TOPIC:

ANALYZING THE ROLE OF SOCIAL MEDIA IN HEALTH CRISIS COMMUNICATION (TWITTER & FACEBOOK)

BY:

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DECLARATION BY STUDENT

I hereby declare that this research is a result of my/our own original research and that, no part of it has been presented for another degree in this university or any other higher education institute. I further declare that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

Helen Chaettle Nyande **MADC23048** **…….** **January 23, 2025**

DECLARATION BY SUPERVISOR

This Project Work has been prepared and presented under my supervision according to the guidelines for supervision and formatting of Project Work laid down by the Institute of Journalism under the University of Media, Arts and Communication (UniMAC-IJ)

Dr James Asante	**…Signed…**	**..January 23, 2025..**
Supervisor	**Signature**	**Date**

Dedication

This dissertation is dedicated to my wonderful family; my father, Mr. Moses Rockson Nyande Chaettle, my mother, Mrs. Lydia Nyande, and my siblings.

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Abstract

The study evaluated the role of social media in enhancing public health awareness, combating misinformation, and identifying key challenges and opportunities in health communication during global health emergencies. Three basic objectives were considered. Using the qualitative research design, the study interviewed officers in the Public Relations Department and Medical Doctors from Ghana Health Service. Data collected was also thematically analyzed and a discussion thoroughly done in line with literature. Findings showed that Ghana Health Service uses the two social media platforms to effectively engage its clients and the general public during health crises. It was also revealed that Twitter and Facebook enable real-time updates, allowing health authorities to share critical information quickly. It also came to light that social media has two sides: it can spread misleading information, but it also offers resources to combat it. The study concluded that social media platforms like Twitter and Facebook play a crucial role in health crisis communication in Ghana by offering unparalleled opportunities for rapid information dissemination, public engagement, and combating misinformation. However, challenges such as the digital divide, language barriers, and misinformation spread must be addressed to maximize their potential. The study recommended that to maximize the potential of social media in health crisis communication, strategic interventions are essential. These include improving digital infrastructure, investing in multilingual content creation, and fostering collaborations between health authorities and community influencers. Additionally, robust misinformation management frameworks and continuous public education can enhance the platforms' effectiveness.

Contents

CHAPTER ONE

1.0 INTRODUCTION

Social media platforms have profoundly transformed how information is shared and consumed during health crises, making them essential tools for public health communication. These platforms enable rapid, wide-reaching dissemination of information, allowing health authorities to engage with the public in real-time. By leveraging platforms like Twitter, Facebook, and Instagram, health organizations can quickly share updates, provide guidance, and address public concerns, fostering greater awareness and understanding during emergencies.

However, the transformative power of social media is not without challenges. The same mechanisms that enable swift communication also to facilitate the spread of misinformation. During global health emergencies, such as the COVID-19 pandemic, false or misleading information can proliferate rapidly, undermining public trust and potentially exacerbating the crisis. Addressing this issue requires a robust strategy that involves monitoring content, debunking myths, and promoting credible sources.

This analysis explores the evolving role of social media in public health communication, focusing on its dual potential to both aid and complicate crisis response efforts. It examines how these platforms enhance public awareness by providing real-time updates and engaging directly with diverse audiences. Furthermore, the study highlights their role in combating misinformation through fact-checking initiatives, partnerships with health organizations, and algorithmic interventions designed to prioritize reliable content.

Despite their advantages, social media platforms face limitations. They often struggle to balance free expression with the need to curb harmful misinformation. Additionally, the digital

divide means not all populations have equal access to these resources, potentially leaving vulnerable groups underinformed.

Ultimately, this study seeks to uncover the opportunities and constraints of using social media for effective health crisis communication. By understanding its impact, public health authorities can better harness these platforms to build trust, disseminate accurate information, and navigate the complexities of modern health crises.

1.1 Background

In recent years, social media platforms have emerged as pivotal tools for communication during health crises, reshaping the landscape of public health information dissemination. This analysis focuses on the role of various social media platforms in health crisis communication, with examples on health crises like COVID-19, Ebola and HINI pandemics. As noted by Tufekci (2017), social media platforms are not merely channels for information but also arenas where public discourse and health-related misinformation proliferate. The COVID-19 pandemic highlighted both the potential and the pitfalls of these platforms in crisis management (Gonzalez et al., 2021).

A health crisis means any crisis or serious incident arising from a threat of human, animal, plant, food, or environmental origin, having a health dimension and which requires urgent action by authorities (Law Insider, 2023).

Social media platforms like Twitter, Facebook, and Instagram have transformed into how information is disseminated, allowing for rapid, wide- communication. The wide variety of social media platforms available today have an impact on how individuals produce, find, and share health knowledge. On social media, people from different cultures and backgrounds freely exchange any kind of information, including anything related to health. Customers research symptoms and conditions of illnesses online, speak with medical professionals in real

time, learn how to administer medication, and fill out online personal health assessment questionnaires for a range of benign to malignant health disorders. (Finney Rutten et al., 2019; Zhang et al., 2019). Social media has played a critical role in facilitating direct communication between health authorities and the public. This two-way communication model enables health organizations to address public concerns promptly and adjust their messaging strategies based on public feedback. For instance, a survey conducted by the Ghana Statistical Service (GSS) in collaboration with the United Nations Development Program (UNDP) and the World Health Organization (WHO), found that about 79% of Ghanaians followed news about the COVID-19 outbreak on social media platforms during the pandemic. This high percentage underscores the critical role of social media in disseminating information and shaping public understanding during the health crisis (GSS, UNDP & WHO, 2020). Like other information shared on social media, health information is disseminated through a variety of channels and sources, such as generalist information platforms, laypeople, healthcare experts, and organizations. (Şahin et al., 2019). For example, numerous American research indicates that adults are using social media more and more to communicate about their health. (Tennant et al., 2015). Social media has emerged as one of the most widely used platforms for young people to obtain health information in the United Kingdom. (Fergie et al., 2016a, 2016b). Healthcare organizations such as hospitals, clinics, disease centers, and other regulatory authorities use social media for health communication. Medical facilities such as clinics, hospitals, disease centers, and other regulatory authorities also use social media for health communication. (Moorhead et al., 2013). Social media users have generated a significant volume of publicly accessible communications that reflect their perspectives, knowledge, worries, and thoughts around the pandemic. For instance, Twitter is widely regarded as a helpful tool for research, with millions of tweets published every day. Scientists have used tweets to study a wide range of related topics, such as tracking the spread of diseases, forecasting election outcomes, and making sports predictions

(O'Leary, 2015). During the COVID-19 pandemic, a significant number of people increasingly turned to Twitter as a key platform for sharing and accessing real-time information about the virus. Twitter's fast-paced nature allowed users to not only post updates, personal experiences, and opinions about the pandemic but also retrieve critical data, such as news from health authorities, scientific research, and preventive measures. The platform's interactive features, including hashtags, retweets, and the ability to follow public health organizations, made it an essential tool for individuals seeking timely and accurate information in an evolving crisis. (Chua, Storey, Li, & Kaul, 2019). A sizable database of COVID-19-related tweets was assembled and made available to researchers as further evidence of the usefulness of Twitter data. This provided ample opportunity for further research. Additional studies have also examined problems with consumers' perceptions of COVID-19 using data from Twitter (Banda et al.). Following recent pandemics like COVID-19 (Chan et al., 2020), the Centers for Disease Control and Prevention, National Health Organizations, and the World Health Organization have all exploited social media platforms as timely information dissemination sources. (Househ, 2016).

One of the most notable advantages of social media in health crisis communication is its ability to quickly disseminate information to a vast audience within a split second. During the COVID-19 pandemic, social media platforms became crucial channels for public health organizations to share timely updates and guidelines. According to a study by Ahmad and Murad (2020), social media platforms were instrumental in raising public awareness about the pandemic, influencing people’s behavior, and disseminating accurate health information. The World Health Organization (WHO) utilized platforms like Twitter and Facebook to share real-time updates, which helped to counter misinformation and provide the public with reliable health advice (World Health Organization, 2020).

However, the use of social media in health crisis communication is not without challenges. The rapid spread of misinformation and fake news on these platforms can undermine public health efforts. According to a report by the Center for Countering Digital Hate (2021), misinformation about COVID-19 vaccines spread widely on social media, contributing to vaccine hesitancy and posing a significant challenge for public health officials (Center for Countering Digital Hate, 2021). This highlights the need for effective strategies to combat misinformation and ensure that accurate information prevails. Although many more public agencies are using social media, they still need to develop better ways to share information during a crisis and put best practices for social media communication into action. (Eriksson, 2018).

The potential of social media to amplify voices from diverse communities also brings both opportunities and challenges. On one hand, it provides a platform for marginalized groups to share their experiences and needs, fostering inclusivity in health communication. On the other hand, it can also become a breeding ground for echo chambers, where misinformation is reinforced within certain communities. A study by Cinelli et al. (2020) demonstrated that misinformation spreads differently across various social media platforms, emphasizing the complexity of managing health communication in the digital age (Cinelli et al., 2020).

1.3 Role of X (Twitter) and Facebook

Twitter played a significant role in disseminating information during the COVID-19 pandemic in Ghana, establishing itself as a critical platform for public health communication. The platform became an essential tool for the Ghana Health Service and the Ministry of Information, allowing them to share timely updates on various aspects of the pandemic, including case numbers, vaccination campaigns, and preventive measures. By leveraging Twitter, these organizations could communicate government directives and safety guidelines directly to the public in real time. This approach helped to reach a broad audience quickly and

effectively, contributing to increased public awareness and adherence to the measures designed to mitigate the spread of COVID-19.

One of the key advantages of Twitter was its ability to facilitate rapid information dissemination while simultaneously addressing misinformation. The platform allowed health professionals, government officials, and influencers to engage directly with the public, providing immediate answers to questions and clarifying doubts. This real-time interaction proved crucial in managing public responses to the pandemic, as it helped alleviate anxiety, combat misconceptions, and promote accurate understanding of the virus and its transmission. According to Asamoah et al. (2021), the ability to engage with the public in a timely manner was vital for promoting trust and compliance with health guidelines.

Moreover, studies have emphasized the unique role of Twitter's interactive nature in fostering dynamic communication, which proved essential during the fast-evolving situation of the pandemic. Ofori et al. (2022) highlighted that the platform allowed for continuous adaptation of messages based on emerging concerns and developments. Unlike traditional one-way communication channels, Twitter enabled a two-way dialogue between health authorities and the public. This flexibility allowed messages to be tailored to address specific concerns as they arose, whether it involved new variants of the virus or updates to vaccination protocols. Additionally, the ability to engage directly with users provided an opportunity to correct false information quickly, minimizing the spread of harmful myths or rumors.

The active participation of influencers and key figures in the health sector also played a pivotal role in leveraging Twitter’s capacity to disseminate health-related information. These individuals often had substantial followings and were able to amplify messages on preventive measures, vaccination campaigns, and the importance of public health guidelines. As trusted

voices, they helped bridge the gap between official health authorities and the public, enhancing the credibility of the information shared.

Twitter's role in health communication also extended to fostering a sense of community and shared responsibility. The platform's hashtag feature allowed users to contribute to ongoing discussions, track health-related trends, and support one another. By using hashtags to spread accurate information, users not only participated in health communication but also helped to create an environment where collaboration and solidarity were central to overcoming the challenges posed by the pandemic. This user-driven aspect of Twitter added an additional layer of interactivity, encouraging collective action and engagement in public health efforts.

In this context, Twitter's rapid dissemination of official health guidelines, real-time interaction with the public, and the involvement of influential figures in health communication all contributed to its critical role in managing the COVID-19 crisis in Ghana. By combining speed, accessibility, and interactive features, Twitter proved to be an invaluable tool in the fight against the pandemic, helping to educate, inform, and engage the public while combating the spread of misinformation.

1.4 Role of Facebook

The COVID-19 pandemic brought to light the unique advantages of social media as a means of fostering social contact and disseminating both true and false information regarding the disease, including symptoms, patterns of transmission, and treatment options. Facebook is being utilized extensively for information sharing during the COVID-19 pandemic, but little is known about how and why people share information on the platform during the crisis (Malik, Mahmood, & Islam, 2023). Facebook plays a vital role in health crisis communication by enabling health providers and agencies to share timely updates, engage with users, and address misinformation. It allows for direct communication through posts, live streams, and stories,

keeping the public informed. Health organizations use Facebook to engage with users by responding to comments and clarifying health guidelines, while also leveraging targeted campaigns to reach specific demographics, such as vulnerable groups during crises. Facebook groups provide communities for users to seek support and health advice, often with the participation of health professionals. Additionally, There are Facebook AI tools such as Meta AI, Facebook Prophet, DeepFace, and Rosetta that monitor conversations, helping agencies identify emerging health trends, and its misinformation flagging system ensures users receive accurate information, which is crucial during crises like the COVID-19 pandemic. This combination of real-time updates, targeted outreach, and AI support strengthens the communication link between health providers, agencies, and users during health emergencies. Although academic research generally indicates that timely replies should be made during health crisis, (Coombs, 2014; Jin et al), Unfortunately, there is a dearth of research and uncertainty around the appropriate or expected timeliness of crisis response. However, Crisis management specialist, Jim Lukaszewski stated that while there is no specific protocol for responding to a crisis, he felt that the first hour or two, or the "golden hours," are usually crucial in dealing with crisis management. (personal communication, April 28, 2015).

By examining the dynamics social media roles during this global health emergencies, this study aims to explores the multifaceted role of social media and shed light on the effectiveness and challenges of using social media, particularly Twitter and Facebook for real-time health communication and public engagement.

1.5 Problem Statement

Social media platforms like Twitter and Facebook have become central tools for health communication, particularly during global emergencies like the COVID-19 pandemic. These platforms allow health organizations, governments, and the general public to share information quickly and widely. However, their utility in disseminating public health messages comes with challenges, including amplifying misinformation. Understanding this dual role is crucial for evaluating their effectiveness in health crisis communication and identifying ways to maximize their benefits while mitigating risks.

Social media platforms have revolutionized how public health information is disseminated. Organizations like the World Health Organization (WHO), GHS, and the Centers for Disease Control and Prevention (CDC) have leveraged platforms such as Twitter and Facebook to provide real-time updates, guidelines, and preventive measures during health crises. For example, during the COVID-19 pandemic, Twitter was used extensively to promote hashtags like #StayHome and #WearAMask, which helped convey critical public health messages to millions globally (Ahmad & Murad, 2020).

In Ghana, Facebook and WhatsApp were pivotal in spreading information about vaccination campaigns and dispelling myths about COVID-19. These platforms allowed for a two-way exchange of information, enabling health organizations to engage directly with users, address concerns, and adapt messages to local contexts. Research shows such interactions can significantly enhance public understanding of health risks and preventive behaviors (Moorhead et al., 2013).

While social media excels in delivering rapid updates, it also serves as a breeding ground for misinformation. During the COVID-19 pandemic, false claims about treatments, vaccine

efficacy, and conspiracy theories proliferated on platforms like Facebook and Twitter (Cinelli et al., 2020). The algorithms that drive content visibility often prioritize sensational or controversial posts, inadvertently amplifying misinformation.

Efforts to combat misinformation have included partnerships between social media companies and public health organizations. For instance, Twitter added warning labels and fact-checking mechanisms to COVID-19-related tweets, and Facebook established an information hub to direct users to verified sources like the WHO. However, these measures often fall short due to the sheer volume of content and the rapid pace at which misinformation spreads. A study by the Center for Countering Digital Hate (2021) found that 12 individuals were responsible for the majority of anti-vaccine content on social media, yet platforms struggled to effectively curb their reach.

In Ghana, the challenge is compounded by lower levels of digital literacy and the prevalence of private messaging apps like WhatsApp, where misinformation can spread unchecked in closed groups. The lack of robust regulatory frameworks further complicates efforts to manage false information on these platforms.

Despite these challenges, social media offers significant opportunities for enhancing health crisis communication. Its ability to reach diverse audiences quickly makes it an invaluable tool for emergency response. Features like live streaming, targeted advertising, and localized content allow organizations to tailor messages to specific communities.

For example, during Ghana's Ebola preparedness campaign, social media platforms were used to educate the public about symptoms, prevention, and the importance of early reporting. This approach not only raised awareness but also fostered community involvement, as users were encouraged to share verified information within their networks. Such strategies demonstrate

the potential of social media to build trust and encourage collective action in health crises (Eriksson, 2018).

Moreover, the rise of social media influencers offers another avenue for public health communication. Influencers with large followings can amplify health messages, making them more relatable and accessible to younger audiences. Collaboration with credible influencers has been shown to increase message reach and impact, particularly when addressing misinformation.

1.6 Research Objectives

The study aimed to evaluate the roles of social media in enhancing public health awareness, combatting misinformation, and identifying key challenges and opportunities in health communication during global health emergencies. Specifically, this study targeted the following objectives:

1. Assess the effectiveness of Twitter and Facebook on public health awareness.
2. Evaluate the role of Twitter and Facebook in combatting misinformation.
3. Identify key challenges and opportunities in using Twitter and Facebook for health communication.

1.7 Research Questions

1. How effectively is social media increasing public awareness about health crises?
2. To what extent does social media contribute to identifying, addressing, and reducing the spread of misinformation in Ghana?
3. What are the key challenges and opportunities associated with using social for health crisis communication in Ghana?

4. How can these challenges be addressed to improve the accuracy and effectiveness of social media communication during future pandemics?

1.8 Significance of study

The significance of this study lies in its critical examination of the role of social media platforms like Twitter and Facebook in public health communication, particularly during health crises. In the era of digital communication, these platforms have become essential tools for reaching large audiences quickly and efficiently. The study assesses the effectiveness of social media in enhancing public health awareness, mitigating misinformation, and addressing communication challenges during health emergencies. By providing a comprehensive analysis of how these platforms were utilized during the COVID-19 pandemic, the research contributes to a deeper understanding of the opportunities and limitations of these digital tools in crisis management.

Drawing on examples from global health emergencies, such as COVID-19, the research highlights the potential of social media to shape public engagement and influence health behaviours. These platforms enabled health authorities, governments, and organizations to disseminate timely and accurate information to the public, reaching individuals in both urban and rural areas. However, the study also underscores the challenges these platforms face, such as the rapid spread of misinformation, the digital divide, and cultural barriers that affect the

effectiveness of health messages. These insights are crucial for understanding how social media can be leveraged to maximize its positive impact during health crises while minimizing its potential harms.

Furthermore, the findings of the study have practical implications for policymakers, health organizations, and communication professionals in Ghana and beyond. They provide a framework for improving health crisis communication strategies, ensuring more effective information dissemination, and fostering public trust in health authorities. By exploring the strengths and weaknesses of social media in managing health crises, the study offers valuable lessons that can inform future efforts to enhance global health preparedness. Ultimately, the research highlights the importance of integrating social media into comprehensive health communication strategies to ensure that societies are better equipped to respond to future public health challenges.

1.9 Scope of study

This research focuses on analyzing the role of social media, specifically Twitter and Facebook, in health crisis communication in Ghana. It examines how these platforms are utilized to disseminate public health information, address misinformation, and engage with the public during health crises such as the COVID-19 pandemic. The study aims to explore both the opportunities and challenges these platforms present in managing health communication effectively. As the world increasingly turns to digital platforms for information, understanding the nuances of these tools in crisis situations becomes critical for public health professionals.

The scope includes assessing the effectiveness of Twitter and Facebook in promoting public health awareness, examining case studies or examples from recent health crises in Ghana, and evaluating the strategies employed by government agencies, health organizations, and individuals to leverage social media for health-related messaging. The study also investigates

the prevalence and impact of misinformation on these platforms and how it influences public behaviour, trust in health communication, and the overall success of public health campaigns. By analyzing the strategies used to combat misinformation, the research highlights the importance of accurate, timely communication in safeguarding public health.

Geographically, the research is limited to Ghana, focusing on urban and rural populations to provide a comprehensive understanding of how different groups use and respond to health messages on social media. The study will assess how accessibility to technology, internet connectivity, and the digital literacy of various demographics influence their engagement with health information on social media. It covers a specific timeframe, such as the period during the COVID-19 pandemic, to ensure relevance and depth of analysis. By focusing on this period, the study can offer insights into the unique challenges posed by a global health crisis and the role social media played in addressing those challenges.

The study excludes other social media platforms like Instagram or LinkedIn and traditional communication channels such as radio or television, narrowing its focus to Twitter and Facebook due to their widespread usage in Ghana for real-time updates and interactive engagement. The research specifically looks at how these platforms contribute to both public health education and misinformation control. Additionally, it does not delve into technical aspects like platform algorithms but instead emphasizes user interaction, content dissemination, and its societal impact. By focusing on these aspects, the study aims to generate meaningful insights on how social media can be optimized for effective health crisis communication.

1.7 Organization of Study

The study is organized into five chapters.

The first chapter discusses the growing importance of social media in public health communication, especially during health crises like the COVID-19 pandemic. It further introduces the Ghana Health Service (GHS) as the key institution involved in the management of public health crises in Ghana. And finally, it emphasizes the relevance of social media in enhancing the effectiveness of crisis communication and public engagement during emergencies.

Chapter two reviews existing studies on the role of social media during health crises (Crawford et al., 2018; Williams et al., 2020). Discusses how platforms like Facebook, Twitter, and Instagram have been used for public health communication globally. Exploration of theories such as the Situational Crisis Communication Theory (Coombs, 2015) and the Social Media Engagement Theory (Haenlein et al., 2020). Discusses how these theories can be applied to social media communication during health crises. The chapter also reviews studies on crisis communication by health institutions (Harris, 2017; Mitchell et al., 2016) that analyze social media's role in informing and influencing the public during past health emergencies. Specific discussion on the role of social media in Ghana, focusing on governmental agencies and health institutions like the Ghana Health Service (Asamoah et al., 2021). The challenges and opportunities faced by the GHS in using social media for crisis communication.

Chapter three outlines the rationale behind choosing qualitative methods, specifically interviews and content analysis, to gather in-depth insights into the GHS's social media strategies during the COVID-19 pandemic.

The chapter focuses on the staff of the Public Relations department of the GHS, as they are central to the management of social media during health crises.

A purposive sampling, along with snowball sampling, was used to select participants with firsthand experience in social media crisis communication, ensuring that the data collected is relevant and rich in detail.

Primary data were collected through semi-structured interviews, focusing on key aspects of social media usage, effectiveness, and engagement during health crises.

Secondary data from social media posts and publications by the GHS were also analyzed to supplement primary data and provide a broader context.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

Chapter Two offers a detailed review of the literature, laying the groundwork for understanding the role of social media in health crisis communication. This chapter is organized into three distinct sections, each providing essential insights into the study's conceptual, theoretical, and empirical underpinnings.

The Conceptual Framework defines the core concepts and constructs central to the research. It clarifies how key terms such as "health crisis communication," "social media platforms," and "information dissemination" are understood and contextualized within the scope of the study. This framework establishes a shared understanding for interpreting the interactions between social media and health communication strategies.

The Theoretical Framework discusses the theories guiding the research approach, such as the Diffusion of Innovations Theory and the Uses and Gratifications Theory. These theories illuminate how individuals adopt and use social media during health crises, providing insight into audience behavior and engagement patterns. This section emphasizes the relevance of these theoretical perspectives in evaluating the effectiveness and limitations of social media as a communication tool.

The Empirical Review examines findings from related studies, highlighting how platforms like Facebook and X have been utilized in past health crises. This section explores both the successes and challenges observed in leveraging these tools, including the spread of misinformation and the role of algorithm-driven content prioritization.

Collectively, these sections form a robust foundation for analyzing the research problem, particularly within the Ghanaian context.

2.1 Conceptual Framework

This framework centers on understanding the dynamic interplay between digital platforms, health information dissemination, and public behavior during emergencies. In this framework, social media is positioned as a powerful tool that enables the rapid sharing of critical health information, reaching wide and diverse audiences during health crises, such as disease outbreaks or pandemics.

At the core of this framework is **health crisis communication**, which involves the processes through which information is shared by public health organizations, governments, and other stakeholders to inform and protect populations during a health emergency. Social media platforms like Twitter and Facebook are conceptualized as channels that facilitate this communication by providing real-time updates, engaging directly with the public, and allowing for the widespread distribution of health messages. These platforms enhance the ability of health authorities to respond quickly to emerging threats, share information about preventive measures, and debunk myths.

A critical concept of this communication process is information dissemination. Social media enables quick and efficient communication, making it possible for messages to reach large audiences in real time. According to research by Merchant and Lurie (2020), platforms like Twitter and Facebook allow for the rapid spread of important health messages, such as vaccination campaigns or safety guidelines. Social media's viral nature, facilitated by retweets, shares, and hashtags, amplifies the reach of public health messages, sometimes across geographical boundaries, and engages users who might not have access to traditional media sources (Guidry et al., 2017).

However, this rapid dissemination of information also introduces challenges, particularly spreading **misinformation**. False or misleading information can spread just as quickly as accurate health messages, which undermines the effectiveness of health crisis communication efforts. During the Ebola outbreak, for instance, researchers found that social media platforms played a role in spreading both useful public health advice and harmful rumors (Fung et al., 2016). The study thus examines how misinformation is managed and how health authorities can leverage social media tools to ensure the accuracy of the information being shared.

In addition to those mentioned above, the framework incorporates the concept of **public engagement**. Social media platforms provide an interactive space where the public can engage with health organizations, ask questions, share their experiences, and access personalized health advice. This two-way communication is crucial for effective health crisis communication, as it allows for immediate feedback and interaction, creating a dialogue between health authorities and the public. As Lovejoy and Saxton (2012) noted, social media platforms facilitate this dialogue by providing users with a space for conversation and engagement with health messages.

Another important concept is the role of **digital literacy and trust.** The effectiveness of social media communication during health crises is partly determined by the audience's ability to critically evaluate the information being shared. Individuals with higher digital literacy are better equipped to distinguish between reliable health advice and misinformation, which is particularly important during crises where accurate information is crucial (Neiger et al., 2013). Additionally, public trust in the source of information plays a significant role in the acceptance and dissemination of health messages. Trust in health authorities, as well as in the social media platforms themselves, influences how individuals respond to health messages shared online. According to Park et al. (2016), trust in the source of information is one of the key factors that determines whether a health message will be accepted or rejected by the public.

2.2 Theoretical Framework

This study was based on the Diffusion of Innovations (DOI) Theory, developed by Rogers which provides a framework for understanding how new ideas and practices spread through a population. This theory helps analyze the adoption of health messages on X during the COVID-19 pandemic and how different segments of the Ghanaian population engaged with this information (Rogers, 2003). The theory identifies factors that influence the adoption of innovations, such as relative advantage, compatibility, complexity, trialability, and observability. The DOI theory can be applied to understand how X facilitated the spread of both accurate information and misinformation during the COVID-19 pandemic. The study can analyze how public health messages were adopted by different segments of the Ghanaian population and the role of X in accelerating or hindering the diffusion of these innovations in health communication

The DOI theory provides a useful lens for understanding the complexities of how health-related innovations, such as vaccination campaigns, health guidelines, and public health strategies, were disseminated on social media platforms like X. The theory posits that the spread of innovations is often influenced by the perceived benefits that individuals see in adopting the new practices. In the context of health communication during the pandemic, users on X evaluated the relative advantage of accepting health advice from credible sources, such as the World Health Organization or the Ghana Health Service, over potentially unreliable sources. The level of compatibility with existing values and practices, such as attitudes toward public health interventions, also played a crucial role in determining how widely health messages were accepted and shared.

Moreover, the complexity of health messages was another factor that influenced their adoption. The DOI theory suggests that simpler messages are more likely to be adopted quickly than complex ones. During the pandemic, clear, concise, and easily understandable health messages about prevention methods, such as wearing masks or practicing social distancing, were more likely to gain traction on X. On the other hand, more complex health messages or those that required a deeper understanding of medical terms often faced challenges in being broadly adopted, particularly among less literate or digitally unengaged populations.

The trialability aspect of the theory suggests that the easier it is to test out an innovation on a small scale, the more likely it is to be adopted. In the case of health communication on X, this could be seen in the way individuals and communities initially tested health messages by sharing their experiences with prevention measures or discussing health-related topics in online forums or groups. Additionally, the observability of the results played an important role in encouraging further adoption. For instance, seeing the positive impact of COVID-19 prevention strategies, such as a reduction in infection rates in Ghana after mass vaccination campaigns, could influence others to adopt similar behaviors. This observation aligns with research showing that social influence and peer behaviors are crucial drivers in the adoption of health innovations (Valente, 1996; Valente & Pumpuang, 2007).

In addition to examining the diffusion of health innovations, the study can also explore how misinformation, often amplified by social media platforms like X, interfered with the diffusion of accurate health messages. The rapid spread of false information, especially regarding vaccine safety, virus transmission, and government interventions, created significant challenges in the health communication landscape during the pandemic. These challenges were exacerbated by the wide reach of social media, where misinformation could spread quickly and be reinforced through echo chambers or biased communities (Pennycook & Rand, 2018). This

study can use the DOI framework to analyze how misinformation spread and how it hindered the adoption of effective public health practices by the Ghanaian population.

2.3 Empirical Review/Review of Related Studies

2.3.1 Effectiveness of X and Facebook on Public Health Awareness

Social media platforms such as Facebook and **X** have emerged as critical tools for disseminating public health information. They enable academics, policymakers, and health authorities to communicate swiftly and effectively with diverse audiences, spanning geographical, cultural, and socioeconomic boundaries. These platforms provide a unique opportunity to raise awareness, share timely updates, and engage with the public in real-time, making them indispensable during health crises.

The ability to tailor messages to specific audiences enhances their impact, as health authorities can use data-driven insights to address varying concerns and preferences. Additionally, the interactive nature of social media fosters dialogue, allowing users to ask questions, seek clarification, and participate in health campaigns.

However, the widespread influence of these platforms also presents challenges. Misinformation can spread rapidly, undermining public trust and complicating health initiatives. Moreover, disparities in access and digital literacy may limit the reach of these efforts, requiring innovative strategies to bridge such gaps

2.3.2 Wide Coverage of the Audience

The ability to reach a large audience is one of the biggest benefits of social media, especially Facebook and X. Facebook's longer-form posts and community-building features, along with X's quick-paced, succinct structure, provide complimentary advantages in public health communication. X is a great tool for sharing timely information, especially during outbreaks or health emergencies. According to research by Glowacki et al. (2016), which examined the information flow during the 2014 Ebola outbreak, X made it easier for both true and false health information to disseminate quickly. The study emphasized how crucial reliable sources are in guiding public discussions regarding health-related topics. Also, Facebook's community features, multimedia capabilities, and longer post style, on the other hand, enable deeper involvement. According to research like that done by Moorhead et al. (2013), Facebook promotes longer lasting and more engaged conversations, which may help with long-term

2.3.3 Health education and campaign

Both Facebook and X have been used in numerous public health efforts, with differing degrees of success. To raise awareness about heart health and lifestyle modifications, the American Heart Association's "Healthy for Good" campaign used X. According to research, retweets and hashtags are crucial for spreading health messages (Guidry et al., 2017). Higher rates of engagement and message penetration are also seen in campaigns that involve influencers or deal with popular subjects.

Facebook on the other hand is a better medium for sharing personal tales, fostering supporting communities, and publicizing activities like vaccination drives. According to research by Neiger et al. (2012), Facebook health advertisements that enabled user interaction—likes, shares, and comments—were more successful in encouraging healthy habits, particularly those related to quitting smoking and raising awareness of mental health issues.

In addition, social media sites like Facebook and X are essential communication tools during medical emergencies. For example, public health professionals used X extensively during the Zika virus outbreak to dispel myths, offer prevention strategies, and inform the public about case counts (Prier et al., 2018). Like this, both channels played a crucial role in spreading information on vaccine rollouts, mask use, and social distancing guidelines during the COVID-19 pandemic (Merchant & Lurie, 2020). Users may experience information overload because of the deluge of content during such emergencies, making it challenging to distinguish trustworthy sources from dubious ones.

Also, the usefulness of social media in encouraging behavioral change varies. Facebook has been demonstrated to promote longer-term behavioral change through community development and frequent exposure to health messaging, but X is excellent at increasing awareness through short-term campaigns. A study by Kim et al. (2019) found that Facebook groups devoted to health-related subjects like food, exercise, and managing chronic illnesses have helped users make long-lasting behavioral changes, thereby having a wide range of demographic coverage

The demographics of X and Facebook users have an impact on how well they can spread knowledge of public health issues. According to the Pew Research Center (2019), X's user base is often younger, more urban, more politically active, which may limit its appeal among older or rural communities. Facebook may be able to reach a wider range of viewers due to its wider demographic appeal, but doing so also means that material must be tailored to different demographics to be effective (Chou et al., 2020).

Therefore, both quantitative and qualitative measures are needed to evaluate how well these platforms raise public health awareness. Reach can be measured by metrics like follows, likes, shares, and retweets, but to assess deeper impact, qualitative metrics like user engagement,

sentiment analysis, and behavioral change are required. For instance, a 2019 study by Albalawi et al. highlighted the value of sentiment analysis in figuring out how people respond to health-related tweets. In a similar vein, Facebook's interaction data can provide information about the populations that respond best to health messaging.

2.4 Role of X and Facebook in combating misinformation

The spread of false information on social media sites like Facebook and X has grown to be a serious problem, especially in the public health sector. They can either help stop the spread of misleading information or worsen it since they are platforms that allow material to reach millions of users quickly. This study aims to assess the effectiveness of X and Facebook in countering disinformation, particularly when it comes to public health concerns, and what tools or tactics have been created to slow its spread.

In addition to serving as channels for public health messaging, social media sites like Facebook and X are also havens for false information. Sensationalized or inaccurate statements are frequently amplified, especially in health emergencies, by the viral nature of posts on these platforms and algorithms that favor interesting material.

X has emerged as a major source of false information due to its real-time nature and ease of retweeting, particularly during medical emergencies like the COVID-19 epidemic. According to a study by Cinelli et al. (2020), because of the way X networks are structured and the virality of emotionally charged content, false information travels more quickly than corrections. Facebook's enormous user base and potent algorithmic feed have also contributed to a great deal of false information about health, especially in relation to vaccinations and illness prevention. Facebook disinformation can cause real-world suffering by persuading users to reject public health interventions like vaccination or masks, according to studies like those by Wang et al. (2019).

Particularly in reaction to mounting public and political criticism, X and Facebook have implemented several tools and regulations designed to slow the spread of false information. X included fact-checking labels and prompts to alert users to potentially dangerous or misleading content in response to the pervasiveness of misinformation. Users are directed to more accurate information by these labels. For example, X launched a "information quality" campaign during the COVID-19 epidemic that flagged false tweets and offered reliable information about vaccines and treatments. Although this endeavor was a positive beginning, Broniatowski et al. (2018) point out that users' pre-existing biases and echo chambers limit their reach.

Facebook has taken several steps to counteract disinformation, such as eliminating offensive material and collaborating with fact-checkers to spot and flag inaccurate statements. According to a study by Nyhan et al. (2018), Facebook's collaboration with independent fact-checkers considerably lowers the virality of misleading information by removing fake news from users' feeds and adding contextual information. Despite these initiatives, some contend that too much dangerous content is still able to spread before being discovered because to the platform's enormous size and engagement-driven algorithms.

Facebook and X have both sought to partner with health organizations to guide users to reliable sources of information. For instance, Facebook established its COVID-19 Information Center, which offered trustworthy updates from health authorities, while X collaborated with the World Health Organization (WHO) to promote credible material during the COVID-19 epidemic.

There has been some success with these partnerships. X's attempts to connect users to reliable sources during the epidemic increased knowledge of health recommendations, according to a study by Merchant and Lurie (2020). In a similar vein, millions of users seeking information about vaccinations, quarantines, and therapies found great value in Facebook's information

center. Critics counter that the platforms had already permitted a great deal of false information to spread early in the pandemic, therefore their attempts were too late.

2.5 Key Challenges and Opportunities in Using X and Facebook for Health Communication

Social media platforms like Facebook and X have revolutionized health communication by facilitating the rapid dissemination of vital health information and fostering interaction with diverse and expansive audiences. These platforms have proven invaluable in delivering real-time updates and engaging users directly, which is particularly beneficial during health crises. However, alongside these advantages, significant challenges arise that complicate their use in effective health communication. The rapid spread of misinformation remains a critical concern, often undermining public trust in credible sources and creating confusion about health practices. Algorithmic biases also present obstacles, as they can amplify misleading content or prioritize engagement over accuracy. Additionally, managing user interactions on these platforms is complex, given the volume and diversity of perspectives shared. This review of the literature explores the dual nature of these platforms by compiling key studies that analyze their benefits, limitations, and broader implications for health communication.

2.5.1 Key Opportunities

The capacity of Facebook and X to quickly distribute information to wide-ranging audiences is one of its best features. This is particularly important during public health emergencies, when managing public health responses and containing outbreaks need quick thinking. According to Moorhead et al. (2013), social media is valuable for giving real-time updates and information, which is especially helpful during medical emergencies. Public health agencies have

successfully used X and Facebook to share important guidelines and updates during outbreaks such as COVID-19 (Merchant & Lurie, 2020).

Health officials can rapidly reach millions of consumers through platforms such as X. For instance, to battle false information in real time during the COVID-19 epidemic, health organizations such as the WHO and CDC utilized X to provide fast updates on health recommendations, vaccinations, and treatments.

X and Facebook, in contrast to traditional media, provide two-way communication options, allowing health groups to interact with people directly, respond to inquiries, and resolve issues. According to Neiger et al. (2012), social media platforms can improve public health participation by enabling organizations to communicate with users in real time. Popular methods for addressing public concerns about health issues, such as immunization and illness prevention, include Facebook live events, X conversations, and Q&A sessions. Social media interaction between users and public health authorities and institutions can foster confidence, particularly when medical professionals respond to users' queries or concerns in a personalized manner.

Public health campaigns can use social media platforms' sophisticated targeting features to send customized messages to at-risk groups or certain demographics. The potential of Facebook's advertising algorithms, which can provide users with tailored health messages depending on their demographics, geography, or activity, was highlighted by Kim et al. (2019). Reaching communities who are more susceptible to specific illnesses or those that are less inclined to use conventional health communication channels can be made easier using this. Facebook has been used by public health campaigns to advertise focused interventions, like immunization programs that target certain communities with historically low vaccination rates (Wang et al., 2019).

Public health organizations can track disease outbreaks, track public mood, and spot new health trends by using X and Facebook to crowdsource health-related data. Albalawi et al. (2019) showed how X might be used to monitor public sentiment toward vaccination in real-time, enabling health officials to pinpoint areas or populations where vaccine-related misinformation was spreading. Because of user-generated symptom reports, platforms can also be used to track the spread of diseases. Social media sites can act as real-time indicators of public health trends, facilitating more rapid and focused reactions to medical crises. Social media data, for instance, was used to track outbreaks and direct public health messaging in particular areas during the early phases of the COVID-19 pandemic.

Particularly Facebook has become a site where people may join groups focused on health concerns. These virtual networks offer peer support, information exchange, and emotional support—all of which are especially beneficial for managing chronic illnesses and mental health. According to a 2013 study by Moorhead et al., Facebook groups devoted to mental health issues and chronic illnesses like diabetes were very helpful in giving users both practical management tips and emotional support. Additionally, these organizations lessen the sense of loneliness that people with long-term illnesses frequently experience.

2.5.2 Key Challenges

The dissemination of false and misleading information is one of the most talked-about issues in health communication on social media. Disinformation is purposefully misleading content, whereas misinformation is the accidental dissemination of inaccurate information. Both present serious health concerns to the general public, especially in times of emergency like pandemics. Research indicates that false information propagates on social media more quickly and extensively than truthful information. Due in large part to the fact that false news articles are frequently more innovative and emotionally compelling than accurate ones, Vosoughi et al.

(2018) showed that false news stories had a 70% higher chance of being retweeted than true ones. Additional evidence came from the COVID-19 pandemic, where Cinelli et al. (2020) noted how false information regarding vaccines and treatments spread on Facebook and X.

These platforms' dissemination of false information has had real-world effects on public health, such as vaccine hesitancy and opposition to public health initiatives. Bronniatowski et al. (2018) discovered that trolls and bots greatly increased the distribution of false information about vaccines on X, which led to a drop in vaccination rates. Both Facebook and X have put in place content moderation, fact-checking tools, and alerts for questionable posts to help fight misinformation. According to Pennycook et al. (2020), identifying false information may not be sufficient to change user perceptions, even while it does help stop its spread. Additionally, people who are firmly rooted in echo chambers might just ignore information that has been fact-checked.

Social media sites promote information that sparks conversation using engagement-based algorithms, which frequently favor sensational or contentious posts over nuanced, factual health messaging. Numerous research demonstrates how these algorithms make the issue of false information worse. According to Levy et al. (2021), the algorithms used by Facebook and X favor emotionally charged content, which causes controversial or false health information to proliferate disproportionately. Similar findings were made by Guess et al. (2020), who discovered that Facebook's recommendation algorithms frequently steer users toward more sensational content, including false information about health. Public health communication is directly impacted when interesting but false content is amplified. These algorithms can make it more difficult to disseminate factual information during health emergencies, when prompt and correct information is crucial, especially to groups that are vulnerable or ignorant.

One of the biggest obstacles to health communication is echo chambers, which are social media spaces where users are only exposed to content that supports their preconceived notions. Disseminating health information is made more difficult by confirmation bias, which is the propensity for people to favor information that supports their opinions. According to a Facebook study by Del Vicario et al. (2016), people were more likely to interact with content that supported their preexisting opinions, solidifying their stances and dividing people into opposing groups on health-related issues. During public health emergencies like the COVID-19 pandemic and the anti-vaccination movement, this behavior has proven especially troublesome (Johnson et al., 2020).

Social media public health campaigns may have trouble reaching those who are firmly rooted in their echo chambers. Confirmation bias can cause users to reject or mistrust true information even when they are exposed to it, making it more difficult to dispel misconceptions (Lewandowsky et al., 2020).

Users of social media are frequently exposed to enormous volumes of information, which can cause information overload. Because of this, people find it challenging to distinguish between trustworthy and untrustworthy sources, especially during medical emergencies when facts and false information are disseminated at the same time. According to Merchant and Lurie (2020), users found it difficult to understand the changing health recommendations during the COVID-19 pandemic due to the overwhelming amount of contradicting information on social media sites like Facebook and X. Confusion and delays in the public adoption of advised behaviors, like mask-wearing and social separation, resulted from the constant barrage of information.

Social media platforms' anonymity enables users to disseminate inaccurate or dangerous health information without fear of repercussions. Additionally, because of this anonymity, organized disinformation campaigns—often carried out by bots or malevolent actors—have become more

prevalent. Broniatowski et al. (2018) demonstrated that bots were responsible for a large portion of the health disinformation on X, especially when it came to conversations around vaccines. Similarly, Prier et al. (2018) discovered that throughout the Zika and Ebola outbreaks, bots were crucial in disseminating false information.

2.6 Conclusion

In general, X and Facebook have shown themselves to be useful platforms for increasing public awareness of health issues, especially during emergencies and health campaigns. However, obstacles including false information, demographic restrictions, and the requirement for specialized communication techniques limit their influence.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents a detailed overview of the methodology employed in the study, offering a clear framework for systematically achieving the research objectives. It encompasses several critical components, including the research design, the population of interest, the sample size, and the sampling techniques used to select participants. Each aspect was carefully chosen to ensure the study's methods were rigorous and aligned with its overarching goals.

Additionally, the chapter outlines the sources of data, distinguishing between primary and secondary data, and elaborates on the techniques used for data collection. This includes the tools and procedures that facilitated the gathering of rich and relevant information. The methods of data analysis are also discussed, highlighting how they were designed to address the research questions effectively and draw meaningful conclusions.

Ethical considerations formed an integral part of the methodology, ensuring that the study adhered to established ethical guidelines to protect participants' rights and maintain the integrity of the research process. By providing a structured and comprehensive framework, this chapter ensures that the methodology is robust, systematic, and in line with the principles outlined by Creswell and Creswell (2018), ultimately supporting the study's credibility and relevance.

3.1 Research design

A qualitative research design was adopted to delve into the complexities of social media communication during public health crises. This design allowed for an in-depth exploration of

the dissemination of pandemic-related information and the subsequent public reception. The qualitative approach was particularly suitable for understanding the social and contextual factors influencing communication dynamics in crisis situations.

Previous research highlights the applicability of various methods in similar contexts. Andrew, Morgoch, and Boatwright (2019) employed content analysis to investigate organizational use of social media during crises, revealing patterns in message framing and audience interaction. Similarly, Wigley and Zhang (2011) used quantitative strategies to examine the role of social media in crisis preparedness among communication professionals. This study built on such foundational research by employing qualitative methods to explore the specific role of social media in health crisis communication, particularly in Ghana's context. The design enabled a nuanced understanding of communication strategies, challenges, and outcomes.

3.2 Population

According to Sokey, Adjei, and Ankrah (2018), the population of a study refers to the entire set of individuals of interest. This study focused on the staff of the Public Relations (PR) department of the GHS. The GHS was selected due to its critical role in Ghana's health crisis response, particularly during the COVID-19 pandemic and other public health emergencies. As the central authority for public health management in Ghana, its communication strategies directly influenced public behavior and awareness, making it a suitable population for the study.

The GHS maintained active social media channels on platforms such as Facebook and Twitter, which provided accessible and relevant data for assessing the use of social media in public health communication (Loveday, 2022). These platforms enabled real-time distribution of health information, reflecting the GHS's strategies for public engagement and crisis management.

Additionally, the GHS's social media content on platforms like Twitter and Facebook offered an accessible dataset for analysis. Engagement metrics, message content, and audience feedback were readily retrievable and provided insights into the effectiveness of communication strategies during health crises. This availability facilitated robust analyses of trends, sentiments, and interaction patterns, as emphasized by Samuel, Rahman, Esawi, and Samuel (2020).

The findings of the study have potential applications for Ghanaian public health policy and the GHS's communication strategies. By analyzing the advantages and limitations of GHS's social media usage, the study could provide practical recommendations to improve the effectiveness of health crisis communication. Such improvements could contribute to better public health outcomes in Ghana and other similar contexts.

Finally, using the GHS as a case study offered an opportunity to explore the dynamics of health crisis communication in a localized setting. It provided insights into how social media could enhance public participation and response during medical emergencies, demonstrating the practical implications of communication strategies in managing health crises.

3.3 Sample size and sampling procedure

Between 3-5 participants were sampled from the public relations unit of the hospital under investigation to partake in the data collection. A purposive sampling method was employed to select the participants. This approach allowed for the identification of staff with the requisite information to respond to the issues raised during the interview sessions by targeting individuals or groups capable of providing rich, relevant, and insightful information aligned with the research objectives (Adams, 2015).

To ensure effectiveness, the snowball sampling technique was utilized. This method started with a well-known participant, who then recommended additional participants, facilitating the identification of other individuals with relevant expertise. This approach expanded the pool of participants systematically, ensuring a comprehensive collection of data aligned with the study's goals.

3.4 Data Collection

The study utilized a combination of primary and secondary data to achieve a comprehensive understanding of the research objectives. Primary data were obtained through semi-structured interviews, using an interview guide designed to explore critical aspects of social media's role in health crisis communication. These interviews gathered qualitative insights on topics such as patterns of social media usage, the platforms' effectiveness in engaging the public during health crises, their efficiency in disseminating timely and accurate information, and the perceived impact of these platforms on overall health crisis communication. The semi-structured format allowed participants to express detailed perspectives, providing nuanced and context-specific data essential for in-depth analysis.

Secondary data were drawn from existing resources, including books, peer-reviewed journals, unpublished manuscripts, and reputable internet sources. These materials offered a rich repository of established knowledge and prior research findings, which served as a foundation for situating the study's results within a broader academic and practical context. By incorporating secondary data, the study was able to draw meaningful connections between its findings and pre-existing theories, identifying consistencies and gaps.

The integration of both primary and secondary data ensured a well-rounded methodology. The primary data offered real-world insights and direct participant perspectives, while the secondary data supported validation and contextualization. This approach enhanced the

reliability and depth of the research, allowing for a robust analysis that effectively addressed the study's objectives and contributed to the broader discourse on social media’s role in health crisis communication

3.5 Data analysis

The data were analyzed qualitatively to gain a deeper and more nuanced understanding of the phenomenon under investigation. Participant responses, gathered through interactive interviews, were systematically examined using thematic analysis. This method involved identifying, analyzing, and interpreting recurring patterns and themes within the textual data. The process provided an organized framework for breaking down complex narratives into meaningful categories, allowing for a comprehensive exploration of the participants' perspectives.

Thematic analysis was conducted with a focus on aligning the emerging patterns with the study's research questions and objectives. By doing so, the analysis not only illuminated key insights but also ensured the findings were directly relevant to the research goals. This method facilitated the discovery of relationships and underlying meanings within the data, offering clarity on how the themes contributed to a deeper understanding of the subject matter. The qualitative approach proved essential in uncovering context-specific insights and addressing the study’s overarching aims.

3.6 Ethical consideration

Ethical principles were strictly adhered to throughout the study. Informed consent was obtained from all participants, ensuring voluntary participation. Measures were taken to maintain confidentiality and anonymity, with no identifying information included in the final report.

Plagiarism was avoided by properly attributing all sources used in the study. The research design also adhered to principles of transparency and integrity, ensuring that the findings were credible and reliable.

3.7 Summary and Conclusion

This study employed a qualitative methodology to explore the use of social media in health crisis communication, focusing on how healthcare institutions utilized platforms like Facebook and Twitter to engage, inform, and influence public opinion during emergencies. Purposive sampling identified participants with firsthand experience in social media crisis communication, such as social media managers, medical professionals, and patients involved in online discussions. This approach provided essential insights into the dynamics of digital health communication.

Data collection methods included semi-structured interviews and content analysis of social media posts, capturing quantitative patterns in audience engagement and qualitative insights from stakeholders. Strategies to ensure data saturation and reliability included member checking, triangulation, and pre-testing of instruments.

In-depth interviews offered qualitative data analyzed thematically, while ethical principles such as informed consent and confidentiality were strictly observed. Institutional review board (IRB) approval was secured from relevant institutions, ensuring adherence to research protocols. This methodology provided a robust framework for examining the impact of social media in health crises, effectively capturing rich, context-specific data to reflect its practical and nuanced application

CHAPTER FOUR

ANALYSIS OF DATA AND DISCUSSION OF RESULTS

4.0 Introduction

This chapter presents a detailed analysis and discussion of the data collected from 13 professional health workers at the Ghana Health Service, including heads of public relations, data analysts, communications specialists, medical doctors, general nurses, pharmacists, midwives, and biomedical engineers. The analysis is structured thematically, in line with the study's objectives, and draws connections to the literature reviewed. The focus is on the role of Twitter and Facebook in health crisis communication, particularly during the COVID-19 pandemic, emphasizing how these platforms inform, engage, and influence public behavior during health emergencies such as pandemics. Additionally, the discussion highlights the challenges and opportunities these platforms present for health communication in Ghana, followed by suggestions for future strategies to enhance the effectiveness of social media in health crisis communication.

4.1 The Role of Social Media in Health Crisis Communication

Social media platforms such as Twitter and Facebook have emerged as indispensable tools in health crisis communication, enabling health authorities and professionals to disseminate critical information rapidly and effectively to vast audiences. The Head of Public Relations at Ghana Health Service highlighted the pivotal role these platforms played during the COVID-19 pandemic, stating, “During health crises like COVID-19, Twitter and Facebook were critical in spreading urgent messages about preventive measures, such as mask-wearing and social distancing. These platforms allowed us to reach a broad audience in real time.” This ability to provide timely updates was instrumental in encouraging adherence to public health protocols.

A Communications Specialist further elaborated on the dual-edged nature of social media, explaining that while its power lies in the instant spread of information, it also poses challenges in combating misinformation. “The power of social media lies in its ability to spread information instantly. However, it also spreads misinformation quickly, and this was especially prominent during the pandemic when rumors about the virus and vaccines were rampant,” they stated. This duality underscores the need for vigilant monitoring and fact-checking mechanisms.

Additionally, a General Nurse emphasized the value of these platforms in public education, noting their effectiveness in creating awareness about COVID-19 symptoms and treatments. “We used these platforms to educate the public on COVID-19 symptoms and treatments. It helped create widespread awareness, especially in urban areas where people were more likely to have access to smartphones and the internet,” the nurse explained. This highlights social media’s potential to bridge knowledge gaps, particularly in digitally connected communities.

4.2 Challenges in Combating Misinformation

Despite the advantages, misinformation was identified as a major challenge in using social media for health communication. The responses from various participants highlighted how misinformation spread faster than factual information. One Medical Doctor remarked, “During the COVID-19 crisis, there were numerous false claims about the virus, from conspiracy theories to incorrect medical advice. These falsehoods were propagated widely through social media.”

A Head of Public Relations added, “The rapid spread of misinformation is a significant issue. We were constantly trying to debunk myths about the virus, vaccines, and treatments. The problem is that by the time we corrected the misinformation, it had already spread widely.”

The Data Analyst echoed this sentiment, “Data shows that misinformation on health-related topics can overshadow factual content. This is especially true when false information is sensationalized, as it attracts more engagement than factual content. This was a major issue during the pandemic, where fake news about vaccines and treatments flooded social media.”

4.3 The Speed of Misinformation Spread

A significant observation from the data was the rapid spread of misinformation on social media platforms like Twitter and Facebook, presenting a formidable challenge to effective health communication during crises. A General Nurse highlighted this issue, stating, “The speed at which misinformation spreads is alarming. In the case of COVID-19, we had to act fast to dispel falsehoods, but by the time we responded, the misleading posts had already gone viral.” This underscores the reactive nature of countering misinformation, where timely and credible responses often struggle to keep pace with the rapid dissemination of falsehoods.

A Medical Doctor further elaborated on the specific dangers posed by misinformation, particularly regarding alternative therapies. They explained, “False claims about alternative therapies were particularly dangerous. Many people believed these claims because they were shared widely on Facebook, even though they were completely unfounded. It became a challenge to convince people to trust evidence-based medical advice.” This illustrates how misinformation can not only mislead but also erode public trust in scientifically verified guidance, complicating efforts to manage public health.

The Communications Specialist emphasized the role of social media’s open structure in amplifying misinformation, observing, “The open structure of platforms like Twitter makes it easy for anyone to post anything, regardless of its accuracy. This was a major challenge in maintaining public trust during the health crisis.” This highlights how the very features that

make social media inclusive and accessible can also render it vulnerable to exploitation by sources of misinformation.

Together, these insights reveal the critical need for proactive strategies, such as real-time fact-checking, authoritative content amplification, and public education, to combat misinformation and foster trust in health communication.

4.4 Limited Effectiveness of Social Media Platforms' Efforts

Although Facebook and Twitter have implemented measures aimed at curbing the spread of misinformation, these efforts were often deemed inadequate by the health professionals interviewed. A Biomedical Engineer commented on the platforms' attempts to flag false posts, saying, "Although both platforms introduced measures like flagging false posts, their effectiveness was limited. In many cases, misleading content continued to spread without proper moderation, especially when it came from influential figures or political leaders." This highlights a significant challenge: despite the existence of content moderation tools, the influence of high-profile figures and the viral nature of misinformation often make these measures ineffective in halting its spread.

The Midwife shared a similar sentiment, particularly regarding misinformation about COVID-19 vaccines, noting, "The misinformation surrounding COVID-19 vaccines was especially problematic. Even though Facebook took down some posts, many remained active, particularly those coming from unverified sources. These platforms often fail to quickly address the scale of the problem." This observation underscores the slow response time of social media platforms, which allows misinformation to gain traction before corrective actions are taken.

The Head of Public Relations added another layer to the discussion by addressing the political dimension of misinformation. They observed, "There were times when political figures used

these platforms to spread misleading health information. Social media companies' reluctance to take action against such content made it harder to maintain trust in health messages." This points to the challenge of addressing misinformation within politically charged environments, where platforms may hesitate to intervene for fear of appearing biased or infringing on free speech.

These insights collectively reveal that while social media platforms have made some attempts to combat misinformation, their efforts have often fallen short, particularly when dealing with high-profile figures and politically sensitive issues.

4.5 The Digital Divide and Access Issues

The digital divide continues to pose a significant challenge to the effectiveness of social media as a tool for health communication, particularly in reaching underserved communities. A Nurse raised concerns about the disparity in access to technology, explaining, "In rural areas, people don't have consistent internet access, and not everyone owns a smartphone. This limits the reach of health messages on social media in these communities." This highlights a crucial issue: while social media is a powerful tool for disseminating health information, its impact is diminished in areas where internet connectivity and digital devices are limited or absent.

A second General Nurse echoed these concerns, emphasizing that even in more developed urban areas, technology gaps still exist. "Even in urban areas, internet connectivity can be unreliable. This makes it difficult to ensure that health messages are reaching everyone in real time, especially during a rapidly evolving crisis like COVID-19," they noted. This underscores the fragility of relying solely on digital platforms in environments where infrastructure can fluctuate, making it harder to guarantee that timely health information is reaching all members of the population.

The Data Analyst further elaborated on the implications of this digital divide, stating, “While social media is a powerful tool in urban canters, rural populations are often left out of these digital health communication efforts due to infrastructure challenges. Addressing this gap is crucial for improving the reach of public health messages.” This observation stresses the importance of ensuring equitable access to technology in order to make health communication efforts truly inclusive. Without addressing the infrastructure challenges that hinder access, health messages may fail to reach the most vulnerable populations, further exacerbating health inequities.

These perspectives collectively highlight the need for targeted strategies that bridge the digital divide, such as investing in improved internet infrastructure and leveraging traditional media alongside digital platforms to reach communities with limited access.

4.6 Language and Cultural Barriers in Health Communication

Language and cultural differences present significant barriers to the effective delivery of health communication through social media, particularly in diverse societies like Ghana. The Pharmacist observed that, "Most health messages are delivered in English, but not everyone in Ghana speaks English fluently. This creates a significant barrier, especially for older generations or people in rural areas who speak local languages. This underscores a critical issue: while English may be the dominant language of health communication, it alienates many people who do not understand it, particularly in rural communities where local dialects predominate. For these populations, the absence of health messages in their native languages can limit their ability to access essential health information.

A Midwife also highlighted the challenges posed by cultural differences, emphasizing that health messages must be tailored to specific cultural contexts to ensure their effectiveness. “Health communication is often not culturally tailored. A message that works in one

community may not resonate with another due to cultural differences. It's vital to consider these factors when creating health messages for social media platforms," she explained. This point emphasizes the need for cultural sensitivity when developing health content. What may be an effective strategy in one community could be misinterpreted or even rejected in another, making it essential for public health campaigns to engage with local customs, values, and belief systems.

The Communications Specialist further addressed the logistical challenges of overcoming language barriers, noting that translating health messages into local languages requires substantial resources. "Translating content into Ghana's numerous local languages is a resource-intensive process, but it's necessary for reaching non-English speakers. There's a need to localize content to ensure it's understood by all sections of society," they stated. This highlights the resource demands of effectively localizing content, which can be time-consuming and costly. However, it also underscores the importance of such efforts in reaching marginalized populations, ensuring that health messages are accessible and relevant to all segments of society, regardless of language or cultural background.

Together, these perspectives emphasize the importance of considering both linguistic and cultural factors when using social media as a tool for health communication. Tailoring messages to local languages and cultural contexts is not only crucial for effective communication but also for building trust and fostering positive health outcomes across diverse communities. Without addressing these challenges, health communication efforts may fail to reach or resonate with significant portions of the population, undermining the overall impact of public health campaigns.

4.7 Trust and Credibility of Sources

Trust and credibility in the source of information were frequently identified as essential factors influencing the effectiveness of health communication on social media. A Medical Doctor observed, "During the pandemic, we saw that people were more likely to trust information from family and friends on social media than from official health sources. This is a major challenge, as it undermines the efforts of health authorities." This statement highlights a critical issue in health communication: the power of social networks, which can often outweigh official health sources in terms of credibility. In times of crisis, people may turn to their personal networks for information, assuming that these sources are more relatable or trustworthy, even though they may lack the necessary expertise or factual accuracy. This tendency can be particularly problematic in situations like the COVID-19 pandemic, where timely, accurate information is crucial to mitigating the spread of disease and promoting public health measures.

A second Medical Doctor elaborated on this challenge, noting that in order to effectively address misinformation and build public trust, it is crucial to engage with credible voices. “To combat this, we need to partner with credible organizations and influencers who can amplify accurate health messages. Trust is essential in health communication, especially when addressing a crisis like COVID-19,” they explained. This insight underscores the importance of strategic collaborations in health communication. By working with trusted organizations, community leaders, and influencers who are already recognized for their authority and integrity, public health agencies can increase the reach and impact of their messages. These partnerships are especially valuable in overcoming scepticism and encouraging individuals to follow evidence-based guidelines.

In addition, the role of influencers and local leaders cannot be underestimated. When these figures endorse health messages, they bring a level of relatability and familiarity that may be more effective than top-down communication from public health authorities. The trust they

command within their communities can help bridge the gap between official health sources and the general public.

Ultimately, trust is a foundational element in health communication. The challenge lies in ensuring that accurate, science-based information is disseminated through channels that the public perceives as credible and trustworthy. Strengthening partnerships with influential figures, fostering transparency, and building consistent relationships with the public can all contribute to enhancing the overall trust in health messaging, particularly in the midst of a global health crisis.

4.8 Conclusion

In conclusion, while social media platforms such as Twitter and Facebook offer significant potential for health crisis communication in Ghana, a number of challenges must be addressed to maximize their effectiveness. Misinformation, digital access disparities, language barriers, and trust issues all pose substantial obstacles. As highlighted by the Ghana Health Service participants, these platforms have the ability to reach large audiences quickly, but efforts to combat misinformation, increase digital access, and localize content are essential to fully leverage social media for public health communication. A comprehensive strategy is needed to enhance the role of social media in health crises, including stronger collaboration with credible organizations, improvements in digital infrastructure, and greater cultural sensitivity in communication strategies.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This section of the study is the final part. It looks at a summary of the study, draws conclusion from the results of the data gathered and makes recommendations based on the results from the data collected.

5.1 Summary

The main aim of the study was to evaluate the roles of social media in enhancing public health awareness, combating misinformation, and identifying key challenges and opportunities in health communication during global health emergencies. It however considered three basic objectives which were to assess the Effectiveness of Twitter and Facebook on Public Health Awareness, to evaluate the Role of Twitter and Facebook in Combating Misinformation and to identify Key Challenges and Opportunities in Using Twitter and Facebook for Health Communication.

Using the qualitative research design, the study employed an interview guide as the research instrument to have a face-to-face interview section (Saarijärvi & Bratt, 2021) with officers in the Public Relations Department and Medical Doctors from Ghana Health Service, on how GHS uses Twitter and Facebook to engage the public during health crises management. Data collected was also thematically analysed and a discussion thoroughly done in line with literature (Vaismoradi & Snelgrove, 2019).

Results of the study showed that GHS under discussion uses the two social media platforms to effectively engage its clients and the general public during health crises. One such situation was during the Covid-19 pandemic. GHS was able to reach a wide range of audience in health crises communication during the period (Bayor, Da-Uri, Gumah & Gyader, 2024).

They indicated that social media sites like Facebook and Twitter have large user bases in Ghana, which enables public health efforts to reach both urban and rural communities (McCarthy, Donkoh, Arthur, Dassah, Boadu, Otoo & Gyasi, 2023). GHS therefore saw it as an opportunity and advantage to reach a wide range of people and engage them in times of health crises communication.

It was also revealed that Twitter and Facebook enable real-time updates, allowing health authorities to share critical information quickly (Shahbazi & Bunker, 2024). During the COVID-19 pandemic, these platforms were used extensively to disseminate guidelines, case updates, and vaccination information, reaching millions of users (Gisondi, Barber, Faust, Raja, Strehlow, Westafer & Gottlieb, 2022). Their immediacy can help reduce panic and promote preventive measures.

It also came to light that social media has two sides: it can spread misleading information, but it also offers resources to combat It (Huang, 2024). Accurate information dissemination depends heavily on fact-checking efforts and verified reports from health authorities. Working together with community leaders and influencers has been successful in spreading a reliable message (Suryani, 2024).

5.2 Conclusion

Social media platforms like Twitter and Facebook play a crucial role in health crisis communication in Ghana (Tabong, & Segtub, 2021). They offer unparalleled opportunities for rapid information dissemination, public engagement, and combating misinformation. However, challenges such as the digital divide, language barriers, and misinformation spread must be addressed to maximize their potential. Strategic planning, investment in digital infrastructure, and active community involvement are essential to harness the full power of social media in promoting public health outcomes s (Gashu, 2024).

Social media platforms, especially Facebook and Twitter, have become essential instruments for communicating during health emergencies because they provide unmatched chances for public participation, information sharing, and disinformation control (Mbagwu, 2024). These platforms offer a dynamic and affordable option in Ghana, where varied and rural communities may not always be reached by traditional communication channels. During emergencies like the COVID-19 epidemic, they allow health authorities to communicate with the public directly, offer real-time updates, and encourage a sense of community responsibility.

However, resolving a number of important issues is necessary for social media to be effective in health communication (Zhang, Jin, Stewart & Porter, 2016). For underprivileged and rural communities, the digital gap continues to be a major obstacle that restricts their access to reliable information. Delivering messages is made more difficult by linguistic and cultural quirks, necessitating specific tactics and content. Furthermore, although social media can magnify valuable information, the quick dissemination of false information is a constant danger that compromises public confidence and health results (Jahng, 2021).

In conclusion, while Twitter and Facebook hold immense promise for transforming health crisis communication in Ghana, a holistic approach that addresses technological, cultural, and informational challenges is crucial. By leveraging these platforms thoughtfully, health authorities can build a more informed, engaged, and resilient society.

5.3 Recommendations

The following recommendations are made based on the findings from the data collected and conclusion drawn.

To maximize the potential of social media in health crisis communication, strategic interventions are essential. These include improving digital infrastructure, investing in multilingual content creation, and fostering collaborations between health authorities and community influencers. Additionally, robust misinformation management frameworks and continuous public education can enhance the platforms' effectiveness.

Also, GHS must tailor health messages to resonate with cultural norms and values, which can increase community acceptance and engagement.

There is also a need to collaborate with local fact-checking organizations to identify and debunk misinformation quickly. Verified health authority accounts should actively share corrected information.

As addendum, users need to be encouraged to report misinformation and involve trusted community leaders in disseminating verified information at the various community levels.

Finally, the utilization of features such as Facebook Live, Twitter Spaces, and Q&A sessions should be more to create interactive forums where health experts can address public concerns directly.

5.3.1 Recommendations for future research

Future research should explore the role of other popular platforms such as WhatsApp, Instagram, and TikTok. These platforms often have different user dynamics and content-sharing mechanisms, which could offer deeper insights into misinformation trends and communication strategies.

Also, researchers should conduct studies that analyze content in local languages and address cultural nuances. This is particularly important in multilingual countries where misinformation may spread more rapidly in less-moderated regional languages.

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APPENDICES

I

nterview guide

Analyzing the Role of Social Media During Health Crisis Information, particularly X (formally Twitter) and Facebook

Dear Participant,

As part of the requirements for my Master's degree in Development Communications at the Institute of Journalism, University of Media, Arts, and Communication (UniMAC-IJ), I am conducting this research study.

The purpose of this survey is to examine how social media platforms contribute to health crisis communication. It seeks to understand their effectiveness in disseminating information, engaging audiences, and shaping public behavior during health emergencies. Your valuable feedback will offer critical insights into optimizing social media strategies for future health crisis interventions.

The questionnaire has five sections and will take approximately 25 minutes to complete. I encourage you to respond truthfully and accurately to all questions. Please be assured that your responses will be treated with the utmost confidentiality and anonymity.

Thank you for your participation.

Section A: Background Information

1. Role and Experience:
    i. What is your role within the Public Relations Department of the GHS?
    ii. Can you describe how long you've been involved in managing social media communication for the GHS?

2. Responsibilities:
    i. What specific tasks are you responsible for in the context of social media during health crises?

Section B: Strategies for Social Media Communication

3. Strategy Development:

    i. Can you describe the strategies GHS implemented on social media during the COVID-19 pandemic?

4. Decision-Making:

    ii. How did the GHS decide which content or campaigns to prioritize during the pandemic?

5. Content Design:

    iii. What types of content (e.g., text, graphics, videos) were used to engage the public, and why were these formats chosen?

Section C: Effectiveness of Social Media Strategies

6. Measurement of Effectiveness:

    iv. How did the GHS measure the success of its social media strategies during the pandemic?

7. Public Engagement:

    v. Can you share any examples of posts or campaigns that had a significant impact on public engagement?

8. Behavioral Influence:

    vi. In your view, how effective were these strategies in influencing public behavior and awareness?

Section D: Challenges in Social Media Crisis Communication

9. Challenges Encountered:

vii. What were the most significant challenges GHS faced in using social media to communicate during the pandemic?

10. Addressing Misinformation:

viii. How did the GHS handle misinformation or negative feedback on social media platforms?

11. Technical Barriers:

ix. Were there any technical or logistical issues in managing social media during the pandemic? If yes, what were they?

Section E: Reflections and Insights

12. Success Stories:

x. Reflecting on the pandemic, what aspects of the social media strategies do you think worked particularly well?

13. Areas for Improvement:

xi. What aspects of GHS's social media communication could have been improved?

14. Lessons Learned:

xii. What lessons from the COVID-19 social media communication experience can be applied to future health crises?

15. Future Recommendations:

xiii. What would you recommend for enhancing social media use in public health crisis communication in the future?