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CONTRIBUTION OF SOCIAL MEDIA IN GHANA'S COVID-19 RISK AND CRISIS COMMUNICATION ACTIVITIES

BY:

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DECLARATION

CANDIDATE'S DECLARATION

I hereby declare that this dissertation is the result of my own research and that no part of it has been presented for another award in this institution or elsewhere.

Erica Eyifah

11/11/2021

Date

SUPERVISOR'S DECLARATION

I hereby declare that I supervised this dissertation in accordance with the guidelines on the supervision of research works as laid down by the Ghana Institute of Journalism.

Dr. Solace Asafo (PhD)

11/11/2021

Date

DEDICATION

This work is dedicated to Kwami Sefa Kayi for his continued guidance, encouragement and support which brought me this far, I say thank you and God bless you for me.

I would also like to dedicate this to my late father Eric Nana Benyin Kwaku Frimpong Eyifah. I know that you watch over me all these years from up there with the protection of the angels, you bequeathed me your heart, values, courage and especially your sense of spirituality in the love of God. The education I received from you has left an indelible mark on my life. Thank you, Dad! Rest in peace

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LIST OF ABBREVIATIONS

SPSS – Statistical Package for Social Sciences

COVID-19 – Coronavirus Disease 2019

SNS – Social Networking Site

ICT – Information and Communication Technology

CDC – Center for Disease Control

WHO – World Health Organization

UGC – User Generated Content

PC – Personal Computer

CRW – Consumer Review Websites

IF – Internet Forums

LBSM – Location-Based Social Media

GHS – Ghana Health Service

Ghana FELTP – Ghana Field Epidemiology and Laboratory Training Programme

MoH – Ministry of Health

NMIMR - Noguchi Memorial Institute for Medical Research

NPHRL - National Public Health Reference Laboratory

VSD - National Veterinary Service Department

CSIR - Center for Scientific and Industrial Research

ESRI - Environmental Systems Research Institute

ABSTRACT

Today, the ubiquity of the COVID-19 is calling for better ways of communicating the crisis and risks associated with the virus. The apparently unlimited capabilities for social networking provided by social media renders it a viable medium for this kind of communication. The aim of this study is to examine the contribution of social media in the COVID-19 disease risk and crisis communication in Ghana. The objectives of the study were to identify the social media platforms used by the government of Ghana in risk and crisis communication; to identify the social media platforms used by citizens of Ghana in accessing information on COVID-19; to determine the significance of social media platforms in COVID-19 related risk and crisis communication, and to identify the challenges and opportunities for the use of social media in health communication. The data was collected from 200 social media users aged 18 to 34 years within the Greater-Accra Region of Ghana. Findings reveal that Ghanaians use the six major social media platforms adopted in this study, namely Facebook, WhatsApp, Instagram, Twitter, LinkedIn and YouTube in accessing information released by government on the various social media pages of its agencies. Facebook was found to be the most used social media platform by government agencies in COVID-19 risk and crisis communication, followed by Twitter, then Instagram and WhatsApp. The least used platform was LinkedIn. The findings also showed that social media was a significant medium for communicating COVID-19 risk and crisis, with about 89.5% of respondents using social media to obtain COVID-19 risk and crisis information.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Information and communication technology (ICT) is a popular dimension of technology available to researchers and politicians and given the right investments, would promote national development in Africa (Mimbi & Kyobe, 2016). The Internet has been the most significant technological advancement of the past 20 years. Individuals can communicate, interact, and exchange knowledge, content, documents, photos, videos, and other media with everyone in the world through the Internet. Furthermore, people use social media platforms to expand the scope and richness of their networks, collect knowledge, and nowadays, more and more companies are figuring out how to incorporate social media into their business processes (Gaál et al, 2014). As of January 2021, about 4.66 billion persons representing 59.5% of the global population are active users of the internet (Johnson, 2021).

Accordingly, an expansion of ICT infrastructure in Ghana has led to an evident penetration of several forms of social media networks into the country. According to Sasu (2021), by the third quarter of 2020, 83.9 percent of the people connected to internet in Ghana used WhatsApp. Facebook was also a major social media website, with 71 percent of internet users mentioning it. Furthermore, YouTube accounted for 69.7% of all internet use in the region (Sasu, 2021). A total of sixteen (16) social media outlets are actively used by segments of the Ghanaian population (Sasu, 2021). Social media may be a powerful medium for disseminating facts and explaining current events to the general population. Different forms of social media have different purposes, but they all have the same goal: to quickly disseminate information and share it with a large number of people (Derani and Naidu, 2016).

The COVID-19 pandemic and its devastating effects has increased efforts to use technologies to facilitate proper risk and crisis communication. The dissemination of information to different audiences in order to rebound from a crisis, avert a potential crisis, or maintain a certain prestige is known as crisis communications (Ferrante, 2010). Risk and crisis communication can be done through any medium that allows coding and exchange of information between two or more parties. Whilst many traditional media platforms are still in use globally, social media has also become a suitable media used by both global and local agencies in sharing COVID-19 related information. In a crisis, it's critical to formulate a solution and strategically exchange information through social media to keep information under control to prevent an escalating crisis (Derani and Naidu, 2016). The World Health Organisation (WHO), the Centers for Disease Control and Prevention (CDC), and other federal agency stakeholders (stakeholders hereafter) whose activities are related to halting the COVID-19 epidemic have released virus and disease-related material on their social media pages on a regular basis (Wang, Platt and Hao, 2021).

In Ghana, the dominant medium through which COVID-19 related information was shared to the public was through traditional media platforms. For instance, all 24 COVID-19 updates given by the President of Ghana in 2020 and the early weeks in 2021 were broadcasted on live television. Other updates from the Minister of Information and other officials of the Ghana Health Service were also broadcasted live on television with the details subsequently distributed on other platforms such as the website of the Ghana Health Service (www.ghanahealthservice.org) – radio broadcasts, and through official social media handles of state institutions and agencies. The Ghana Health Service for instance, actively uses its Facebook page to provide updates on COVID-19 to the general public.

The spread of the 2019 novel coronavirus disease (COVID-19) in the United States in January 2020, which was triggered by the extreme acute respiratory syndrome coronavirus 2

(SARS-CoV-2) has resulted in explosive and escalating communication through digital platforms about the disease, outbreak progression, effects on human mortality, and national and local consequences faced by government and health system agencies. SARS-rapid CoV-2's and exponential spread has flooded social media with a wide range of facts. Divergent responses and exchanges through government institutions and stakeholders at different levels have been caused by the incidence of COVID-19 observed events, as well as large volumes of relevant posts. The case is no different with Ghana. This then prompted government and other stakeholders to provide guidance on safety protocols (Shimizu, 2020).

Wang, Hao and Platt (2021) have shown that health agencies and government stakeholders disseminate information regarding situations, risks, and personal protective action to aid in inhibiting the spread of the disease. Malecki, Keating and Safdar (2021) also suggest that social media offers an opportunity for experts to quickly convey true information about hazards and risks associated with the COVID-19 pandemic. These point to effective communication about the COVID-19 pandemic based on which a measure of public safety can be guaranteed.

The whole world is, today, inundated with so much information such that scholars have described this era as ‘infodemic’ (Tangcharoensathien et al, 2020). Having social media active in the midst of abundant information and the COVID-19 disease portends the consumption of false information just as fact-checked information may be received about the disease (Kouzy, et al, 2020). Whichever way the information is skewed may have implications for addressing the COVID-19 disease.

The ubiquity of the COVID-19 is calling for better ways of communicating the crisis and risks associated with the virus. The apparently unlimited capabilities for social networking provided by social media renders it a viable medium of this kind of communication. Indeed,

Wang et al (2021) argue that social media, notably, Twitter forms the platform, internationally, where important communication about the COVID-19 is prominent. Furthermore, according to Hysenlika (2012), Facebook, which has about 2.7 billion members worldwide, helps communicators (individuals or organisations) to send updates tailored to their needs easily and efficiently during a crisis. These results, when combined with other researchers' findings on the efficacy of social media as a medium for sharing knowledge, provide a powerful argument on how social media can help combat the COVID-19 pandemic. In this study, the real contribution of social media to threats and disaster coordination in Ghana in relation to the pandemic is examined against the backdrop of the country's ICT and social media integration.

ICT is seen one of the factors for boosting good governance, health, business, education, and communication in general, with several of the evidence coming from advanced countries (Kesse-Tachi, Asmah & Agbozo, 2019; Royal Society, 2012). As the argument about how Africa is lagging behind in terms of ICT penetration rages on, the ways in which ICT can leverage productivity on the continent has become critical to the countries of Africa (Gebrerufael, 2021; Oxford Analytica, 2018). In Ghana the awareness and adoption of ICT is producing, in effect, increasing dependence on electronic online social media platforms for information. For instance, with a 7% (1 million) growth in internet users from 14.7 million to 15.7 million in Ghana between 2019 and 2020, there has been a corresponding 12% (629,000) growth in social media users from 6 million to 6.629 million between 2019 and 2020 (Kemp, 2020).

1.2 Statement of the Problem

The morbidity and mortality situation endured by a number of countries such as the United States, Italy, Brazil, United Kingdom, and India due to the COVID-19 disease had only underscored the relevance of information about the disease prior to the beginning of vertical spread of the virus. Still, crisis and risk communication about the COVID-19 disease is as important now just as it was in the beginning. This goes to show the importance of the medium by which COVID-19 related risk and crisis information is communicated.

To reaffirm (or else reject) the benefits of social media to the country is also to ask the fundamental question that seeks to show the significance of social media in the battle against the COVID-19 disease in the country.

This study, therefore, seeks to examine the contribution of social media in the all-important risk and crisis communication efforts geared toward reducing the spread of and eradicating the COVID-19 disease. As mentioned in the background, the Ghana government and other governmental agencies and stakeholders have used various traditional mediums to communicate risk and crisis information about COVID-19 pandemic prior to the country recording its first case of infection and often during the height of the spread of the disease within the country. Some of these include television, radio, and newspapers. However, with the rapid rise in social media usage, which has been a medium effectively used by the World Health Organisation, the Centre for Disease Control Africa and other international bodies in crisis communication, Ghana government and the Ghana Health Service use their social media platforms to disseminate relevant COVID-19 information for public consumption.

Regarding risks and crisis communication on social media about COVID-19 pandemic there is but a few studies that partially address the issues.

Derani and Naidu (2016) in their study on the impact of utilizing social media as a communication platform, concluded that using social media during crisis not only benefits the affected public but also the organisation itself. Whilst this study reveals the importance of social media risk and crisis communication to the public, it was conducted within the context of an organisation and will be replicated from the point of pandemic control. Also, whilst other extant literature confirms the increased use of social media globally and in Ghana, there still remains the question of determining whether social media users in Ghana do regard COVID-19 related information shared by government and stakeholders as a risk and crisis management effort. How do they treat this information? Do they consider the information relevant, authentic and worth sharing or making decision with? This study seeks to find answers to these questions and more and to draw reliable conclusions on how social media is significant in risk and crisis communication during the COVID-19 pandemic.

1.3 Objectives of the Study

The main objective of the study is to examine the contribution of social media in the COVID-19 disease risk and crisis communication in Ghana. Based on this, the specific objectives of the study were as follows:

i. To identify the social media platforms used by the government of Ghana in risk and crisis communication.
ii. To identify the social medial platforms used by citizens of Ghana in accessing information on COVID-19.
iii. To determine the significance of social media platforms in COVID-19 related risk and crisis communication.

iv. To identify the challenges and opportunities for the use of social media in health communication.

1.4 Research Questions

Following the objectives of the study, the fundamental questions posed in the study as follows:

i. What social media platforms were used by the government of Ghana in risk and crisis communication?
ii. What social media platforms did the citizens of Ghana use in accessing information on COVID-19?
iii. How significant are social media platforms in COVID-19 related risk and crisis communication?
iv. What are the challenges and opportunities associated with use of social media in COVID-19 disease communication?

1.5 Significance of the Study

The social media penetration in Ghana is happening at a very fast pace and state and private communicators must learn to utilize it for effective communication. Its usage is even more critical in an age where the mantra is that ‘we must learn to live with the virus’ pending any successful vaccination. In this study, significance is defined as how findings from the research will be applicable by various stakeholders in current and future risk and crisis communication efforts.

This will help guide future global emergent health disaster communication plans by providing insight generalizability on knowledge sharing attributes (e.g., frequency, timing, messaging

formats, and coordination). Furthermore, this analysis of social media-based crisis and risk communication in the context of a global health case like COVID-19 allows these results to be parsed and analysed more thoroughly within the public response. This can be useful in determining how well adequate, reliable, and orchestrated risk and crisis coordination can elicit meaningful and efficient responses from messaging goals.

By bridging public health and disaster and emergency response, the study results will contribute to basic understanding of social media risk and crisis communication in other large-scale disasters such as earthquakes and other forms of pandemics. Public health officials, emergency responders, and other government partners can gain a better understanding of their position in disseminating disaster and danger knowledge on social media as a result of the study. The outcome of this study will provide an understanding on how to better reduce the risk of inappropriate behaviours and preventable deaths caused by insufficient risk communication, incongruent and inconsistent information harmful to human health and wellbeing, as well as how to improve existing crisis risk communication plans, critical health information dissemination efficacy and coordination during unprecedented health crises in the fragmented communication world.

Additionally, as this study considered risk and crisis communication within the context of global pandemic, it will provide relevant insight on how government and other institutions at the forefront of managing pandemic crisis, can use social media effectively in disseminating timely information. It will also provide insight to users of social media on how to use social media platforms to obtain relevant information that will help in risk and crisis communication.

1.6 Scope of the Study

The study is limited to measuring the experiences of Ghanaian citizens living in the Greater Accra Region, specifically, Accra, is undisputedly the reference point to consider when one mentions technology, ICT, or even social media penetration (Kemp, 2020). This is because this location is the capital of Ghana and serves as the hub of everything by way of technology and modernity in country. The penetration of social media, therefore, begins there and diffuses to the other regions. There is no gainsaying that social media usage enjoys a higher concentration in the Greater Accra with the densest population. For this reason, samples of social media users were obtained from Greater Accra for the purposes of the study.

1.7 Overview of the Methodology

This study adopted a descriptive approach to achieve its objectives. Jackson (2015) proposes that the descriptive research design stands out as more suitable for describing events or cases using facts and characteristics of a given population or area of interest. The population for the study constitutes Ghanaian citizens living in Greater Accra Region who use social media. The sample for the study will constitute the section of Ghanaian social media users aged 18 to 34 years living in Greater Accra, as they represent the largest adult population of social media users as well as consumers of social media information, making up 68.2% of the entire social media user population (Sasu, 2021). A sample size of two hundred (200) was chosen for the study. Primary data was obtained from the sample and used as bases for further analyses.

The study adopted a quantitative approach to data collection and analyses. The data parameters included but not limited to COVID-19 risk communication, crisis communication, and benefits to the social medial user relative to COVID-19 safety.

A convenience sampling technique was employed to select respondents for participation in this study. This was to offer both flexibility and ease to recruit relevant samples from authentic sources within an otherwise diverse, difficult to reach population in accordance with Ary, et al. (2006). A semi-structured questionnaire was the primary instrument to be used for data collection.

Quantitative method of analysis was used in analysing data. Data was presented using tables accompanied with relevant descriptions and explanations. Statistical Package for Social Sciences (SPSS) version 26 was used for the data analysis.

1.8 Organisation of Chapters

This study is organised in five chapters. Chapter One dealt with the introduction which addressed the background of the study, statement of the problem, objectives of the study, research questions, significance of the study, scope of the study, limitations of the study, and organisation of the study. Chapter Two presented the literature review. Chapter Three provided details on the methodology of the study which explains the research design, study population, sampling procedure and sample size, data collection instrument, data collection procedure, data analysis procedure and ethical considerations. Chapter Four presented the analysis of data. Finally, Chapter Five presented the summary of findings, conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter, the researcher performs a review of extant literature on the main theme of this study. It includes review of theories supporting the studies, discusses concepts and definitions of key concepts.

2.2 Theoretical Review

In this section, two theories were discussed to find a basis to support the study and its findings. The Castell's Network Society and the Laswell's Model of Communication were used for the study. In order to avoid the possibility of leaning towards one variable, two theories were included in this study.

2.2.1 Castell's Network Society

According to Castells (2000), networks are the new social morphology of contemporary society. He asserts that technology has created a dramatic separation in modern culture, which has resulted in a stronger sense of autonomy. "We are going from the industrial to the information age," Castells thinks (Castells, 2000). He discusses how new information technologies, particularly those for communication and biological reasons, ushered in this historical shift. He mentioned how place and time are being transcended in social practices due to the ability to accomplish everything from anywhere thanks to communication technology' potential for ubiquitous continuous touch.

A number of fundamental social, technical, economic, and cultural upheavals collided to give birth to a new type of society (Castells 2000). The phrase "network society" was originally

used by Castells in the first part of his Information Age trilogy, "The Rise of the Network Society: The Information Age: Economy, Society, and Culture." “A network society is defined as a society in which fundamental social structures and activities are structured around electronically processed information networks,” he asserted. It's not only about networks or social networks, since social networks are very ancient forms of social organisation; it's about social networks that process and manage information and are based on micro-electronic technologies” (Castells, 1996).

Simply expressed, a network society is one in which the social structure is built up of networks that are powered by microelectronic-based information and communication technology. Whilst he claims that networks are not a novel kind of social organisation, he claims that they have become a significant aspect of social morphology, and that they are basically new versions of ancient processes. He attributes this to communication technologies such as the internet and mobile phones, which he argues improve decentralization of operations and control focuses, hence increasing the efficacy of networks in comparison to hierarchical systems.

Communication networks are patterns of interaction formed by the flow of messages among communicators over time and space (Monge and Contractor, 2003). The Rise of the Network Society: The Information Age: Economy, Society, and Culture examines the new information age's economic and social processes. It shows studies from the United States, Asia, Latin America, and Europe. The global economy, according to Castells, is today defined by the instantaneous flow and interchange of information, capital, and cultural transmission.

Both consumption and production are ordered and conditioned by these fluxes. Cultures are reflected and created by the networks themselves. They, as well as the information they transport, are generally unregulated on a national level. This implies that society's reliance on

these new modalities of information flow can give those in a position to manage them immense influence over us. "Networks have become the dominating organisational structure in every sphere of human activity," says the report (Castells, 1996). The relevance of this theory is that it provides a framework for examining the operations of online social networks such as social media.

2.2.2 Laswell's Model of Communication

Lasswell's (1948) model of communication is about process of communication and its function to society. Thus, he maintains that an act of communication is described by defining who said it, what was said, in what channel it was said, to whom it was said, and with what effect it was said. In this model, the communication component 'who' refers to control analysis or the control arena of the communication process. In other words, who controls what is communicated? 'What refers to the domain of content of the communication and in which channel communication is carried out, for instance. 'Whom' refers to audience, and 'what effect' draws us into the domain of effect analysis. The communication model suggest that the communication process needs to be accessed along the lines just pointed out. The relevance of this theory provides a framework to understand how communication flows between government agencies and citizens who use social media in obtaining information.

2.3 Concept of Social Media

The origins of social media may be traced back to the mid-1990s. Users of personal computers were drawn to services such as chat rooms, newsgroups, and instant messaging during that time (Thurlow, Lengel, & Tomic, 2004). The use of social media has grown in popularity all around the world. Social networking is not a brand-new notion. What's new

about social media is the addition of Twitter, YouTube, Instagram, LinkedIn, Yahoo Messenger, Skype, Viber, and WhatsApp to its platforms.

According to Jacka and Scott (2011), there is no universally accepted definition of social media. They defined social media, however, as social networking sites like Facebook and Twitter, as well as internet platforms like YouTube, Google+, blogs, and LinkedIn. Social media, according to Martin (2008) and Lusk (2010), is a feature of the internet that allows users to produce and publish online material, share it, and engage with it via Facebook, Skype, LinkedIn, Yahoo Messenger, WhatsApp, and Twitter. Social media, as defined by Junco, Heibergert, and Loken (2010), is a set of internet websites and behaviours that facilitate collaboration, community development, involvement, and sharing.

Davis III, Deil-Amen, Rios-Aguilar, and González-Canché (2012) further defined social media as web-based and mobile apps that enable individuals and organisations to create, engage, and exchange ideas or existing material in various kinds of digital communications. Web-based technologies, desktop computers, and mobile technologies are utilized to develop highly interactive platforms via which users may share, co-create, discuss, and change user-generated material, according to Kietzmann & Hermkens (2011). Social media, according to Boyd and Ellison (2007), is the creation, consumption, and sharing of information via online social interactions and platforms.

2.4 Defining Social Media

As a beginning point for gaining a better understanding of social media's influence on consumer behaviour, the word "social media" should be defined precisely. Given the wide range of terminologies used to describe social media, it's not surprising that there isn't a formal, widely acknowledged definition of the word (Xiang and Gretzel 2010). The following

discussion summarizes the work of many experts in this area and finishes with a definition of social media for the purposes of this research.

Mangold and Faulds (2009) use Blackshaw and Nazzaro's (2004) concept of consumer-generated media to describe social media:

"a variety of new sources of online information that are created, initiated, circulated and used by consumers intent on education each other about products, brands, services, personalities and issues." (Blackshaw and Nazzaro 2004, p.2).

The methods given above may be considered limiting for two reasons: For starters, it views social media only as a source of information, neglecting other functions such as self-expression. Second, it limits social media to a market framework, as if all social media content is designed for consumption.

Solis (2007) gives emphasis to conversation and interaction: *"[...] online tools that people use to share content, profiles, opinions, insights, experiences, perspectives and media itself, thus facilitating conversations and interaction online between groups of people." (Solis, 2007, p.21)*

In a similar vein, Universal McCann (2008) presents a definition that emphasizes the significance of contact and cooperation, which has also been embraced by Caputo (2009) and Microsoft (2010): *"online applications, platforms and media which aim to facilitate interaction, collaboration and the sharing of content." (Universal McCann 2008, p.10).*

Kaplan and Haenlein (2010), on the other hand, focus on the platform and content, describing social media as:

"a group of internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content." (Kaplan and Haenlein 2010, p.23).

Simultaneously, they link social media with making connections easier. Although this is true for most forms of social media, it is not true for all: It's unclear if a vacationer who leaves a hotel review on TripAdvisor is looking for a connection with other TripAdvisor users or just wants to thank the service providers.

Based on the foregoing debate, it can be concluded that one aspect not addressed in the definitions offered is the fact that there are websites that do not solely serve the aim of creating and exchanging UGC, despite the fact that they have mechanisms that allow users to do so.

2.5 Types of Social Media

This study proposes eight types of social media applications. These are discussed briefly below:

2.5.1 Blogs

The name "blog" is a combination of John Barger's phrase "weblog," which he invented in 1997. (Blood, 2000). Peter Merholz coined the phrase "we blog" in 1999, and it has now been shortened to "blog" (Wikipedia, 2011). Pyra Labs produced "blogger" in the same year, a web-based software platform (or blog hosting application) that enables anybody, without any programming experience, to create a blog, a platform that helped considerably to the dissemination and growth of blogs. More than 181 million blogs were predicted to exist worldwide in 2012. (Nielsen, 2012).

A blog is a personal website (either standalone or hosted on a platform like blogger.com or wordpress.com) that contains frequently or regularly updated entries, mostly consisting of text but also include photographs, videos, and connections to other websites. The entries are shown in reverse order, similar to an online diary entry or journal that expresses lived experience, tales, thoughts, or ideas in an informal, personal style (Akehurst, 2009; Lin and Huang, 2010). Blogs are asynchronous in terms of engagement, and they are a "many to many" medium in terms of communication span (Litvin et al., 2008).

Blogs allow for personal posting and encourage the expression of emotions, ideas, views, and opinions. The closeness and personalized tone give the appearance of spontaneity in the flow of ideas and sentiments, giving readers the idea that they are peering into the blogger's true self (Walker, 2005; Trammell and Keshelashvili, 2005; Safko, 2010). Users who maintain blogs commonly post photos (70 percent), recommended websites (43 percent), favourite music pieces they've listened to (34 percent), videos (32 percent), opinions on products and brands (32 percent), stories from other blogs (29 percent), songs in the form of uploads (26 percent), useful widgets (18 percent), applications / widgets (17 percent), and widgets (17 percent) when writing blogs (Universal McCann, 2009). However, this theme distribution only applies to personal blogs, leaving out corporate and governmental blogs.

2.5.2 Microblogs

Microblogs are "internet-based programmes that allow users to communicate little components of material such as brief phrases, individual photos, or video links," according to the Wikipedia definition (Kaplan and Haenlein, 2011). Twitter, Jaiku, Plurk, and Weibo are just a handful of the microblog programmes available. However, Twitter is the most popular and is responsible for the rapid expansion of microblogging (Jansen et al., 2009; Kaplan and

Haenlein, 2011). Twitter has around 255 million monthly active users who send 500 million tweets every day on average in 2014. (Twitter, 2014). Twitter is heavily reliant on mobile devices: 78 percent of active Twitter users access the service via a mobile device (Twitter, 2014). Cheng et al. (2009) discovered that 85.3 percent of all Twitter users publish less than one update per day, 21% of users have never written a Tweet, and 5% of Twitter users account for 75% of all activity by analysing 11.5 million Twitter accounts. The primary purpose of Twitter users is to converse about their everyday lives, followed by chats with other users, sharing and seeking information and URLs, and reporting news. As a result, users may be divided into three categories: information sources, friends, and information seekers (Java et al., 2007).

Microblogging's operating principle is roughly the same for all microblogging applications: Users of Twitter, for example, have their own homepage where they may submit messages (called Tweets) that are up to 140 characters long and may contain links (usually shortened to accommodate for the limited character capacity of the message). Tweets are a priori public, meaning they may be found via search engines and are therefore accessible to all other users. Other users can become "followers" of a single user, receiving his or her tweets on their own profile.

Followers can choose to ignore the message, read it, dive into it, or even retweet it to their own followers if they find it interesting. Three traits are shared by all microblogging applications: (a) limited-character messages; (b) instant message delivery, which is generally supported across various platforms, such as instant messaging, SMS, RSS, email, Facebook, and so on; (c) users subscribe to users to receive postings (Jansen et al., 2009).

Microblogging applications (e.g., Twitter) differ from the majority of social networking sites (e.g., Facebook) in that (a) the relationship with followers is not reciprocal: User A can

follow User B, but User B is not required to follow User A; (b) posts are by default public, and users can be followed without their permission (Yardi and Boyd, 2010; Kwak et al., 20). Microblogging, compared to blogging applications are swifter communication methods that get updated more frequently (Java et al., 2007).

2.5.3 Social Networking Sites

The most common sort of social media is social networking sites (SNS), sometimes known as "social network sites," and their popularity is growing globally (Richter and Koch, 2008, Belanche et al., 2010; Universal McCann, 2010). Facebook, Google+, Wayn, RenRen, LinkedIn, and Xing are all instances of social networking sites. More than half of all adults in the United Kingdom visit a social networking site at least once a week (Ofcom, 2013).

Kaplan and Haenlein (2010, p.63) define social networking sites as:

"...applications that enable users to connect by creating personal information profiles, inviting friends and colleagues to have access to those profiles, and sending e-mails and instant messages between each other."

The popularity of social media sites has exploded all around the world. Within the previous six months, more than half (61%) of global active Internet users (those who use the Internet at least every other day) managed a profile on an existing social network (Universal McCann, 2010). Young adults aren't the only ones who use social networking sites: In the United States, 27 percent of seniors (65 and above) utilize social networking sites, accounting for 46 percent of all online seniors (Smith, 2014).

In 2021, Facebook stood as the most popular and most used social networking platform in the world, with over 2.89 billion monthly active users (Statista, 2021). Apart from Facebook, there are countless other SNS apps, such as Orkut (prevalent in India and Brazil),

Vkontakte.ru, and Odnoklassniki.ru, that are Russian social networking sites with over 79 million and 65.3 million visitors, respectively (Digit.ru, 2013), as well as LinkedIn, Xing (both business-related SNS), and academia.edu, which are aimed at the university community.

According to Jin et al. (2010), a registered user on a social networking site (SNS) establishes a profile that includes a set of descriptors (such as sex, age, location, occupation, personal interests and preferences, and so on) as well as a photo or avatar (as is the case of virtual identities SNS such as the Chinese tencent.com). Profiles are then enriched with content (i.e., status updates, comment posts, photos, videos, links, documents, and so on) and, depending on the specific SNS's policy and settings, can be made public (i.e., accessible to anyone within the SNS or through a search engine in whole or in part) or private (i.e., only accessible to a specific set(s) of users) (Jin et al., 2010). Users may then form relationships or connections with others they either know or don't know (referred to as "friends," "followers," "funs," "contacts," and so on) (Jin et al., 2010).

2.5.4 Content Communities

According to Jin et al. (2010), users can exchange media material such as movies, images, papers and presentations, music, and web links through content communities, which are web-based apps. For video, there's YouTube, Vimeo, and Dailymotion; for photographs, there's Flickr, Picasa, Panoramio, SmugMug, and Fotolog; for documents and presentations, there's Scrib, slideshare.net, and docstoc; and for music, there's lastfm, ilike, and ping. Dig for bookmarking and yummy. YouTube appears to be the most popular of all content communities, with over one billion unique visitors every month: In 2014, people viewed over 6 billion hours of video every month, and 100 hours of video was posted every minute

(YouTube, 2014). Flickr has 92 million members who post roughly 1 million photographs every day, despite being less popular but still amazing in terms of size (Flickr, 2010).

The act of posting and viewing a picture or video in a content community is considered by Jin et al. (2010) to be an "implicit vote" in favour or against the themes presented. As a result, the wisdom of the social media crowd is revealed by collecting data on those "votes," allowing prediction and forecasting in fields such as politics, economics, and marketing. Based on product-tagged images people posted on Flickr, they were able to forecast unit sales of popular items (music players, PCs, mobile phones, and gaming consoles) in their study. Furthermore, they demonstrated that by monitoring photo upload and watching habits on Flickr, one can track the distribution, acceptance, and popularity of items throughout the world.

2.5.5 Consumer review websites

According to Fotis (2015), Consumer review websites (CRWs) are social media platforms that allow users to submit product reviews and ratings. CRW can provide a wide range of features, from uploading comments and pictures to a single-variable product or service rating, as well as wish lists, price comparisons, advanced search, multi-variable ratings, price history charts, buy / hold recommendations, price alerts, deal rankings, merchant / retailer evaluations, and personalized CRW recommendations.

Consumer review websites can take many forms:

• Yelp, Epinions, Reevoo, TripAdvisor, Holidaysuncovered.co.uk, Holidaywatchdog, Holidaycheck.de (popular in Germany), and Zoover are examples of independent websites that have as their major function the collecting and dissemination of customer feedback (popular in Belgium and the Netherlands) (Fotis, 2015).

• As embedded material within websites that have as their major function the sale of products or services, but also include a significant number of reviews in an effort to aid consumers in their decision-making, such as Amazon, eBay, and the many OTAs websites in the tourist context (e.g., Expedia, Booking.com, Travelocity etc.) (Fotis, 2015).

TripAdvisor, one of the most popular CRWs, with over 150 million reviews for over 4 million companies and 260 million monthly unique users (TripAdvisor, 2014). Yelp receives over 132 million monthly visits and contains 57 million reviews (Yelp, 2014). A quarter of all US citizens (or 32% of US Internet users) wrote product evaluations or comments online in 2010. (Jansen, 2010).

2.5.6 Wikis

Ward Cunningham founded the first wiki in 1995, naming it after the Hawaiian word meaning "fast." His original system, http://c2.com/cgi-bin/wiki, is still operational today (Mattison, 2003). The following is a definition for wikis:

"a freely expandable collection of interlinked Web 'pages', a hypertext system for storing and modifying information — a database, where each page is easily editable by any user with a forms-capable Web browser client" (Leuf and Cunningham, 2001, p.120)

Wikis are easy to use and asynchronous (Désilets et al., 2005). Each page may be created and modified by users. Wikis are speedy because users may read and modify at the same time, as their name indicates. Each page evolves as a result of contributions from a variety of users, filling in gaps left by predecessors (Lamb, 2004).

More than a thousand wikis existed in 2004. (Chawner and Lewis, 2004). Wikipedia, a multilingual, free online encyclopedia produced by its users, is the most well-known of these wikis (Gardner, 2008). According to Wikipedia's facts and numbers, the English language

edition has over 4.6 million entries, with 800 new items uploaded every day (Wikipedia, 2014). Wikipedia is the world's sixth most frequented website in terms of unique visitors (Alexa, 2014).

Wikis can be open to the public, as in the case of Wikipedia, or restricted to certain registered users; an increasing number of companies are using wikis as "internal knowledge management systems" (Gardner, 2008), promoting information sharing among their personnel. Since wikis have become increasingly popular in recent years, they have attracted a great number of users. However, there are worries that wikis may have a variety of issues, such as anarchical architecture or outdated navigation pathways (Buffa and Gandon, 2006). The main public fear regarding wikis, particularly Wikipedia, is that its entries may be full of errors since anybody may edit them. Several bloggers investigated this issue by deliberately putting inaccuracies in the Wikipedia. The flaws were detected and fixed fairly soon, much to their amazement (O'Connor, 2005). Nonetheless, there are concerns about its dependability.

2.5.7 Internet Forums

Internet forums (IF) are web-based virtual places where people with similar interests can start or join asynchronous discussions, submit comments, questions, or replies arranged in threads, and establish their own subjects (Carbonaro, 2011). Discussion forums, web forums, online forums, online communities, message boards, discussion boards, bulletin boards, discussion groups, or simply forums are all terms used to describe IFs (Laughlin and MacDonald, 2010). IF have long been regarded as powerful sources of consumer information, even before the creation of social media in its modern form (Bickart and Schindler, 2001). With 2.7 million daily postings, the Japanese 2channel (www.2ch.net) is considered the world's largest IF (Maslow, 2011).

2.5.8 Location Based Social Media

According to Eren et al. (2006), location-based social media (LBSM) are online or mobile-based programmes that allow users to create a list of other users with whom they share their physical location at a certain point in time (referred to as "check-in"), which is generally connected with a certain venue or location. In addition, the venue's comments, evaluations, and suggestions may be added.

LBSM is a subset of location-based services (LBS, also known as mobile location services or location-aware services), which are computer programmes that offer data based on the device's and user's location (Raper et al., 2007). LBS is a considerably broader idea that encompasses a variety of applications including automobile navigation, mobile personal guides, location-based advertising, and more. Foursquare, Gowalla, and Facebook Places are all examples of LBSM. After being bought by Facebook, Gowalla was shut down in 2012. Facebook Places ceased to operate as a standalone programme in August 2011, and a check-in function was integrated into Facebook. Foursquare said in December 2013 that it has achieved 45 million users and 5 billion check-ins since its inception (Foursquare, 2013). In 2011, 4% of all US adults used their mobile phones to check-in to locations using location-based social media, but this percentage rises to 12% among adult smartphone owners (Zickuhr and Smith, 2011).

2.6 Assessing Social Media Adoption in Ghana

The following prominent social media sites will be examined for this study: Facebook, Twitter, Skype, Yahoo, YouTube, and WhatsApp.

2.6.1 Facebook

Facebook was a famous free social networking website that allowed registered users to establish profiles, post photographs and videos, and send messages to their friends, relatives, and coworkers (Russell, 2014). It was founded by Mark Zuckerberg in 2004, whilst he was a student at Harvard University. Anyone over the age of 13 with a verified email address was able to join by 2006. With over 1 billion users globally, it is the world's largest social network (Facebook, 2015). According to Internet World statistics for Africa (2017), Ghana had 4,000.000 Facebook subscribers as of June 30, 2017. Users may make friends with others, upload and share information (including movies and photographs), chat, and join shared interest groups (Shah and Sardar, 2011). “Facebook is probably the center of the social web and is sort of an all-in-one wonder,” according to Russell (2014), with more than half of its 1 billion members active every day, publishing images, trading messages, and just about everything else you can think. Its primary function is to develop and sustain relationships in job conditions, political affiliations, or just among friends and family (Facebook, 2015). According to a report provided by Facebook (2012), the network had 901 million monthly active users at the end of March 2012. Facebook is used by not just ordinary people, but also celebrities, politicians, and religious leaders to disseminate information. It has grown to be the most successful social media platform that stands out from the others (Goble, 2012).

2.6.2 Twitter

Twitter is a social networking and online news service where users may send and receive messages known as "tweets" (www.twitter.com). Jack Dorsey, Noah Glass, Biz Stone, and Evan Williams founded Twitter in March 2006, and it was debuted in July of that year. Twitter has over 319 million monthly active users as of 2016, 1 billion unique visitors to sites

with embedded tweets, 82 percent active users on mobile, and 40+ languages supported as of 2016. (www.about.twitter.com). This social networking site lets users to create customised messages with no more than 140 characters (or tweets) using the site's newsfeed (Shah and Sardar, 2011). Unregistered individuals can only read tweets, whilst registered ones can post them. Twitter users have an open profile, which includes their complete name, location, a web page, a brief life biography, and the number of tweets they have sent. The people who follow the user, as well as the individuals who follow the user, are listed. During significant political events and natural disasters, Twitter has undoubtedly become a critical communication route. It is now used for marketing, public relations, and customer service by corporations (O'Reilly & Milstein, 2012).

2.6.3 Yahoo

Yahoo is an internet gateway website that combines a wide range of information, from entertainment to business news. Users may personalize their homepages, check their email, and search the Internet. Jerry Yang and David Filo launched Yahoo Inc. in 1994, and it has since evolved to become one of the most popular websites on the internet. The Business & Human Rights Resource Centre claims that (2012). Yahoo was established on the belief that improving people's lives and their relationships with the world around them can be accomplished by increasing access to information. According to the Yahoo Transparency Report (2012), Yahoo is used by over 1 billion individuals across the world for daily activities such as email, picture sharing, news, and sports. Yahoo receives demands from governments all around the globe to release sensitive user data or delete material on a regular basis (TechCrunch, 2012).

2.6.4 Skype

Skype is a telecommunications software programme that specializes in video chat and phone conversations via the Internet between PCs, tablets, and mobile devices. Niklas Zennström and Janus Friis formed the company in 2003, and it is headquartered in Luxembourg City. In 2017, over 1.33 million Skype users were anticipated to be registered worldwide (Statista, 2018). Millions of people use Skype to make free video, audio, and group conversations, as well as send and receive instant messages and exchange files. Governments have been able to eavesdrop on people thanks to the use of Skype. When human rights advocates use Skype, they are frequently subjected to unauthorized government surveillance (Amnesty International, 2016).

2.6.5 YouTube

YouTube is a free video-sharing website that makes watching internet videos simple. Hurley, Chen, and Karim built it in San Mateo, California, and it was first released in 2005 (Prensky, 2009), but it was purchased by Google in 2006. YouTube is currently one of the most popular websites on the Internet, with more than 400 million daily mobile visits and 6 billion hours of video watched each month (www.youtube.com). The YouTube site allows registered users to submit and make their films accessible for public viewing, and anybody may post whatever they want on the platform. Every month, more than 800 million individuals are projected to visit YouTube to view and share video (www.youtube.com). It allows users to influence what others watch by sharing videos and also by making videos to affect watching patterns like a social networking site (Shah and Sardar, 2011).

2.6.6 WhatsApp

Alsanie (2015) characterizes WhatsApp as an exclusive, cross-platform instant messaging subscription service for smartphones and compatible mobile phone devices. Despite the fact that WhatsApp was developed in 2009 by former Yahoo programmers Brian Acton and Jan Koum (Alsanie, 2015), it has since acquired traction in the lives of people, particularly young people. It makes voice calls, one-to-one video conversations, and sends text messages, photos, GIFs, videos, documents, audio files, phone contacts, and voice notes to other users through the Internet using ordinary cellular phone numbers. Next to Facebook, WhatsApp is the most popular and well-known messaging programme, as well as the most well-known instant messaging app on the planet (Alsanie, 2015).

WhatsApp is quite similar to text messaging services; however, because WhatsApp sends messages via the internet, it is substantially less expensive than texting. Despite the fact that the site has been criticized for being time demanding, its popularity continues to grow. WhatsApp has over one billion users by February 2016, making it the most popular messaging app at the time (Statista, 2018) In conclusion, the 21st-century social media and social networking platforms have aided in the free flow of information and the access to material that would have been impossible to obtain previously. These platforms, on the other hand, provide a larger challenge to modern civilisations since they may be utilized for harmful actions that can harm society.

2.7 Risk and Crisis Communication

The goal of crisis communications is to communicate information to a variety of audiences in order to help people recover from a crisis, avoid a future disaster, or maintain a specific reputation (Ferrante, 2010). Even if they have never faced a crisis, an organisation should

always be prepared. Conducting a crisis audit, drafting a crisis management plan or manual, and performing crisis training are three critical phases in crisis preparedness, according to Tench and Yeomans (2006). An organisation should conduct a crisis audit to identify its strengths, weaknesses, and vulnerabilities, as well as important stakeholders, a crisis management team, and prospective crisis circumstances (Heath & Coombs, 2006). A crisis manual or crisis communication plan, according to Tench and Yeomans (2006), will include key stakeholder contacts, media connections, key audience messaging, crisis team members and roles, and succinct lists of actions to be executed in the event of a crisis (Henry, 2000).

Involve the public; plan and assess initiatives; listen to public concerns; be honest and transparent; work with other reliable sources; satisfy media demands; and communicate clearly and compassionately, according to Ferrante (2010). Furthermore, especially if death or damage is involved, an audience must believe that the organisation cares. Given the technical nature of the sector, frequent misunderstanding of the business by the general public, and previous instances of agricultural crises, all agricultural communications practitioners should have a risk and crisis communication strategy in place (Fry, 2012).

The primary job of a public relations practitioner during a crisis is communications. Despite the fact that many farmers shun the media (Eyck, 2000), it is critical to connect with both the media and the organisation's stakeholders (Coombs, 2007). Ulmer, Sellnow, and Seeger (2007) offered ten lessons for communicating during accidental crises, which are situations that cause a lot of confusion among stakeholders and the general public. Outbreaks of foodborne disease come within this category: Accept that a crisis may strike at any time; 2) an organisation's reaction to a crisis should be tailored to the specifics of the situation; and 3) the danger of a crisis is perceptual. 4) communicate often and quickly during the crisis, even if the organisation lacks crucial knowledge; 5) do not withhold or modify any public information in an attempt to be unclear; 6) be prepared to defend evidence or facts presented

during the crisis; 7) operate with good intentions; 8) believe that the company bears responsibility for the crisis; 9) a case should be presented as to who should bear responsibility for the crisis and why; 10) examine business practices during and after the crisis.

A crisis communication strategy allows an organisation to be proactive, which puts it in a better position to be in control when a crisis occurs. As a crisis unfolds, the plan should allow the organisation to respond to any and all developments whilst also protecting itself (Leighton & Shelton, 2008).

2.8 COVID-19 Pandemic – A Retrospective Account

The World Health Organisation (WHO) announced on January 12, 2020, that a new coronavirus was the source of a respiratory disease in a group of patients in Wuhan City, Hubei Province, China. The pathogen (an RNA virus) was identified as SARS-Coronavirus-2 (SARS-CoV-2) and the disease was given the name COVID-19 (World Health Organisation, 2020).

The virus is spread mostly by contact with minute droplets produced by an infected person coughing, sneezing, or talking. Whilst a large percentage of infected people are asymptomatic, fever, cough, acute respiratory distress, lethargy, and failure to clear after 3 to 5 days of antibiotic therapy are the most prevalent symptoms in clinical cases. Pneumonia and acute respiratory distress syndrome are two possible complications (Lake, 2020).

COVID-19 has been verified in over five million people worldwide, with over 300,000 fatalities as of May 25, 2020. With approximately 1.5 million cases and over 100,000 fatalities, the United States of America has the largest number of cases (CSSE, 2020). More than 90,000 cases have been documented in Africa, with around 3,000 fatalities. With 23,615 cases and 481 fatalities, South Africa has the largest number of cases.

Ghana reported its first COVID-19 cases on March 12, 2020, and as of May 25, 2020, has over 7,000 cases with 34 deaths (Worldometer, 2020).

Prior to the confirmation of the epidemic in Ghana, the National Disease Surveillance Department of the Ghana Health Service conducted a preparedness assessment and established a response strategy. Furthermore, the country provided orientation at the Kotoka International Airport (KIA) and other ports of entry for effective screening and handling of suspected cases, as well as contact tracing training for Alumni and Residents of the Ghana Field Epidemiology and Laboratory Training Programme (Ghana FELTP) and Ghana Health Service staff (GHS). In all health facilities, the GHS and all other Ministry of Health (MoH) institutions have increased routine surveillance. Ghana's government pledged $100 million on March 11 to improve the country's coronavirus readiness and response strategy. Ghana's Ministries of Health, Information, and Media launched vigorous public education and awareness efforts to raise awareness.

On March 12, 2020, the first two cases of COVID-19 were reported. The patients were all imported, but the sickness swiftly spread across the community, and within a week of the initial instances, the country had verified instances in people who had no connection to international travel. The bulk of instances occurred in Accra and Kumasi, Ghana's two most populous cities.

On March 16th, a ban on all public gatherings, as well as the closure of schools, churches, mosques, and other places of worship, was enacted; on March 17th, a ban on entry for travelers arriving from a country with more than 200 confirmed COVID-19 cases within the previous 14 days was enacted; and on March 18th, a mandatory quarantine of all travelers arriving in the country was enacted. On April 20th, the limitations on Accra and Kumasi were eased, and on April 26th, the usage of face masks became necessary. These steps were

backed up with education on the disease and how it spreads, as well as preventative measures including hand washing with soap under running water or alcohol-based hand sanitisers, and the use of face masks.

Enhanced surveillance in the form of active case search and contact tracing procedures were launched during the lockdown to find, isolate, and treat all confirmed cases early. With funding from the Ghana FELTP, the Ghana Health Service mapped out all known cases, did a risk assessment, and sampled members of households within a 1–2 km radius of the cluster of cases based on the context. The increased monitoring and contact tracing technique assisted the country in identifying a large number of cases, with 93 percent of them being asymptomatic. This method has been used to detect around 63 percent of total confirmed cases in Ghana (4519/7,117).

Even though the lockdown was lifted after three weeks, post-lockdown procedures were implemented to keep the illness from spreading. Personal hygiene measures, enforced mask wear, a restriction on social gatherings, social separation, an increase in the number of testing stations, and humanitarian aid for Ghanaians were among them. As we continue to increase surveillance and other response actions, this has become the new normal. The University of Ghana's Noguchi Memorial Institute for Medical Research (NMIMR) and the Kwame Nkrumah University of Science and Technology's Kumasi Center for Collaborative Research (KCCR) were the first to test for COVID–19 in Ghana.

The number of testing sites has been increased to include the National Public Health Reference Laboratory (NPHRL), National Veterinary Service Department (VSD) Laboratory, and Center for Scientific and Industrial Research (CSIR) Laboratory in Accra; the Public Health Reference Laboratory in Tamale, the Tamale Teaching Hospital Laboratory, and the National Veterinary Service Department (VSD) Laboratory in Accra; and the National Public

Health Reference Laboratory (NPHRL), National Veterinary Service Department (VSD), and Center for Scientific and Industrial Research (CSIR) Laboratory COVID–19 testing has also been expanded to include private laboratories. To address the problem of supplying data in real time, the Ghana FELTP immediately created an interim real-time data collecting and reporting tool utilizing “ArcGIS” (Environmental Systems Research Institute) in partnership with the Department of Geography at the University of Ghana (ESRI). (2014). “Survey 123” (Environmental Systems Research Institute (ESRI)) and “ArcGIS online” (Redlands, CA) (2020). 123rd survey.

The Ghana Health Service (GHS) launched the “SORMAS” (Helmholtz Centre for Infection Research) in Redlands, California (2019). Outbreak Response Management and Analysis System for Surveillance. As a nationwide electronic real-time platform for surveillance and epidemic response, Braunschweig, Germany) has developed an application.

Although improved surveillance is currently ongoing6, Ghana has seen a decrease in the number of confirmed cases since April 25, 2020. This might indicate that the virus was controlled and disseminated in Ghana as a result of the tactics implemented. However, in order to halt the COVID–19 epidemic in Ghana, these accomplishments must be maintained and expanded. A more measured approach based on epidemiological and clinical studies to determine the profile of the disease's disproportionately high asymptomatic patients, as well as genome studies on the viral strains of those who died from the disease, asymptomatic patients, and prognostic conditions, is required.

These researches will aid the government in identifying the risk profile of people who may be immune to the virus, as well as directing resources to those who are at high risk. Second, with well-defined batch system working groups that are segregated from one another, explicit social distance and personal hygiene standards should be imposed in the workplace. Finally,

clear instructions for protecting persons with co-morbidities should be offered, since it is increasingly obvious that NCD prevention and management will play an important part in the overall COVID-19 response.

2.9 COVID-19 Risk and Crisis Communication

According to Poonia and Rajasekaran, (2020), COVID-19 has significantly affected different elements of living throughout the world as a worldwide health issue. As the number of instances continues to rise, data from a variety of sources is continually being updated. Individuals now, unlike in prior worldwide pandemics, are more connected than ever before, with rapid access to information (Poonia & Rajasekaran, 2020). By word of mouth, social media, news, and medical journals, information, whether correct or not, is swiftly traveling from one side of the planet to the other (Poonia & Rajasekaran, 2020). With the concurrence of virology and virality, this has generated a notable contrast between the current and prior pandemics, in which not only did the virus itself travel quickly, but so did the information and disinformation regarding the pandemic (Depoux et al., 2020). As a result, effective outbreak communication has never been more important in dealing with public anxiety, whilst also encouraging risk knowledge, enabling the public to take preventative measures, and winning public confidence and trust (J. Q. Liao & Fielding, 2014). (Depoux et al., 2020). Several challenges to effective risk communication have also been revealed as a result of the epidemic.

Technical information must be prepared and presented with painstaking attention to comprehension by various audiences during a crisis that threatens public health and livelihood in general (Glik 2007). This necessitates identifying important stakeholders, comprehending who they are, recognizing opposing opinions on the issue, and carefully

presenting the information whilst keeping the stakeholders' views in mind (Paulik, Keenan, & Durda, 2020). Furthermore, risk communication efforts during a pandemic face unique challenge, including the need to communicate at a time when science is uncertain and deadlines are tight, the danger or threat of the pandemic, such as deaths, health system collapse, and economic loss, and, most importantly, the need to leave no one behind, prevent further damage, and address people's emotional needs (Schiavo, 2010).

COVID-19 is particularly prone to disinformation since it is the first pandemic in history to coincide with an information crisis. The word "infodemic" refers to an oversupply of information used to distribute false information in order to weaken public health responses and further the objectives of groups or people (Joint statement by WHO, UN, UNICEF, UNDP, UNESCO, UNAIDS, ITU, UN Global Pulse, and IFRC 2020). Given the gravity of the situation, the WHO issued a joint statement with other UN agencies (UN, UNICEF, UNDP, UNESCO, UNAIDS, ITU, and UN Global Pulse) and the International Federation of Red Cross and Red Crescent Societies (IFRC) urging Member States to develop and implement action plans to manage the infodemic by promoting timely dissemination of accurate information (WHO, 2020). The information must be based on research and facts, available to all populations, particularly high-risk populations, and avoid disinformation whilst protecting freedom of expression. Indeed, according to Barua et al. (2020), having the correct and precise facts regarding COVID-19's causes and how it spreads is the greatest way to slow down its spread.

On the other side, about half of the world's population lacks internet connectivity (Broom, 2020). This situation has exacerbated the digital divide and exacerbated existing inequality (van Deursen, 2020), increasing the risk of marginalized communities, who are less likely to benefit from digital information and are therefore more vulnerable to the crisis' negative consequences (Beaunoyer, Dupéré, & Guitton, 2020). As a consequence, it's critical to utilize

social media carefully whilst simultaneously addressing digital literacy and technology access among the world's vulnerable people.

2.10 Social Media in the Context of COVID-19 Risk and Crisis Communication

According to Wang (2021), Twitter was the most popular social media tool for outreach and disseminating risk communication messaging across most companies. It was discovered that communication patterns, major topics, stakeholder messaging, trends, and other factors had changed (Wang, 2021). As a result, it is critical to employ Twitter message diffusion analysis to acquire a better understanding of health emergencies and official agency and stakeholder risk communication. This would provide information on information distribution characteristics including frequency, timeliness, message kinds, and coordination, which would be useful in developing a social media risk communication plan (Wang, 2021).

As the pandemic progressed, messages expressing empathy and support had grown in popularity (Habersaat et al., 2020). Habersaat et al. (2020) emphasised the need of community resilience in a recent study, stating that online communities have been promoted as areas where such types of resistance might grow and take root as a result of the lockdown tactics. From a psychological standpoint, the study found that social media use acts as a buffer, managing and mitigating the many types of worry that people feel throughout the epidemic. As a result, social media should play a key role in risk communication methods, particularly to promote resilience, assist coping mechanisms, and reduce negative psychological consequences (Habersaat et al., 2020).

The conclusions of this study agree with those of Austin and Jin (2017), who describe three ways that public agencies might use social media for risk communication. The first is to give information and instruction, which includes broadcasting updates, dispelling falsehoods,

responding to public enquiries, and linking people to useful information sites. Second, it may be used as a platform for community building, promoting resiliency and creating narratives that raise community morale and foster a sense of belonging. According to studies, longitudinal risk communication should not only focus on emergency risk communication and instructional messages, but also incorporate long-term action by the general public (Sutton 2020). Finally, social media acts as a hub for interagency collaboration and networking. This makes use of social media's connective functions, such as Twitter's retweet and mention functionalities, to coordinate and organize action from other agencies, nonprofit and civil society groups, enterprises, and even ordinary individuals. Furthermore, the usage of hashtags may aid in the development of interagency collaboration and networking, both of which are common among agencies and stakeholders. Individuals may be more engaged and feel a feeling of belonging as a member of a bigger collective body if they contribute locally by submitting information about their local surroundings through hashtag campaigns focused on public health.

2.11 Social Media Use by Government Agencies in A Global Setting During COVID-19 Pandemic

According to Liao (2020), governments, in general, use the most popular social media platform in their area to connect with the public. For example, the Chinese government uses the microblogging site Weibo (also known as Sina Weibo) to communicate about COVID-19. Weibo is one of the most popular social media sites in China. The Municipal Health Commission (MHC) in numerous Chinese cities, including Wuhan, Zhuhai, Shanghai, and Beijing, and one city-level hospital in Sichuan Province, China, were found to be the most active government entities, according to Liao (2020). Information concerning rules, rules, official acts, and instrumental backing was more likely to be shared within government

agency postings. According to Zeng (2020), compared to pre-epidemic figures, China's Center for Disease Control and Prevention (CDC) saw a rise in new tweets and followers, with 60,000 new tweets and 1.4 million new followers on the 134 CDC accounts. 90% of the tweets were concerning COVID-19-related public health emergencies. The CDC used Sina Weibo, a microblogging service, to broadcast four primary themes: daily epidemic updates, CDC activity, public education about the pandemic, and the usual acts and commitment of anti-epidemic pioneers, particularly the CDC.

The government of Vietnam and the Philippines, including the Ministry of Health and Local Government Units (LGUs), used Facebook to disseminate COVID-19-related information. Facebook is the key avenue for getting and seeking information in both nations (La, 2020). In the Philippines, local governments mostly used Facebook to offer frequent updates or reports on local crisis response and management, stimulate civic involvement, offer frequent updates on local crisis status, and combat disinformation, false news, and other concerns related to the disaster (Flores & Asuncion, 2020).

Purnomo (2020) evaluated four Twitter accounts of Jakarta public transportation systems, including LRT (Light Rail Transit), MRT (Mass Rapid Transit), BRT (Bus Rapid Transit, also known as TransJakarta), and Commuter Line, in light of the large-scale social limitation in Jakarta, Indonesia (commuter line system). During the pandemic, the tweets' content mostly focused on COVID-19, transportation information, risk information, and community information, according to the content analysis. The research divided Jakarta's public transportation department's usage of Twitter into five categories: information on timetable modifications, situation reports such as corridor and terminal problems, danger communication, mental assistance, and service information.

2.12 Social Media Use by News Media Agencies During COVID-19 Pandemic

Social media was also used by media businesses and channels to cover public health emergencies. Yu (2020) studied the news updates from two major Spanish newspapers, El Pas and El Mundo, on Twitter during the epidemic. The qualities of their respective subjects on social media were translated from the various forms of media. Using a combination of topic modeling (a type of statistical model for discovering abstract "topics" in a collection of documents) and the network analysis method (the process of investigating social structures through the use of networks and graph theory), the center-left media focused primarily on family life and living issues ("Livelihood"), whilst the center-right media focused the majority of their attention on the environment.

According to Basch's initial research (2020), news media had the greatest posting rate (85%) among the top 100 most popular YouTube videos in January and March 2020. Among all videos made by the media, the advice to stay indoors from received the most views, with 81.3 percent. However, according to the second study (Basch, 2020), by March 20, 2020, entertainment television had uploaded the majority (57%) of the most widely viewed videos in this study, accounting for nearly 55% of the total cumulative views, and the number of videos uploaded by news sources had decreased significantly (from 85 percent to 19 percent) Similarly, the most popular entertainment sector videos reinforced the idea of staying home. Li (2020) also discovered that network news and entertainment news were the most common sources of YouTube videos that were featured. However, compared to professional and government media, videos from the internet news and entertainment news were substantially more likely to include non-factual material. D'Souza (2020) also looked at the top 113 COVID-19 videos on YouTube. They discovered, however, that news organisations were more likely to broadcast informative films than deceptive videos. The information includes things like prevalence and incidence, as well as information on outcomes and prognosis. In

China, People's Daily, one of the country's most well-known state-owned media outlets, has changed the media landscape by emphasizing public contact through social media. Using Sina Weibo as the major social media network, Ngai (2020) found that illness prevention postings provided in a narrative format received a lot of shares. Content and style also had a role in the high level of engagement among social media users. Using a narrative format in disease prevention posting resulted in a considerable increase in comments and likes from the Chinese audience, whilst links to external sources encouraged sharing.

2.13 Social Media Use by Healthcare Organisations and Healthcare Professionals During COVID-19 Pandemic

Social media's popularity and reach make it an excellent platform for healthcare companies to develop social media campaigns. Graffigna (2020) created a social media campaign in Italy in the early months of the pandemic to improve people' health involvement toward behavioural change in order to limit the spread of COVID-19. The hashtag #I-am-engaged (in Italian: Io-sono-engaged) was used in conjunction with Facebook posts, live videos, and video testimony for the initial implementation. The ad was launched on March 10, 2020, and early statistics revealed that it was able to reach 33.390 people on Facebook. Only 10% of the audience expressed active participation with the campaign, with 697 expressing likes, 102 posting comments, and 253 sharing the information. These findings revealed that Facebook looks to be a better medium for connecting with the audience and communicating public health information in a dynamic manner.

COVID-19 resulted in a rise in the number of followers on social media for healthcare professionals. According to Pérez-Escoda (2020), this growth can be seen across three social media platforms: Instagram, Twitter, and YouTube. In addition, during a worldwide

epidemic, healthcare practitioners used social media to enhance international collaboration and speedy information distribution among their community. According to Kudchadkar (2020), the pediatric critical care community pushed the use of PedsICU and COVID-19 in tweets related to the COVID-19 pandemic among the world pediatric critical care community. The largest stakeholder group tweeting all PedsICU material (72 percent) was healthcare providers, whilst non–physician healthcare providers supplied the most involvement in COVID-19 tweets (46 percent). The hashtag has reached six continents, with the majority of tweets coming from North America and Australia. Open-access materials, such as links to current literature, narrative reviews, and educational films pertinent to COVID-19 clinical care, were the most popular tweets posted on Twitter.

Between December 1, 2019 and April 1, 2020, Wahbeh (2020) evaluated English messages from 119 medical professionals on Twitter. Actions and suggestions, battling disinformation, information and knowledge, the health-care system, symptoms and sickness, immunity, testing, and infection and transmission where the eight categories in which tweets were categorized. The bulk of tweets (2827/10,096, 28%) focused on necessary steps and advice to contain the epidemic, followed by countering disinformation (2019/10,096, 20%). Other tweets addressed basic knowledge and information on the virus (911/10,096, 9%), as well as worries regarding health-care systems and staff (909/10,096, 9%). The remaining tweets mentioned COVID-19 symptoms (810/10,096, 8%), immunity (707/10,096, 7%), testing (605/10,096, 6%), and viral infection and transmission (503/10,096, 5%).

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter provides a description of the research methodology to be used for this study. These include the research design, target population, sample size and sampling procedures, data collection instruments, data analysis techniques and ethical considerations.

3.2 Research Design

McMillan and Schumacher (2006) emphasise that a research design outlines how the investigation will be carried out. It summarizes the study's protocols, including when, from whom, and under what circumstances data will be collected. In other words, the research design outlines the overall strategy: how the study will be conducted, what will happen to the volunteers, and what data gathering methods will be employed. The goal of a research design is to lay out a strategy for gathering empirical data to answer the study questions (McMillan & Schumacher, 2006).

For this study, a descriptive survey research design was used. Quantitative data was collected using a descriptive survey study method. This study gathered quantifiable first-hand data on the role of social media in Ghana's COVID-19 risk and crisis communication efforts. The characteristics of the individuals, including their qualities, behaviour, and opinions, was determined through descriptive study. It entailed the creation of a survey or questionnaire and the distribution of it to respondents who submit responses.

According to Mugenda and Mugenda (1999), surveys are used to gather data that depicts current phenomena by questioning people about their views, attitudes, actions, and values.

Descriptive research studies, according to Kothari (2004), are focused with describing the features of a specific individual or group. Because the focus of the study is to obtain information – social media usage in risk and crisis communication during the COVID-19 pandemic – on a group of persons/institutions, which in this study includes government and government agencies as well as citizens who are social media users, the researcher used a descriptive survey research design. The advantages of a descriptive survey design include the simplicity of establishing a relationship between variables and comparing them, the ability to administer a large number of questions to a large number of respondents, and anonymous questionnaire completion.

3.3 Target Population

A population, according to McMillan and Schumacher (2006), is a set of components or examples, whether humans, objects, or events, that meet particular characteristics and to which we wish to generalize the research findings. For the purpose of this study, the population consist of Ghanaian citizens living in the Greater Accra Region, who use social media.

3.4 Sample Size and Sampling Technique

From a target population of 8.2 million users of social media in Ghana (Sasu, 2021), two hundred (200) of them within the age range 18 and 34 years were conveniently selected, from whom data was collected for this study. The sample size was therefore two hundred (200).

The suitable social media users for this study were chosen using a convenience sampling methodology. Convenience sampling (also known as Haphazard Sampling or Accidental

Sampling) is a type of non-probability or non-random sampling in which members of the target population who meet certain practical criteria, such as easy accessibility, geographical proximity, availability at a specific time, or willingness to participate, are included for the study's purposes (Dörnyei, 2007). The researcher employed the convenience sampling methodology since it saved time and ensured that data is collected without bias. In addition, the researcher's objective was to keep the sample selection process as simple as possible. Hence the use of convenience sampling strategy.

3.5 Data Collection Instrument

The data gathering and analysis for the study was quantitative. COVID-19 risk communication, crisis communication, and advantages to the social media user in terms of COVID-19 safety were among the data parameters.

The primary tool for data collection was a semi-structured questionnaire. The items on the questionnaire will be prepared in accordance with the study's goals. The questionnaire was categorised into sections to capture each of the study's objectives. The demographic characteristics of respondents were presented in Section A. Section B presents information on Ghanaian residents' use of social media sites. Section C inquired about the importance of social media platforms in COVID-19 risk and crisis communication, and Section D inquired about the problems and possibilities associated with individuals using social media to obtain COVID-19-related information.

The use of a questionnaire as a research tool allows respondents sufficient opportunity to make thoughtful replies to questionnaire items whilst also allowing large samples to be covered in a short period of time (Kombo & Tromp, 2009).

3.6 Validity of the Instrument

The degree to which an instrument measures what it is designed to measure is referred to as validity (Kothari, 2004). To improve content validity, peer evaluation of instruments and expert opinion was employed. The supervisor in the Ghana Institute of Journalism's School of Graduate Studies, Department of Journalism, examined and approve the instruments. The supervisor assessed whether the instruments met the study objectives and will help generate right answers to the research questions. Her suggestions were utilized to make required instrument adjustments. A web-based version of the questionnaire was created and the link distributed to potential responders to ensure that they understood it. The results of the pilot trials were utilized to assess the questionnaire's validity.

3.7 Data Analysis Techniques

In analysing quantitative data, before processing the responses, the completed questionnaires will be edited for completeness and consistency. Quantitative methods of analysis were used in analysing data. Data was presented using tables accompanied with relevant descriptions and explanations. Statistical Package for Social Sciences (SPSS) version 26 was used for the data analysis.

3.8 Ethical Considerations

Despite the significant importance of research-based knowledge, human dignity cannot be sacrificed in the pursuit of knowledge (Osoo & Onen, 2009). Ethics was respected throughout the study to ensure that participants' dignity was preserved. According to Mugenda (2008), the primary ethical role of all parties engaged in a research project should be to preserve the rights and welfare of participants. The researcher took steps to guarantee that study data is not

disclosed to persons who are not supposed to have access to it. The researcher followed the Ghana Institute of Journalism's research thesis code of ethics.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter involves a presentation of data collected from the field work as well as the results of the analysis of this data. Demographic data of respondents is presented first, followed by the views of respondents regarding social media usage and also on social media as a medium for COVID-19 risk and crisis communication. After this, statistical analyses are performed on the three sections of focus in this study. The findings of the study are then interpreted to ascertain whether the study's objectives were met. A total of 200 responses were received, indicating a 100% response rate.

4.2 Demographic Characteristics of Respondents

To obtain some insight on the sample conveniently selected to participate in this study, the researcher collected demographic data on the respondents along four areas including age, gender, employment status and level of education. The four sections are presented below and analysed.

4.2.1 Age of Respondents in Years

To identify the age distribution of respondents, the respondents were asked to indicate which age group they belonged to. Table 4.1 illustrates the overall response of all respondents.

Table 4.1 Age of Respondents in Years

Responses	Frequency	Percentage
18 - 25	96	48.0%
26 - 30	53	26.5%
31 - 34	51	25.5%
Total	200	100.0%

Source: Field survey, 2021

As indicated by table 4.1 above, almost half of all respondents (48%) of total respondents fall within the age range of 18 to 25 years. This suggests that majority of respondents are at least 18 years and not more than 25 years. A little over a quarter of respondents (26.5%) were within the age range of 26 – 30 years. Lastly, 25.5% of total respondents were within the age range 31 – 34 years. An analysis on the age range of respondents is instructive as the study aimed to understand usage of social media within the specific age limit set in this study.

4.2.2 Gender of Respondents

To determine the gender distribution of the various respondents to this study, respondents were asked to indicate the gender group they belonged. Table 4.2 illustrates the responses of all respondents.

Table 4.2 Gender of Respondents

Responses	Frequency	Percentage
Male	70	35.0%

Female	130	65.0%
Total	200	100.0%

Source: Field survey, 2021

It can be seen from table 4.2 that more than half of all respondents (65%) were females, whereas 35% are males. Majority of the respondents, according to table 4.2, are females. This provides some form of diversity in the responses provided and rule out any form of bias in the findings.

4.2.3 Status of Respondents

To identify the status of the various respondents, the respondents indicated their various statuses, which are presented in table 4.3.

Table 4.3 Status of Respondents

Responses	Frequency	Percentage
Student	91	45.5%
Employed	79	39.5%
Unemployed	19	9.5%
Student and working	11	5.5%
Total	200	100.0%

Source: Field survey, 2021

It can be seen from table 4.3 that nearly half of all respondents (45.5%) of total respondents were students. This shows that the respondents are generally students. A little more than one-third of the respondents (39.5%) are employed. In addition, 9.5% are unemployed, whereas

5.5% of total respondents are students who are also working. It was instructive to identify the status of respondents as it illustrated whether or not respondents had enough time to surf the internet and social media for information.

4.2.4 Level of Education of Respondents

To determine the level of education of respondents, the respondents were asked to indicate their level of education. The responses of all respondents are illustrated in table 4.4 below.

Table 4.4 Level of Education

Responses	Frequency	Percentage
SHS	17	8.5%
HND	26	13.0%
Bachelors	133	66.5%
Masters	21	10.5%
PhD	3	1.5%
Total	200	100.0%

Source: Field survey, 2021

As indicated in table 4.4 above, more than half of respondents (66.5%) hold bachelor's degree. This indicates that the respondents are mostly holders of bachelor's degree. Less than a quarter of respondents (13%) hold an HND qualification. It can also be seen that 10.5% of respondents hold master's degree and 1.5% of respondents hold a PhD qualification. Identifying the level of education of clients is instructive in that it helps determine if a large

section of the respondents have the basic ability to understand the research questions and provide objective responses.

4.3 Social Media Usage

The study bothers largely on social media usage. To better situate the research in the right context, the researcher assessed the social media usage of respondents. The results of the data collected are presented below.

4.3.1 Social Media Presence

To determine if respondents were users of social media, they were asked to indicate if they had social media accounts. Table 4.5 illustrates the responses of all respondents.

Table 4.5 Social Media Presence

Responses	Frequency	Percentage
Yes	200	100.0%
Total	200	100.0%

Source: Field survey, 2021

As indicated in table 4.5 above, all respondents (100%) indicted that they had a social media account. This implies that the sample selected for the study can reliably provide information related to their usage of social media. It was instructive to find out if respondents had social media accounts as it stands as the core of this study and is necessary to reach the study's objectives.

4.3.2 Types of Social Media Platforms Used by Respondents

With all respondents indicating that they have social media accounts, the type of social media accounts these respondents use was identified. The respondents provided their responses by indicating which social media platforms their accounts were registered with.

Table 4.6 Types of Social Media Platforms Used by Respondents

Responses	Frequency	Percentage
Facebook	173	86.5%
WhatsApp	196	98.0%
Instagram	174	87.0%
Twitter	117	58.5%
LinkedIn	88	44.0%
YouTube	135	67.5%

Source: Field survey, 2021

It can be seen from table 4.6 that 86.5% have Facebook accounts, whereas 98% of respondents have WhatsApp accounts. In addition, 98% of respondents have Instagram accounts, whereas 58.5% have Twitter accounts. Also, 44% of respondents have LinkedIn accounts, and lastly, 67.5% have YouTube accounts. It can be seen that almost all respondents had WhatsApp accounts followed by Facebook as the second most used social media platform. It was instructive to know which social media platforms are used by respondents as it helps identify which social media platforms respondents used in accessing information.

4.3.3 How Long Respondents Have Used Social Media

In identifying how long respondents have used their social media accounts, the respondents were made to indicate among the various age ranges how long they have used their social media accounts.

Table 4.7 How Long Respondents Have Used Social Media

Responses	Frequency	Percentage
Less than 1 year	1	0.5%
1 – 3 years	13	6.5%
4 – 6 years	53	26.5%
7 – 9 years	49	24.5%
10 years and above	84	42.0%
Total	200	100.0%

Source: Field survey, 2021

As indicated in table 4.7 above, almost half of the respondents (42%) have used their social media accounts for a period of 10 years and above. This indicates that most respondents have used social media for a long time. A little more than a quarter of respondents (26.5%) have used social media between 4 and 6 years. The table also shows that 24.5% have used social media between 7 and 9 years. In addition, 6.5% have used social media between 1 and 3 years, and just 0.5% have used social media for less than 1 year. This suggests that respondents can generally provide useful information on what they use social media for, especially in sharing and receiving information.

4.3.4 Number of Hours Spent on Social Media Daily

The researcher collected information on the number of hours spent on social media daily by the various respondents. The results of the data are presented in table 4.8.

Table 4.8 Number of Hours Spent on Social Media Daily

Responses	Frequency	Percentage
Less than 1 hour	11	5.5%
1 – 2 hours	36	18.0%
3 – 4 hours	49	24.5%
5 – 6 hours	34	17.0%
7 – 8 hours	20	10.0%
9 – 10 hours	18	9.0%
More than 10 hours	32	16.0%
Total	200	100.0%

Source: Field survey, 2021

It can be seen from table 4.8 that 24.5% of respondents use social media between 3 to 4 hours daily, whereas 18% of respondents use social media between 1 to 2 hours daily. In addition, 17% of respondents used social media between 5 to 6 hours and another 16% indicated that they use social media for more than 10 hours daily. In addition, 10% of used social media between 7 and 8 hours and 9% use social media between 9 and 10 hours. Lastly, 5.5% indicated that they use social media less than 1 hour daily.

4.4 Social Media as a Medium for COVID-19 Risk and Crisis Communication

The study bothers largely on social media usage. To better situate the research in the right context, the researcher assessed the social media usage of respondents. The results of the data collected are presented below.

4.4.1 Social Media as a Preferred Means of Obtaining News Related to Ghana

To better understand how social media users used their social media accounts, respondents were asked to indicate whether or not they preferred using social media for obtaining news related to Ghana. The results of the data are presented in table 4.9.

Table 4.9 Social Media as a Preferred Means of Obtaining News Related to Ghana

Responses	Frequency	Percentage
Yes	191	95.5%
No	9	4.5%
Total	200	100.0%

Source: Field survey, 2021

It can be seen from table 4.8 that 95.5% of respondents use social media as one of the means of obtaining news related to Ghana, whereas the remaining 4.5% indicated that they do not use social media as one of the mediums to obtain news related to Ghana. From table 4.9, the respondents generally use social media as one of the mediums of obtaining news related to Ghana.

4.4.2 Type of Social Media Platforms Used in Obtaining News Related to Ghana

To analyse the type of social media platforms used in obtaining news related to Ghana, respondents were made to indicate which social media platforms they used in that exercise. The results of the data are presented in table 4.10.

Table 4.10 Type of Social Media Platforms Used in Obtaining News Related to Ghana

Responses	Frequency	Percentage
Facebook	125	62.5%
WhatsApp	117	58.5%
Instagram	92	46.0%
Twitter	78	39.0%
LinkedIn	14	7.0%
YouTube	43	21.5%

Source: Field survey, 2021

It can be seen from table 4.10 that 62.5% of total respondents use their Facebook accounts to obtain news related to Ghana, whereas 58.5% of total respondents use their WhatsApp accounts to obtain news related to Ghana. In addition, 46% of respondents use their Instagram accounts to obtain news related to Ghana, whereas 39% of total respondents use their Twitter accounts to obtain news related to Ghana. Also, 21.5% of total respondents use their YouTube accounts to obtain news related to Ghana, and lastly, 7% of total respondents use LinkedIn as a means of obtaining news related to Ghana.

4.4.3 Knowledge of Existing Social Media Account Used by Government

To determine whether respondents were aware of existing social media accounts of government entities respondents were made to indicate their response from the list offered them. The results of the data are presented in table 4.11.

Table 4.11 Knowledge of Existing Social Media Account Used by Government

Responses	Frequency	Percentage
Yes	139	69.5%
No	61	30.5%
Total	200	100.0%

Source: Field survey, 2021

It can be seen from table 4.11 that 69.5% of total respondents are aware of an existing social media account used by a government entity in Ghana, whereas the remaining 30.5% of respondents indicated that they are not aware of any existing social media account used by any government entity in Ghana. It can be deduced from table 4.11 that majority of the respondents are aware of an existing social media account used by a government entity in Ghana. This information shows that some government entities have social media accounts.

4.4.4 Social Media Platforms on Which Government Social Media Accounts are Found

The researcher collected information on the types of social media platforms used by respondents in obtaining news related to Ghana. The results of the data are presented in table 4.12.

Table 4.12 Social Media Platforms on Which Government Social Media Accounts are Found

Responses	Frequency	Percentage
Facebook	102	51.0%
WhatsApp	25	12.5%
Instagram	63	31.5%
Twitter	79	39.5%
LinkedIn	13	6.5%
YouTube	19	9.5%

Source: Field survey, 2021

It can be seen from table 4.12 that 51% of total respondents found government accounts on Facebook, whereas 12.5% of total respondents found government accounts on WhatsApp. In addition, 31.5% of respondents indicated that they have found government accounts on Instagram, whereas 39.5% of total respondents found government social media accounts on

Twitter. Also, 6.5% of total respondents have found government accounts on LinkedIn, and lastly, 19 respondents representing 9.5% of total respondents have found government accounts on YouTube. It can be said, from the table above, that respondents have found government accounts on all the six popular social media platforms listed in this study.

4.4.5 Response on Whether Respondents Read COVID-19 Related Information on Social Media

The researcher collected information on whether respondents read COVID-19 related information on social media. The results of the data are presented in table 4.13.

Table 4.13 Response on Whether Respondents Read COVID-19 Related Information on Social Media

Responses	Frequency	Percentage
Yes	182	91.0%
No	18	9.0%
Total	200	100.0%

Source: Field survey, 2021

It can be seen from table 4.13 that 91% of total respondents read COVID-19 related information on social media, whereas the remaining 9% of total respondents indicated that they do not read COVID-19 related information on social media. It can be deduced from table 4.13 that majority of the respondents read COVID-19 related information on social media.

4.4.6 Response on Whether Respondents Have Read COVID-19 Related Information on any Government Social Media Page

The researcher collected information on whether respondents read COVID-19 related information on any government social media page. The results of the data are presented in table 4.14.

Table 4.14 Response on Whether Respondents Have Read COVID-19 Related Information on any Government Social Media Page

Responses	Frequency	Percentage
Yes	158	83.2%
No	32	16.8%
Non-response	10	5.0%
Total	200	100.0%

Source: Field survey, 2021

It can be seen from table 4.14 that 83.2% of total respondents have read COVID-19 related information on a government social media page, whereas 16.8 indicated that they have not read any COVID-19 related information on a government social media page. However, 5% of total respondents did not provide any response on whether they have read any COVID-19 related information on a government social media page. It can be deduced from table 4.14 that majority of the respondents have read COVID-19 related information from a government social media page.

4.4.7 Type of Government Agency's Social Media Page from which COVID-19 Related Information Was Read

The researcher collected information on the type of government agency's social media page from which COVID-19 related information was read. The results of the data are presented in table 4.15.

Table 4.15 Type of Government Agency's Social Media Page from which COVID-19 Related Information Was Read

Responses	Frequency	Percentage
Ministry of Health	108	54.0%
Ghana Health Service	95	47.5%
Ministry of Information	101	50.5%
Other	7	3.5%

Source: Field survey, 2021

It can be seen from table 4.15 that 54% of total respondents read COVID-19 related information from the Ministry of Health's social media page, whereas 50.5% of respondents indicated that they read COVID-19 related information from the social media page of the Ministry of Information. In addition, 47.5% of total respondents indicated that they have read COVID-19 related information from the social media page of the Ghana Health Service. Lastly, 3.5% respondents read COVID-19 related information on other government social media pages such as Ministry of Finance and the Presidency's Social Media Account. Analysing the type of government social media account from which COVID-19 related issue is shared is important as it helps determine if government is indeed making use of social media to reach Ghanaians on matters related to the pandemic.

4.4.8 Social Media Platforms on Which COVID-19 Related Information was Found

To find out the social media platforms on which COVID-19 related information was found, the respondents were asked to identify from among 6 major social media platforms, which of them they use for this exercise. The results are presented in table 4.16.

Table 4.16 Social Media Platforms on Which COVID-19 Related Information was Found

Responses	Frequency	Percentage
Facebook	109	54.5%
WhatsApp	43	21.5%
Instagram	47	23.5%
Twitter	69	34.5%
LinkedIn	6	3.0%
YouTube	19	9.5%

Source: Field survey, 2021

It can be seen from table 4.16 that 54.5% of respondents found COVID-19 related information from government's social media pages on Facebook. This represents the largest group of respondents. In addition, more than a quarter of respondents (34.5%) of respondents have found COVID-19 related information from government's social media pages on Twitter, whereas 23.5% of respondents indicated that they found COVID-19 related information from government's social media pages on Instagram. Also, 21.5% of respondents found COVID-19 related information from government's social media pages on WhatsApp, whereas 9.5% of total respondents have found COVID-19 related information from government's social media pages on YouTube. Lastly, 3% of total respondents have found COVID-19 related information from government's social media pages on LinkedIn. This analysis helps determine whether social media users.

4.4.9 Is Social Media the Respondents' Main Source of Obtaining COVID-19 Related News or Information?

To understand If respondents used social media as their main source of obtaining COVID-19 related information, the were asked to indicate with a "Yes" or "No" if social media is the respondents' main source of obtaining COVID-19 related news or information. They are presented in table 4.17.

Table 4.17 Is Social Media the Respondents' Main Source of Obtaining COVID-19 Related News or Information?

Responses	Frequency	Percentage
Yes	119	59.5%
No	81	40.5%
Total	200	100.0%

Source: Field survey, 2021

It can be seen from table 4.17 that 59.5% of total respondents have indicated that social media is their main source of obtaining COVID-19 related information, 40.5% of total respondents indicated that social media is not their main source of obtaining COVID-19 related information. This analysis was important as it highlights how important social media users use their accounts in terms of searching for and reading news.

4.4.10 Social Media Platforms Mostly Used by Respondents in Accessing COVID-19 Related News

To find out which social media platforms are mostly used by respondents, they were asked to the social media platforms from which COVID-19 related information was found. The results are presented in table 4.18.

Table 4.18 Social Media Platforms Mostly Used by Respondents in Accessing COVID-19 Related News

Responses	Frequency	Percentage
Facebook	78	39.0%
WhatsApp	60	30.0%
Instagram	42	21.0%
Twitter	55	27.5%
LinkedIn	5	2.5%
YouTube	19	9.5%

Source: Field survey, 2021

It can be seen from table 4.18 that 39% of total respondents indicated that they mostly use Facebook to access COVID-19 related news, whereas 30% of total respondents indicated that they mostly use WhatsApp to access COVID-19 related news. In addition, 27.5% of total respondents indicated that they mostly use Twitter to access COVID-19 related news, whereas 21% of total respondents indicated that they mostly use Instagram to access COVID-19 related news. Also, 9.5% of total respondents indicated that they mostly use YouTube to access COVID-19 related news and lastly, 2.5% of total respondents indicated that they mostly use LinkedIn to access COVID-19 related news.

4.4.11 Do Respondents Obtain Sufficient Information on COVID-19 Risks and Preventive Protocols on Social Media?

To find out if respondents do obtain sufficient information on COVID-19, respondents were asked if they do obtain sufficient information on COVID-19 risks and preventive protocols on social media. The results are presented in table 4.19.

Table 4.19 Do Respondents Obtain Sufficient Information on COVID-19 Risks and Preventive Protocols on Social Media?

Responses	Frequency	Percentage
Yes	173	86.5%
No	27	13.5%
Total	200	100.0%

Source: Field survey, 2021

It can be seen from table 4.19 that 86.5% of total respondents do obtain sufficient information on COVID-19 risks and preventive protocols on social media. With more than two-thirds of respondents indicating that they obtain sufficient information on COVID-19 from social media, it can be said that social media is a major source of CODI-19 related information for Ghanaian citizens. The table also shows that 13.5% of total respondents indicated that they do not obtain sufficient information on COVID-19 risks and preventive protocols on social media.

4.4.12 Rating the Importance of Social Media as a Tool for Communicating the Risks, Crisis and Preventive Protocols of COVID-19

To find out how much importance respondents placed on information found on social media in terms of the risks, crisis and preventive protocols of COVID-19, they were asked to choose from among a rating scale of 1 to 10. The results are presented in table 4.20.

Table 4.20 Rating the Importance of Social Media as a Tool for Communicating the Risks, Crisis and Preventive Protocols of COVID-19

Responses	Frequency	Percentage
1	0	0.0%
2	3	1.5%

3	3	1.5%
4	7	3.5%
5	13	6.5%
6	8	4.0%
7	29	14.5%
8	48	24.0%
9	35	17.5
10	54	27.0%
Total	200	100.0%

Source: Field survey, 2021

As indicated in table 4.20 above, more than a quarter of respondents (27%) rated the importance of social media as a tool for communicating the risks, crisis and preventive protocols of COVID-19 at 10. In addition, 24% of respondents rated the importance at 8, whereas 17.5% rated the importance at 9. About 14.5% of total respondents rated the level of importance at 7 and 6.5% of respondents rated the level of importance at 5. Another 4% of respondents rated the level of importance at 6 and 3.5% rated the level of importance at 4. It was also found that 1.5% of respondents rated the level of importance at 3 and another 1.5% rated the level of importance at 2. None of the respondents rated the importance of social media as a tool for communicating the risks, crisis and preventive protocols of COVID-19 at 1.

4.4.13 Do Respondents Use Social Media to Obtain COVID-19 Risk and Crisis Communication Related Information They Missed on TV or Radio?

To find out if respondents use social media as a medium to obtain COVID-19 risk and crisis communication they missed on TV and radio, they were asked to indicate with a “Yes” or “No” what their response was. The results are presented in table 4.21.

Table 4.21 Do Respondents Use Social Media to Obtain COVID-19 Risk and Crisis Communication Related Information They Missed on TV or Radio?

Responses	Frequency	Percentage
Yes	179	89.5%
No	21	10.5%
Total	200	100.0%

Source: Field survey, 2021

As indicated in table 4.21 above, more than two-thirds of respondents (89.5%) indicated that they do use social media as a medium of obtaining COVID-19 risk and crisis communication related information they missed on TV or radio. On the other hand, 10.5% of respondents indicated that they do not use social media as a medium of obtaining COVID-19 risk and crisis communication related information they missed on TV or radio. This analysis is important as it helps determine whether any effort of government agencies to use social media as a medium for risk and crisis communication will reach a section of citizens, especially those considered in this study.

4.4.14 Is there an Information about COVID-19 Risk, Crisis and Preventive Protocols Respondents Would Not Have Known Without Using Social Media?

To determine whether there were some COVID-19 risk, crisis and preventive protocols social media users would not have known without social media, respondents were asked to indicate their response with a “Yes” or “No”. The results are presented in table 4.22.

Table 4.22 Is there an Information about COVID-19 Risk, Crisis and Preventive Protocols Respondents Would Not Have Known Without Using Social Media?

Responses	Frequency	Percentage
Yes	144	72.0%
No	56	28.0%
Total	200	100.0%

Source: Field survey, 2021

As indicated in table 4.22 above, almost two-thirds of total respondents (72%) indicated that there was an information about COVID-19 risk, crisis and preventive protocols they would not have known if not for social media. This shows the level of significance of social media in the information sharing process. A little over a quarter of respondents (28%) of indicated that there was no information about COVID-19 risk, crisis and preventive protocols they would not have known if not for social media. This analysis is important as it highlights the importance of social media in modern information sharing process within the context of COVID-19 risk, crisis and prevention.

4.4.15 COVID-19 Risks, Crisis and Preventive Protocols Discovered Through Access to Social Media

To find out the COVID-19 risks, crisis and preventive protocols social media users discovered through social media, respondents were asked to indicate their choices from the list of responses provided, as shown in table 4.23. The results are presented in table 4.23.

Table 4.23 Risks, Crisis and Preventive Protocols Respondents Got to Know Through Access to Social Media

Responses	Frequency	Percentage
Wearing of face masks	93	46.5%
Social distancing	85	42.5%
Hand washing	85	42.5%
Avoiding touching of surfaces	98	49.0%
Using hand sanitisers	84	42.0%
Avoiding handshakes	83	41.5%
Avoiding touching of your face, eyes, mouth and nose	99	49.5%
Other	8	4.0%

Source: Field survey, 2021

As indicated in table 4.23 above, almost half of respondents (49.5%) indicated that they got to know through their access to social media that avoiding touching face, eyes, mouth and nose was a risk, crisis and preventive protocols for COVID-19. Also, 49% of respondents indicated that they got to know through access to social media that avoiding touching surfaces was a risk, crisis and preventive protocol for COVID-19. Additionally, 46.5% of respondents indicated that they got to know of wearing of facemasks as a risk, crisis and preventive protocols for COVID-19 through access to social media, whereas 42.5% of total respondents indicated that they got to know through access to social media that handwashing was a risk, crisis and preventive protocols for COVID-19. In addition, 42.5% of total respondents indicated that they got to know through access to social media that hand washing was a risk, crisis and preventive protocol for COVID-19, whereas 42% of total respondents indicated that they got to know through access to social media that using hand sanitisers was a risk, crisis and preventive protocol for COVID-19. Also, 41.5% of total respondents indicated that they got to know through access to social media that avoiding handshakes was

a risk, crisis and preventive protocol for COVID-19, whereas 4% of total respondents cited other risk, crisis and preventive protocol for COVID-19 they got to know through access to social media.

4.4.16 Opinion of Respondents on Whether Government Agencies Have Done Well in Using Social Media to Communicate Risks of COVID-19 to the Public

To find out the opinion of respondents on how well government agencies have performed in social media risk and crisis communication, respondents were asked to indicate with a "Yes" or "No" what their responses was. The results are presented in table 4.24.

Table 4.24 Opinion of Respondents on Whether Government Agencies Have Done Well in Using Social Media to Communicate Risks of COVID-19 to the Public

Responses	Frequency	Percentage
Yes	160	80.0%
No	40	20.0%
Total	200	100.0%

Source: Field su rvey, 2021

As indicated in table 4.24 above, more than two-thirds of respondents (80%) think government agencies like the Ministry of Health, Ministry of Information and Ghana Health Service have done well in using social media to communicate risks of COVID-19 to the public. On the other hand, 20% of total respondents do not think government agencies like the Ministry of Health, Ministry of Information and Ghana Health Service have done well in using social media to communicate risks of COVID-19 to the public. This analysis is needed as it highlights whether government agencies have used their social media accounts strategically to help inform the public on how to handle the risks and crisis of the situation.

4.4.17 Respondents' Rating on How Serious They Take COVID-19 Related Information on Social Media Compared to Traditional Media Such as TV and Radio

To find out how respondents rated the seriousness with which they took COVID-19 related information on social media compared to traditional media, they were asked to provide their responses by choosing from a range of 1 to 10. The results are presented in table 4.25.

Table 4.25 Respondents' Rating on How Serious They Take COVID-19 Related Information on Social Media Compared to Traditional Media Such as TV and Radio

Responses	Frequency	Percentage
1	2	1.0%
2	2	1.0%
3	5	2.5%
4	11	5.5%
5	28	14.0%
6	19	9.5%
7	35	17.5%
8	30	15.0%
9	26	13.0%
10	42	21.0%
Total	200	100.0%

Source: Field survey, 2021

It can be seen from table 4.25 that 1% of total respondents rated how serious they took COVID-19 related information on social media compared to traditional media such as TV and radio. In addition, 1% of total respondents rated the question at 2, another 2.5% of total respondents rated the question at 3, 5.5% of total respondents rated the question at 4, 14% of total respondents rated the question at 5, 9.5% of total respondents rated the question at 6, 17.5% of total respondents rated the question at 7, 15% of total respondents rated the question at 8, 13% of total respondents rated the question at 9 and 21% of total respondents

rated the question at 10. The data shows that majority of the respondents take COVID-19 related information shared on social media very serious compared to that which they hear from traditional media such as TV and radio.

4.4.18 Do Respondents Face Challenges Reading COVID-19 Related Information on Social Media?

TO find out if respondents faced challenges reading COVID-19 related information on social media, respondents were asked to indicate their opinion with a “Yes” or “No”. The results are presented in table 4.26.

Table 4.26 Do Respondents Face Challenges Reading COVID-19 Related Information on Social Media?

Responses	Frequency	Percentage
Yes	95	47.5%
No	105	52.5%
Total	200	100.0%

Source: Field survey, 2021

As indicated in table 4.26 above, more than half of respondents (52.5%) indicated that they do not face challenges reading COVID-19 related information on social media. On the other hand, 47.5% of respondents do not face challenges reading COVID-19 related information on social media. This analysis is important as it highlights whether information shared on social media can be easily read and understood and subsequently followed with an appropriate action.

4.4.19 Types of Challenges Respondents Face in Reading COVID-19 Related Information on Social Media

To find out which type of challenges citizens face in reading COVID-19 related information on social media, respondents were asked to share their opinion by selecting from among the list of challenges outlined in table 4.27 below.

Table 4.27 Types of Challenges Respondents Face in Reading COVID-19 Related Information on Social Media

Responses	Frequency	Percentage
Insufficient information	42	21.0%
Difficulty identifying reliable sources	68	34.0%
Late update of information on government agency's pages	34	17.0%
Internet connectivity problems	55	27.5%
Contradictory information	43	21.5%
All of the above	29	14.5%
Other	26	13.0%

Source: Field survey, 2021

As indicated in table 4.27 above, more than half of respondents (34%) indicated that difficulty in identifying reliable sources is the challenge they face in reading COVID-19 related information on social media. In addition, 27.5% of respondents indicated that internet connectivity problem is a major challenge they face in reading COVID-19 related information on social media, whereas 21.5% of respondents indicated that contradictory information was the major problem they face in reading COVID-19 related information on social media. Also, 21% of respondents indicated that insufficient information was a challenge they faced in reading COVID-19 related information on social media, and 17% of respondents indicated that late update of information on government agency's social media pages is the problem they have reading COVID-19 related information on social media.

Further, 14.5% of respondents indicated that all the challenges listed in table 4.27 are the reasons why reading COVID-19 related information on social media was a challenge. Lastly, 13% of respondents cited other reasons for which they found problem in reading COVID-19 related information on social media. This analysis was necessary as it.

4.5 Discussion of Results

In this section, the researcher discusses the empirical findings in line with its objectives, and in agreement with findings of other researchers in extant literature.

The first objective of the study was to identify the social media platforms used by the government of Ghana in risk and crisis communication. The study attempted to meet its objectives by taking information from the perspective of social media users. The results of the analysis revealed that the government of Ghana through its various agencies instrumental in managing COVID-19 crisis used various social media platforms for COVID-19 risk and crisis communication.

Wang, Hao and Platt's (2021) stated in their study that health agencies and government stakeholders disseminate information regarding situations, risks, and personal protective action to aid in inhibiting the spread of the disease. The results of the analysis somehow agree with their finding, as it revealed that the government of Ghana through its various agencies that were instrumental in managing COVID-19 crisis, used various social media platforms, especially Facebook, in COVID-19 risk and crisis communication. These social media platforms include Facebook, WhatsApp, Instagram, Twitter, LinkedIn and YouTube. The results of the study are similar to that of La (2020) where he stated that the government of Vietnam and the Philippines, including the Ministry of Health and Local Government Units (LGUs), used Facebook to disseminate COVID-19-related information. Facebook is the key

avenue for getting and seeking information in both nations. Flores & Asuncion (2020) also stated that in the Philippines, local governments mostly used Facebook to offer frequent updates or reports on local crisis response and management, stimulate civic involvement, offer frequent updates on local crisis status, and combat disinformation, false news, and other concerns related to the disaster.

The second objective of the study was to identify the social medial platforms used by citizens of Ghana in accessing information on COVID-19. The respondents sampled for the study were representative sample of Ghanaians within the Greater Accra Region. The results of the analysis showed that citizens of Ghana used all the major social media platforms featured in this study, namely Facebook, WhatsApp, Instagram, Twitter, LinkedIn and YouTube to access various news related to Ghana and in the case of COVID-19, they equally used their various social media accounts to access government released information on the various social media pages of government agencies. The findings agree with the finding of the Internet World Statistics for Africa (2017), which indicated Ghana's social media presence.

The third objective of the study was to determine the significance of social media platforms in COVID-19 related risk and crisis communication. To find an answer to this objective, respondents were made to provide their views on a number of questions including whether they use social media as a medium for obtaining COVID-19 risk and crisis related communication they missed on TV or radio, as well as, whether there was any information on COVID-19 risk and crisis communication that they believed they would not receive if not for social media. The results showed that social media was a significant medium for communicating COVID-19 risk and crisis. About 89.5% of the respondents used social media to obtain COVID-19 risk and crisis communication and also 72% of the respondents believed they would not have had certain information on COVID-19 risk and crisis if not for social media. This highlights the importance of social media in situations like COVID-19 pandemic

where safety depends largely on the amount of genuine information needed, and, how that information can be utilised. The finding is also in agreement with the findings of Wang et al. (2021), who argue that social media, notably Twitter, forms the platform, internationally, where important communication about COVID-19 is prominent. Furthermore, Hysenlika's (2012) finding that Facebook, which has about 2.7 billion members worldwide helps communicators (individuals or organisations) to send updates tailored to their needs easily and efficiently during a crisis somewhat supports the findings of this study.

The fourth objective of the study was to identify the challenges and opportunities inherent in using social media for health communication. It was found in the study, specifically in table 4.26 that a myriad of challenges is encountered in the process of reading COVID-19 related information. The study mainly focused on the perspective of the citizens who use social media. It was found that majority of citizens did face challenges such as insufficient information, difficulty in identifying reliable sources, delay in update of information on government agency social media platforms, internet connectivity problems, and contradictory information in using social media as a means of communicating during COVID-19 risk and crisis communication.

4.6 Summary

The objective in this chapter was to present the summaries and analysis of data obtained from the study, so as to address the objectives of the study. Findings from the empirical study generally revealed that, both citizens and government agencies have social media presence and both use social media as a means of sharing and obtaining news on COVID-19 as well as COVID-19 risk and crisis communication. It was also found that some challenges are faced by citizens when obtaining information on COVID-19 risk and crisis communication on social media.

CHAPTER FIVE

SUMMARY OF FINDING, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This study was set to contribute to the discourse on COVID-19 risk and crisis communication, by assessing citizens and government agencies' usage of social media during this current COVID-19 pandemic. Empirical data obtained from 200 citizens in Ghana have been analysed, presented, and discussed in the chapter four relative to the objectives of the study. This chapter provides the summaries of the findings, research conclusion, and recommendations from the study's findings.

5.2 Summary of Findings

Per this study, the social media platforms include Facebook, WhatsApp, Instagram, Twitter, LinkedIn and YouTube. The result found in Table 4.16 revealed that Facebook was the most used social media platform by government agencies in COVID-19 risk and crisis communication. This was followed by Twitter, Instagram, WhatsApp, YouTube and the LinkedIn.

In addition, the study revealed that Ghanaians use the six major social media platforms adopted in this study, namely Facebook, WhatsApp, Instagram, Twitter, LinkedIn and YouTube. The analysis further showed that citizens of Ghana equally used their various social media accounts to access information released by government on the various social media pages of its agencies.

Furthermore, findings of the study showed that social media was a significant medium for communicating COVID-19 risk and crisis. About 89.5% of the respondents used social media

to obtain COVID-19 risk and crisis communication and also 72% of the respondents believed they would not have had certain information on COVID-19 risk and crisis if not for social media.

Lastly, it was found that majority of citizens face challenges such as insufficient information, difficulty in identifying reliable sources, delay in update of information on government agency social media platforms, internet connectivity problems, and contradictory information in using social media as a means of communicating during COVID-19 risk and crisis communication.

5.3 Recommendations

5.3.1 Recommendation to Government Agencies

The study revealed that citizens in Ghana are heavy users of social media not only for fun but also for obtaining news related to Ghana including COVID-19 related news. With this finding in place, government agencies should improve upon their approach to sharing information. Apart from the heavy use of traditional media, government agencies should regularly share vital information via social media pages for public consumption so as to keep citizens up to date and prepare accordingly in the event of emergencies.

With the current development in the social media space in Ghana and the gradual shift from accessing news through traditional means such as newspapers, hardcopy magazines and including TV and radio to sourcing information and news on online platforms, by majority of the Ghanaian youthful population, it is worth examining the extent to which the government of Ghana and other stakeholders charged with the responsibility of stemming the COVID-19 outbreak use social media in risk and crisis communication as the pandemic prevails.

5.3.2 Recommendation for Future Studies

The current study has contributed meaningfully to enriching current knowledge on COVID-19 risks and crisis communication through the use of social media. Also, the current study has broadened the contextual body of literature on risks and crisis communication. However, the study was fraught with some limitations. The study's sample size, for instance, is not enough to make wider generalisation of the findings. Also, the study focused only on the citizen perspective and so findings were limited to the perception of citizens at the receiving end of information sharing. It is strongly recommended that future studies use larger sample size to validate the findings from this study and also use interviews to obtain information from government agencies.

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APPENDIX

SURVEY QUESTIONNAIRE ON CONTRIBUTION OF SOCIAL MEDIA IN GHANA'S COVID-19 RISK AND CRISIS COMMUNICATION ACTIVITIES

This questionnaire is intended to help gather data on topic "Contribution of Social Media in Ghana's Covid-19 Risk and Crisis Communication Activities". This exercise is strictly for academic purpose only and thus confidentiality of responses is guaranteed as well as the anonymity of respondents. The researcher will therefore be very grateful if you can provide necessary responses to the questions by ticking the appropriate boxes.

Section A: Demographic Characteristics

1. Age in years: [ ] 18 - 25 [ ] 26 - 30 [ ] 31 - 34
2. Gender: [ ] Male [ ] Female
3. I am a: [ ] Student [ ] Employed [ ] Unemployed [ ] other ……
4. Level of education: [ ] SHS [ ] HND [ ] Bachelors [ ] Masters [ ] PhD

Section B: Social Media Usage

5. Do you have a social media account? [ ] Yes [ ] No
6. If you answered yes to the above, please indicate which social media accounts you have.

   [ ] Facebook [ ] WhatsApp [ ] Instagram [ ] Twitter

   [ ] LinkedIn [ ] YouTube
7. How long have you used social media?

   [ ] Less than 1 year [ ] 1 – 3 years [ ] 4 – 6 years [ ] 7 – 9 years [ ] 10 years and above
8. On average, how many hours per day do you use social media?

[ ] Less than 1 hour [ ] 1 – 2 hours [ ] 3 – 4 hours [ ] 5 – 6 hours [ ] 7 – 8 hours [ ] 9 – 10 hours [ ] Over 10 hours

Section C: Social Media as a Medium for COVID-19 Risk and Crisis Communication

9. Is social media one of your preferred mediums for obtaining news in Ghana?

   [ ] Yes [ ] No

10. If yes, which social media platform(s) do you often use in accessing news related to Ghana?

    [ ] Facebook [ ] WhatsApp [ ] Instagram [ ] Twitter

    [ ] LinkedIn [ ] YouTube

11. Do you have any knowledge of an existing social media account by any Ghanaian government entity?

    [ ] Yes [ ] No

12. If yes, which social media platforms can those accounts be found?

    [ ] Facebook [ ] WhatsApp [ ] Instagram [ ] Twitter

    [ ] LinkedIn [ ] YouTube

13. Do you read COVID-19 related information on social media?

    [ ] Yes [ ] No

14. If yes, have you read any COVID-19 related information from any government social media account?

    [ ] Yes [ ] No

15. Which government agency's social media account did you read that information?

    [ ] Ministry of Health [ ] Ghana Health Service [ ] Ministry of Information [ ] Other. Please specify……

16. Which social media platform(s) was that information obtained?

    [ ] Facebook [ ] WhatsApp [ ] Instagram [ ] Twitter

    [ ] LinkedIn [ ] YouTube

17. Is social media your main source of accessing COVID-19 related news or information?

    [ ] Yes [ ] No

18. If yes, which social media platform do you use most in obtaining such information?

    [ ] Facebook [ ] WhatsApp [ ] Instagram [ ] Twitter

    [ ] LinkedIn [ ] YouTube

19. Did you obtain sufficient information on the risks and preventive methods of COVID-19 on social media?

    [ ] Yes [ ] No

20. On a scale of 1 to 10, how will you rate the importance of social media as a tool for communicating the risks, crisis and preventive protocols of COVID-19? Where 1 is the lowest and 10 is the highest?

    [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ] 6 [ ] 7 [ ] 8 [ ] 9 [ ] 10

21. Do you use social media as a medium for obtaining COVID-19 risk and crisis related information that you missed on TV or radio?

    [ ] Yes [ ] No

22. Is there an information about the risks, crisis and preventive protocols of COVID-19 you wouldn't have known had it not been your access to social media?

    [ ] Yes [ ] No

23. If you answered Yes to question 22, kindly indicate which risks, crisis and preventive protocols you got to know due to your access to social media.

[ ] wearing of face masks [ ] social distancing [ ] hand washing [ ] avoid touching surfaces [ ] using hand sanitiser [ ] avoiding handshakes [ ] avoid touching your face, eyes, mouth and nose [ ] other. Please specify…….

24. In your opinion, do you think government ministries and agencies like the Ministry of Health and Ghana Health Service respectively, have done well in using their social media accounts to communicate the risks of COVID-19 to the public?

    [ ] Yes [ ] No

25. On a scale of 1 to 10, how serious do you take COVID-19 related information on social media compared to traditional media such as TV and radio? Where 1 is the lowest and 10 is the highest.

    [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ] 6 [ ] 7 [ ] 8 [ ] 9 [ ] 10

26. Do you face challenges reading COVID-19 related information on social media?

    [ ] Yes [ ] No

27. If yes to the above question, which of the following challenges do you normally face?

    [ ] Insufficient information [ ] Difficulty identifying reliable source [ ] Late update of information on government agency accounts [ ] Internet connectivity problems

    [ ] Contradictory information [ ] Other. Please specify…….