed or strongly disagreed, suggesting that many respondents do not believe social media significantly improves communication and coordination with affected communities.

Social media platforms help in maintaining consistent and updated communication channels among disaster response agencies Responses: 2% strongly disagree, 12% disagree, 34% neutral, 7% agree, 4% strongly agree, with an Mean score: 2.983 and Standard deviation: 0.8609 14% of respondents disagreed or strongly disagreed, while 11% agreed or strongly agreed, indicating a balanced view on the role of social media in maintaining communication channels, though neutrality is high at 34%.

Social media platforms provide an inclusive platform for engagement and collaboration among diverse stakeholders involved in disaster response.

Responses1% strongly disagree, 19% disagree, 28% neutral, 7% agree, 4% strongly agree. With Mean score: and 2.898 Standard deviation: 0.885 20% of respondents disagreed or strongly disagreed, indicating a minority view that social media platforms are not inclusive enough for stakeholder engagement and collaboration, while 11% agreed or strongly agreed.

Disaster response agencies find social media platforms useful for sharing real-time information during disaster response:

Responses: 1% strongly disagree, 31% disagree, 16% neutral, 7% agree, 4% strongly agree. With Mean score. And 2.695 Standard deviation: 0.951 32% of respondents disagreed or strongly disagreed, showing a significant level of disagreement about the usefulness of social media for sharing real-time information.

Disaster response agencies find social media platforms useful for sharing real-time information during disaster response 1% strongly disagree, 31% disagree, 16% neutral, 7% agree, 4% strongly agree with an Mean score although Standard deviation: 0.951

32% of respondents disagreed or strongly disagreed, showing a significant level of disagreement about the usefulness of social media for sharing real-time information.

Recommendations

1. Enhance Training for Social Media Use in Governmental Organizations Governmental organizations should provide comprehensive training to staff on effectively using social media for emergency communication. This includes creating engaging content, timely updates, and using social media analytics to gauge public response and adjust strategies accordingly.

2 Develop a Centralized Social Media Strategy for NGOs: NGOs should collaborate to develop a unified social media strategy that ensures consistent and effective communication. This includes sharing best practices, coordinating messages during emergencies, and leveraging each organization's strengths to maximize impact. Increase Transparency and Reliability of Information Both governmental and nongovernmental organizations should prioritize transparency and accuracy in the information they disseminate on social media. Regular updates and clear, factual information can build trust and ensure that social media is seen as a reliable source during disasters.

3.Promote Active Public Engagement and Feedback Mechanisms Encourage the public to participate in discussions and provide feedback on social media platforms. This can be achieved through interactive posts, live Q&A sessions, and dedicated channels for receiving public input, which can help improve disaster response and recovery efforts.

4. Foster Community Ownership through Social Media Campaigns Develop social media campaigns that emphasize community involvement in disaster preparedness and response. Highlighting local success stories and encouraging community-driven initiatives can enhance the sense of ownership and responsibility among the public.

Implement Real-Time Monitoring and Response Systems Explanation: Establish systems for real-time monitoring of social media

platforms to quickly identify and respond to emerging issues during disasters. This can help improve situational awareness and ensure timely dissemination of critical information.

5. Enhance Coordination among Disaster Response Agencies: Use social media platforms to facilitate better coordination among different disaster response agencies. Regular updates, shared communication channels, and collaborative efforts on social media can streamline operations and improve overall response effectiveness.

Utilize Social Media Analytics for Better Decision-Making: Leverage social media analytics to understand public sentiment, identify key issues, and measure the effectiveness of communication strategies. This data-driven approach can help organizations make informed decisions and improve their communication efforts.

Encourage Personal Preparedness Through Social Media Campaigns: Launch campaigns that motivate individuals to take personal preparedness actions, such as creating emergency kits and evacuation plans. Provide practical tips and resources through engaging social media content to encourage proactive measures.

Recommendation for further research

Longitudinal Studies: Conduct longitudinal studies to track the evolution of social media usage and its impact on disaster response efforts over time in Somaliland. Longterm observations could provide insights into trends, changes, and improvements in social media utilization for disaster management.

Comparative Studies: Compare the effectiveness of social media utilization for disaster response efforts across different regions or countries with similar socioeconomic contexts to identify best practices, challenges, and lessons learned that can be applied in Somaliland.

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