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Master's Degree Program in
**Data-Driven Marketing**

# Social Media in Crisis Management

*A study of the Covid-19 Pandemic*

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Master Thesis

presented as partial requirement for obtaining a Master's Degree in Data-Driven Marketing

**NOVA Information Management School**
**Instituto Superior de Estatística e Gestão de Informação**

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# Social Media in Crisis Management

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By

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Master Thesis presented as partial requirement for obtaining the Master's degree in Data-Driven Marketing, with a specialization in Marketing Intelligence

## Supervised by

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# STATEMENT OF INTEGRITY

I hereby declare having conducted this academic work with integrity. I confirm that I have not used plagiarism, any form of undue use of information or falsification of results along the process leading to its elaboration. I further declare that I have fully acknowledged the Rules of Conduct and Code of Honor from the NOVA Information Management School.
*[Lisbon, July 8th, 2024]*

# DEDICATION

This Thesis is dedicated to my mom who has helped me get to where I am right now in life. My Girlfriend for pushing me to always believe I can do better. My Siblings who are my source of inspiration and GOD who has always been my north star.

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# ABSTRACT

This study explores the role of social media in managing crises during the COVID-19 pandemic. Using survey data from 153 adults, it examines how social media was used to share information, shape public perceptions, and support responses to the crisis. The findings reveal that while social media was an effective tool for quickly spreading information, it also contributed to the spread of misinformation, leading to confusion and panic among users. Official channels like WHO and CDC played a critical role in reducing misinformation, but their impact on improving public awareness was limited. The research highlights the challenges of unverified information on social media and emphasizes the importance of clear strategies to manage misinformation. These findings offer practical lessons for governments and organizations to improve crisis communication and use social media more effectively in future emergencies.

**Keywords**

Social Media; Crisis; Crisis Management; COVID-19; Pandemic

## Sustainable Development Goals (SDG):

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# LIST OF ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| **COVID-19** | COVID-19 is the acronym for the full name coronavirus disease of 2019 |
| **U.N** | United Nations |
| **W.H.O** | World Health Organization |
| **C.D.C** | Center for Disease Control |

# 1. INTRODUCTION

## 1.1. BACKGROUND TO THE STUDY

In today's fast-paced and digitally-driven world, social media platforms have advanced from an age where they were merely seen as platforms to keep in touch with friends and loved ones into something much bigger (Burgess, *et. al.*, 2017; Baatarjav & Dantu, 2011). Social media encompasses online platforms that enable users to create and share content, fostering a dynamic and interactive environment (Tao et al., 2016; Qureshi & Zahoor, 2018), it is characterized by its reliance on web-based and mobile technologies, which enable the sharing and modification of user-generated content. In recent years, the emergence of social media platforms has fundamentally transformed communication dynamics, reshaping the way individuals and organizations interact, disseminate information, and respond to various situations. Social media has now become an essential and critical tool for managing crises (Karin Rainer et al., 2013). It has revolutionized communication processes, particularly during crises, and is vital for businesses to minimize losses (Civelek et al., 2016).

Crisis management is the coordinated process organizations employ to anticipate, prepare for, respond to, and recover from unexpected events that threaten to disrupt operations, damage reputations, or endanger lives. Effective crisis management aims to minimize negative impacts, maintain public trust, and expedite a return to normalcy (Zimal & Aysar, 2021). Traditionally, crisis communication relied on press releases and mainstream media outlets. The turnaround in the digital age led by the advancement and usage of social media platforms and has drastically altered the landscape of communication, particularly focusing on crisis situations (McSeveny & Waddington, 2017).

The field of crisis management has evolved significantly, driven by the need to effectively navigate and mitigate the impact of crises in an increasingly interconnected world (Civelek et al., 2016).

Social media stands over traditional media because of its capacity for immediate and interactive dialogue unlike traditional media's one way dialogue model (Fisenko, 2021a). This shift has not only expedited the flow of information but has also created a democracy of information exchange. This shift has not only created a huge impact on crisis management but it has also empowered individuals to share and receive information in real-time (Houston et al., 2015) .

Social media platforms such as Twitter, Facebook, Instagram, and WhatsApp boast billions of users, transforming information dissemination, crisis mapping, crowd monitoring, community engagement and public discourse during crisis (Fisenko, 2021a). The speed and virality of social media allow information to travel instantaneously, reaching a global audience within minutes and, enabling users to share updates, seek assistance, and coordinate response efforts swiftly and efficiently. This real-time aspect makes social media a powerful tool which facilitates two-way communication (Tobias, 2011), allowing organizations to engage with affected communities, address concerns, breaking news and provide timely updates, thereby fostering transparency and trust, particularly during crises (Nwogwugwu, 2020). Consequently, organizations across various sectors, including emergency services, governmental agencies, non-profits, and businesses, have integrated social media into their crisis management strategies to enhance situational awareness, facilitate communication, and mobilize resources effectively (Liu et al., 2016a) .

Crisis situations can trigger a range of emotions in individuals, including fear, anxiety, and uncertainty (Zhang et al., 2015). Crisis management efforts aim to mitigate these emotional responses by providing clear information, reassurance, and a sense of control (Wright-Reid, 2018). However, while social media offers numerous benefits for crisis management, it also presents challenges and risks that necessitate careful consideration (Luna & Pennock, 2015). The rapid spread of misinformation and rumors on social media platforms can exacerbate panic, confusion, and distrust, potentially impeding response efforts and amplifying the impact of crises.

The COVID-19 pandemic has underscored the critical role of social media in crisis management, (Feng & Umaier, 2023), serving as both a boon and a challenge for emergency response efforts. Social media platforms emerged as primary channels for sharing real-time information, updates on public health guidelines, and emergency alerts to vast audiences globally (Li et al., 2020; Huang, 2023). During the COVID-19 era, social media facilitated rapid communication between authorities, healthcare professionals, and the public, enabling swift coordination of resources and response efforts.

## 1.2. PROBLEM AND OBJECTIVES

Social media use in crisis management is widely recognized both in theory and in the practical use of it during the Covid 19 pandemic of 2020 yet tapping into its full potential is filled with challenges. The study tends to look into the strategies used by governmental authorities to capitalize on social media during crises; the influence of social media on public behavior and their perceptions of crisis and misinformation and overload of communication during crisis. Looking into these issues will help understand the need for a strategic approach to social media management in crisis situations. This strategic approach will be one that balances the benefits of the rapid flow of information with the risks associated with misinformation and panic amplification (Palen & Hughes, 2018) .

The objectives of the study are to:

- explore the strategies and methods used by governmental agencies, crisis management entities and all other stakeholders in using social media for crisis management.
- investigate the impact of social media driven communications on public awareness, engagement and response during crisis.
- identify the challenges and limitations posed by social media in crisis communication and propose solutions to address these challenges.

Here are the research questions:

- What role did social media play in the dissemination of information during the COVID-19 pandemic?
- How did the frequency of social media use impact the speed at which users perceived they received pandemic-related information?
- To what extent did information verification behaviors on social media influence public confidence in accuracy and emotional responses during the crisis?
- How effective were official communication channels on social media in mitigating misinformation and enhancing public awareness during the pandemic?
- What lessons can be drawn from the use of social media in managing public perceptions and communication during the COVID-19 pandemic for future crisis management?

To answer these questions, we are going to be testing the following hypotheses:

- H1: People that used social media platforms more frequently were perceived to receive information quicker during the Covid-19 pandemic compared to other sources.

- H2a: People that cross-check or verify information more often feel more confident about the accuracy of the information obtained on social media.
- H2b: People that verified information more often were perceived to panic less and were less confused.
- H3a: People that came across information from official channels during the COVID-19 Pandemic had a reduced risk of misinformation.
- H3b: People that came across information from official channels had an increased awareness of the Covid pandemic situation.

This study will provide significant knowledge to the crisis management sector by looking into the role of social media in crisis communication strategies. This research tends to strengthen all stakeholders with knowledge that would support a more robust, efficient and responsive crisis management framework. It will also serve as a potential for policy reformation, introduction of new public safety protocols and the development of new strategies for social media use during crisis.

# 2. LITERATURE REVIEW

## 2.1. SOCIAL MEDIA

In recent times, social media platforms have become essential for everyday life for millions of people globally. This widespread use has significantly transformed how individuals communicate, share information, and socialize with one another (Shahjahan & Chisty, 2014). The ubiquity of social media platforms, boasting billions of users internationally, has demonstrably engendered a paradigm shift in communication patterns, information dissemination methods, and news consumption habits (Sunkad, 2023).

The concept of social media has been approached from various angles, with several definitions emerging within communication studies and related fields like public relations, information science, and mass media. A common thread across these definitions is the emphasis on user-generated content and interaction facilitated by digital technologies (Kaplan & Haenlein, 2010). Some definitions focus on communication directionality(Kent, 2010), while others highlight specific platforms like Facebook or Twitter as examples of these interactive modes (Howard & Parks, 2012).

Social networking sites, as defined by Wikipedia, connect people who share commonalities like interests or real-life relationships. However, social media can also be a broader broadcasting tool, allowing individuals to reach a wider audience and exert greater influence (Schivinski et al., 2020). Filo et al., 2015 defines social media as interactive and collaborative new media. These platforms allow users, both individuals and organizations, to develop and share content, fostering interaction and co-creation.

Social media platforms have achieved widespread adoption, with billions of users globally. This rapid growth has solidified their position as a defining technology of the contemporary era. Statistics from Facebook, for instance, illustrate this pervasiveness, reporting 2.38 billion monthly active users and 1.56 billion daily active users in 2019 (Facebook 2019). Furthermore, projections estimate a global total of 3.29 billion social media users by 2022, representing a significant 42.3% of the world's population (eMarketer, 2018).

The impact of social media is multifaceted, one is its capacity to foster connection and build communities. Studies highlight its role in facilitating communication with friends and family, regardless of geographical distance (Damota, 2019). Social media platforms enable individuals to connect with like-minded people who share similar interests, providing a sense of belonging and social support (Page et al., 2018). For instance, social media groups dedicated to specific hobbies, professions, or even health conditions can offer valuable peer support and information sharing (Aykurt & Sesen, 2017).

Social media applications have become an increasingly important part of everyday life for many people. Individuals are more likely to engage in social interactions through virtual platforms like Facebook, Instagram, LinkedIn, and Twitter (Alalwan et al., 2016; Dwivedi et al., 2015; Rathore et al., 2016; Taylor et al., 2011; Zhu & Chen, 2015). This shift reflects a positive change in attitudes and behaviors towards social media technologies.

Social media offers national governing bodies and businesses strategic advantages. It facilitates two-way communication between organizations and their customers, fostering stronger relationships (Okazaki & Taylor, 2013). Social media allows for content creation in various formats, including text, visuals, or a combination (Okazaki & Taylor, 2013). Businesses leverage social media across various touchpoints in their customer interactions, such as information sharing, interactive experiences, promotions, and influencing purchasing decisions(Zeng & Gerritsen, 2014). Consequently, organizations have developed diverse interactive practices and mechanisms to enhance their brand image and marketing performance (Leeflang et al., 2014; Filo et al., 2015; (Schultz & Peltier, 2013).

Social media offers a powerful new dimension to education and knowledge sharing. Open educational resources, online courses, and online communities built around these platforms provide learners with unparalleled access to educational opportunities (Sharma & Gope, 2022). Beyond education, social media can also be a force for positive social change. Research suggests it can play a critical role in mobilizing individuals around social movements and raising awareness about important issues (Tye et al., 2018).

Additionally, social media algorithms can create echo chambers, where users are primarily exposed to content that reinforces their existing beliefs, potentially exacerbating social and political divides (Jiang et al., 2021). The spread of misinformation and "fake news" is another

growing concern. Social media platforms can be breeding grounds for misleading information, with the potential to manipulate public opinion (Hilary & Dumebi, 2021).

## 2.2. CRISIS MANAGEMENT

Crisis is a sudden, unforeseen occurrence that poses a threat to an organization or society (Coombs, 2007). Crisis is characterized as an unforeseen event that disrupts the balance of an individual, organization, or society and is associated with disruption, uncertainty, and an increase in the level of risk perception (Boin et al., 2016). Two models of crisis are identified in the form of "an unforeseen event that jeopardizes important stakeholder expectations and may significantly disrupt organizational performance and lead to adverse outcomes".

Crisis represents a significant unpredictable event that inflicts harm on an organization and its stakeholders. Specifically, there are three related threats: "1) a threat to the very existence of the organization, group, or unit; 2) a threat to an organization, group, or unit's core business; and 3) a threat to the organization, group, or unit's positive image". Even though the nature of crisis can be very different – and so could be its effect -, the common feature of any crisis is a fun-functional requirement for an immediate response. Crises often strike without warning, they involve a high level of uncertainty, and they put a tremendous amount of pressure on the organization's ability to make effective decisions.

Crisis management is regarded as a multidisciplinary and cross-functional process to prevent, contain, manage, and experience crises (Sekulic, 2017). Traditionally, crisis management was a set of measures that followed catastrophic events. Presently, the emphasis is on a proactive approach, which foresees potential risks and minimizes their impact Proactive strategies of crisis management are associated with risk assessment, scenario planning, and ensuring that the organization in whole and its specific parts are resilient to risks (Fleming & Zhu, 2017). As such, the nature of crisis management is changing as it becomes a form of organizational learning. Learning from past crises enables an organization to ready itself for comparable situations in the future, and according to (Shayb, 2017), crisis management "represents the ultimate in being prepared." This proactive approach to preventing future crises is linked to the idea of averting failure. The goal of crisis management is to steer a crisis away from the most detrimental outcomes.

Crisis management encompasses a collaborative effort to alleviate the adverse impacts of a crisis and reestablish public trust (Benali & Ghomari, 2017). Historically, crisis communication relied on a controlled, top-down approach through established media platforms. However, the proliferation of information on social media has disrupted this conventional framework (Ford, 2013; Fisenko, 2021b). Crisis scenarios present substantial challenges to societies, often necessitating coordinated responses across diverse sectors.

Coombs, 2007 posited that effective communication plays a pivotal role throughout the crisis management process and that organizations must be poised to communicate openly and consistently with stakeholders, both internally and externally. Social media has emerged as a potent communication tool during crises, offering both opportunities and challenges (Stieglitz et al., 2018; Wendling et al., 2013).

## 2.3. Overview of Covid-19

The outbreak of the SARS-CoV-2 virus, declared a significant global threat by the World Health Organization (WHO) in 2020, underscores the interconnected nature of global risks, as previously highlighted by the World Economic Forum's Global Risk Report in 2017. This novel coronavirus emerged in late 2019, rapidly escalating into an unprecedented global crisis with widespread illness, death, and social disruption (WHO, 2020a).

Coronavirus disease 2019 (COVID-19), a respiratory illness induced by the SARS-CoV-2 virus, has emerged as a significant global public health threat. While the majority of infected individuals experience mild to moderate symptoms such as fever, cough, and fatigue, a considerable portion of the population progresses to severe complications necessitating hospitalization (WHO, 2020b). Notably, older adults and those with pre-existing medical conditions exhibit a heightened vulnerability to serious illness (WHO, 2020c). The global impact of the COVID-19 pandemic has been devastating, surpassing 775 million confirmed cases and a tragic death toll exceeding 7 million (WHO, 2024). Beyond the direct health crisis, the pandemic has also triggered severe socioeconomic consequences, disrupting global economies and straining healthcare systems worldwide (Naseer et al., 2023).

The virus originated is potentially spread to humans through another animal (WHO, 2020a). This virus, similar to others causing illnesses like the common cold, spreads mainly via

respiratory droplets when an infected person coughs or talks (H. Zhu et al., 2020) Touching contaminated surfaces can also transmit the virus (WHO, 2020a). Symptoms typically appear within 2-14 days of exposure (WHO, 2020a). To combat the pandemic, governments around the world implemented various public health measures. These included lockdowns, social distancing guidelines, mask mandates, travel restrictions, and school closures (WHO, 2020c). Additionally, tremendous efforts were directed towards developing vaccines and therapeutic interventions.

## 2.4. COVID-19 AND CRISIS MANAGEMENT

Nasereddin & Albadri, 2019 referred crisis management as the process of strategically planning, coordinating, and implementing measures to reduce the impact of a crisis and aid in the recovery process. In the wake of the coronavirus pandemic, governments, healthcare providers, and communities around the world faced unprecedented challenges (Sulaiman, 2020; (Goita & Sidibe, 2021; Wankhede et al., 2021).

Studies illustrated different ways of crisis management during covid19. South Korea adopted a proactive approach to controlling COVID-19. They implemented widespread testing, contact tracing, and quarantine measure using the country's advanced information technology system (S. Park et al., 2020). The government's use of technology, such as the smart quarantine information system and self-health check app, played a crucial role in managing the crisis (Nam, 2020). The implementation of effective quarantine measures, including the use of antibody testing, has been highlighted as a key strategy in preventing the spread of the virus (Sim & Kang, 2021). The government's quick response, transparent information disclosure, and innovative testing methods, such as the "Drive Thru" and "Walking Thru" system, were also instrumental in controlling the outbreak (Hur et al., 2020). The United States faced difficulties in coordinating a unified response due to its decentralized government structure and political divisions (Kincaid & Leckrone, 2020).

## 2.5. ROLE OF SOCIAL MEDIA IN CRISIS MANAGEMENT

Social media has become an undeniable force in today's society, fundamentally changing how people communicate. This change also affects crisis management, where social media platforms present both opportunities and challenges.

One significant advantage of social media in crisis management is its ability to quickly share information (González-Padilla & Tortolero-Blanco, 2020). Platforms like Twitter and Facebook allow official sources to broadcast important updates, safety instructions, and resource allocation details to a large audience in real-time. This can be especially helpful during natural disasters or public health emergencies, where timely communication is vital for saving lives and reducing damage. For example, during the 2018 Kerala floods in India, social media played a crucial role in organizing rescue efforts and connecting affected communities with necessary supplies (Ghobakhloo, 2018).

In addition, social media facilitates communication between different groups during a crisis. Journalists, for instance, can use these platforms to share real-time updates and first-hand accounts from affected areas, providing valuable information to emergency response teams (Veil et al., 2011). Additionally, online platforms can be used to recruit volunteers and gather resources, while online communities offer a space for emotional support and information sharing among those impacted by the crisis (Civelek et al., 2016). This collaborative environment fosters collective problem-solving and a more complete picture of the situation, significantly improving crisis response efforts.

Social media's speed and widespread reach offer advantages, these very aspects can also be harmful during crises. The rapid spread of unverified information and rumors can sow confusion and panic (Chen et al., 2022). Malicious actors and unreliable sources can exploit the heightened emotions of such situations, hindering effective response efforts. To combat misinformation, organizations must establish themselves as trustworthy sources and actively debunk false narratives (Sarah Dabharia, 2022).

The nature of social media creates further challenges in managing crisis communication. Public anxieties and frustrations can readily surface online, potentially harming an organization's reputation. Businesses and government agencies must be skilled at interacting with online communities, fostering open communication, and demonstrating transparency in their actions (Caroline Brisset, 2023). Ignoring negative online sentiment or resorting to censorship can further erode trust and worsen the crisis.

## 2.6. EVOLUTION OF SOCIAL MEDIA IN CRISIS COMMUNICATION

According to Coombs & Holladay, 2014, Social media platforms have transformed the way organizations respond to crises, giving both the opportunities and challenges presented by this dynamic online environment. Over the past decades, crisis communication relied heavily on traditional media channels such as newspapers and television. However, the rise of social media has fundamentally reshaped the communication landscape during crisis situations. Platforms like Twitter, Facebook, and YouTube have empowered individuals to become active participants in crisis communication, sharing information, and shaping public perception in real-time (Jin & Liu, 2010; Jin et al., 2011).

Prior to the advent of social media, crisis communication followed a one-way model, relying on press releases and media briefings as the primary channels for disseminating information. However, social media platforms have disrupted this paradigm by enabling a two-way communication flow (Fisenko, 2021b). Organizations can now engage directly with stakeholders, offering real-time updates, addressing emerging concerns, and fostering a sense of transparency (Eriksson & Olsson, 2016). This shift towards a more interactive approach facilitates faster and more targeted communication, potentially mitigating the dissemination of misinformation and rumors during a crisis.

Social media platforms have revolutionized crisis communication by enabling the rapid dissemination of information to a broad audience within minutes of an event's inception (An & Cheng, 2010). This real-time communication capability is crucial for raising awareness, issuing timely alerts, and facilitating coordinated responses during emergencies. Furthermore, social media serves as a powerful tool for gathering real-time information from the ground. By leveraging user-generated content, such as photographs and videos, organizations can gain a more comprehensive understanding of the developing situation and tailor their response strategies accordingly (Mazumdar et al., 2014). Additionally, open and transparent communication through social media fosters trust with stakeholders during a crisis. Thus, as indicated by (Liu & Fraustino, 2014), by consistently addressing public concerns and demonstrating empathy, organizations can cultivate a sense of credibility and establish a sense of community with those they serve.

## 2.7. SOCIAL MEDIA USE IN COVID-19 COMMUNICATION MANAGEMENT

The emergence of global health crisis brought on by the COVID-19 pandemic has underscored the critical role of social media in effective crisis management. This pandemic exemplifies a complex public health emergency characterized by rapid viral transmission, significant morbidity and mortality rates, and far-reaching socio-economic disruptions (Ducharme, 2020).

As stated by Linnenluecke, 2017, such crises pose significant challenges, straining existing infrastructure, overwhelming healthcare systems, and demanding adaptable responses to minimize negative consequences. Social media platforms have emerged as a transformative force in crisis communication, enabling real-time information dissemination, fostering public engagement, and facilitating community mobilization efforts (Liu et al., 2015)

Social media platforms assumed a vital role in disseminating crucial information during the COVID-19 pandemic. These platforms served as primary channels for sharing real-time updates on infection rates, essential preventive measures, and evolving government directives (Ahmed et al., 2019). Platforms like Twitter and Facebook facilitated the exchange of information on a peer-to-peer basis, while social media outlets such as Instagram and TikTok leveraged visual content to promote public health awareness campaigns (Chou et al., 2018).

The COVID-19 pandemic has demonstrably underscored the critical role of social media in crisis management strategies. Furthermore, the integration of social media data and big data analytics into a COVID-19 crisis management framework can offer significant value by enabling the anticipation of public concerns and the formulation of targeted communication approaches (S. Park et al., 2020; H. Park et al., 2016).

## 2.8. SOCIAL MEDIA PLATFORMS

**Instagram:**

Instagram was founded in year 2010 as a mobile application that allows users to share pictures and videos online (Dubovik et al., 2013). According to Instagram (2012), it started off with providing functions on editing and sharing photos then after sharing videos and photo messaging directly to other users. Instagram is known to be the third most popular social network (Salomon, 2013) amongst students in the United States.

Instagram, with its emphasis on visual content, emerged as a significant player in crisis communication during the COVID-19 pandemic. Studies by Chou et al., (2018) highlight how individuals, organizations, and public authorities leveraged Instagram's platform to disseminate real-time updates, raise public awareness about essential preventive measures, and combat the spread of misinformation. The platform's unique features for visual storytelling, such as Instagram Stories and IGTV, facilitated the effective communication of public health messages and fostered a sense of community engagement (Alshaikh et al., 2021). Furthermore, research suggests that Instagram's algorithmic functionalities played a role in promoting the rapid dissemination of credible information while potentially suppressing the spread of misinformation (Gesser-Edelsburg, 2021).

**Twitter:**

Twitter, another platform of social media, is one major social network in the world. Twitter is a channel where information is disseminated to the globe and has continued to attract a user growth since the invention in 2006 (Java et al., 2007). Twitter is a platform that allows users to send and receive information using the web or from mobile applications with a valid email address. Twitter gives the opportunity for users to share pictures, videos of what is happening around the world (Tang & Hew, 2017). Twitter provides room to increase connectedness and relationships building (Gonzales et al., 2011).

However, Twitter allows users to control their interactions and activities, especially on relevant issues of concern (Holmes et al., 2013). Twitter's position during the Covid-19 pandemic served as a critical platform for real-time information sharing and crisis communication. Suresh, (2011), underscored its effectiveness in disseminating immediate updates, fostering public dialogue, and enabling information monitoring by both authorities and researchers. Hashtags and retweeting mechanisms on Twitter demonstrated the amplification of crucial messages from health organizations and government agencies (H. Park et al., 2016).

**Facebook:**

Nwabuzor & Ekerikevwe, 2018 argued that Facebook is a social media platform which supports self-discovery, social enhancement, and interpersonal connectivity; allowing individuals establish connections throughout the world.

Facebook emerged as a powerful tool for crisis management during the COVID-19 pandemic. Research by Atkinson et al., 2021 highlights Facebook's multifaceted role in fostering

community building, disseminating crucial information, and coordinating crisis response efforts. Facebook demonstrably facilitated the establishment of peer-to-peer support networks, volunteer initiatives, and grassroots mobilization efforts (Kite et al., 2019). Furthermore, Facebook's targeted advertising capabilities were instrumental in promoting public health campaigns, enabling the platform to reach specific demographics with tailored messages to maximize impact.

**WhatsApp:**

WhatsApp is a social media cross-platform, enabling instant messaging on smartphones with the use of Internet. WhatsApp has become so popular that over 10 billion users engage with messages per day.

WhatsApp established itself as a primary platform for information sharing during the COVID-19 crisis (K. J. K. Feng et al., 2022). Mmadu-Okoli & Nsofor, (2021), highlights its effectiveness in disseminating verified information, facilitating coordinated local responses, and debunking rumors within close-knit communities. However, the platform's closed group nature presents challenges, as evidenced by the potential for misinformation to spread unchecked (Mmadu-Okoli & Nsofor, 2021).

**YouTube:**

YouTube is now the second most commonly used social media platform across the globe, with over 2 billion users (Smith, 2020). Recently, a study revealed that 59% of Generation Z users cite the platform as the preferred learning platform (Smith, 2020).

YouTube emerged as a valuable tool for crisis communication and public education during the COVID-19 pandemic (Uddin et al., 2023). The platform has been used to disseminate information on health and safety challenges, ongoing construction operation updates, workforce-related challenges, and industry operations-related guidelines (Uddin et al., 2023). YouTube's extensive reach and user accessibility facilitated the dissemination of multilingual content to diverse audiences on a global scale (Agbese, 2022).

**TikTok:**

The COVID-19 pandemic witnessed the unexpected rise of TikTok, a platform known for its short-form video content, as a space for creative expression and public health advocacy

(Shadrina Nasution et al., 2021). TikTok's effectiveness in disseminating informative yet engaging content on preventive measures, debunking myths, and fostering a sense of community spirit among users. The platform's algorithmic curation has demonstrably facilitated the viral spread of health-related content, enabling it to reach a broad range of demographics, including younger audiences traditionally difficult to engage through conventional channels (Klug et al., 2023).

Social media platforms offer benefits in crisis communication, they also present challenges related to misinformation, privacy concerns, and algorithmic biases (Al Shehab, 2022). The proliferation of unverified information and rumors on platforms has fueled panic and hindered public health efforts. Moreover, the rapid spread of content on social media can amplify the emotional impact of crises and exacerbate societal divisions.

## 2.9. Effectiveness of Social Media in COVID-19 Crisis Communication

The COVID-19 pandemic witnessed a paradigm shift in crisis communication, with social media emerging as a critical tool for rapid information dissemination (Bruns et al., 2020). Governments, health organizations like the World Health Organization, and public figures actively utilized platforms like Twitter and Facebook to broadcast official announcements, disseminate safety guidelines, and provide real-time updates on the evolving pandemic situation (Bruns et al., 2020). This instantaneous communication facilitated a heightened sense of global awareness and fostered coordinated action amongst stakeholders (S. Park et al., 2020).

However, the speed of rapid information dissemination on social media presented significant challenges. The very platforms that facilitated real-time communication also became breeding grounds for misinformation and the proliferation of "fake news" (ShuKai et al., 2017). Unverified claims, often accompanied by conspiracy theories and dubious home remedies, spread virally across social media ecosystems, sowing confusion and eroding public trust in legitimate sources of information (Papadopoulos et al., 2016). Platforms such as Facebook and YouTube implemented fact-checking initiatives to combat the spread of misinformation, the effectiveness of these efforts remains a topic of ongoing debate (Roozenbeek et al., 2020).

Social media provided a vital platform for social connection during a time of physical isolation, where individuals shared experiences, offered emotional support, and sought advice (de Paulo et al., 2020; Juvonen et al., 2021). In line with (Liang et al., 2022), rise of "COVID-19 support groups" on these platforms offered a sense of belonging and reduced feelings of loneliness during lockdowns. Social media platforms were used to raise awareness for relief efforts, promote mask-wearing, and celebrate frontline workers (Hussain et al., 2020).

Social media platforms were instrumental in disseminating official recommendations from health institutions like the World Health Organization (WHO) (Steele & Dumbrell, 2012). Governments utilized social media to share information about preventive measures, mask mandates, and vaccination drives. Social media campaigns encouraged social distancing practices and facilitated contact tracing efforts (Lab, 2020). George et al., 2023 and Yarmak et al., 2020, stated that tracking the spread of the virus and identifying potentially exposed individuals became possible through social media data analysis while social media platforms fostered a sense of community and solidarity during lockdowns and social isolation.

The platforms were used by health officials to answer questions and provide reassurance during the pandemic and open communication fostered trust between authorities and the public. Social media fostered two-way communication, allowing authorities to address public concerns and anxieties directly. Social media allowed for a more transparent and humanized approach to crisis communication.

## 2.10. CHALLENGES AND LIMITATIONS OF SOCIAL MEDIA IN COVID-19 COMMUNICATION MANAGEMENT

According to Finn et al., 2015, the rapid spread of information on social media can also lead to the dissemination of false information. During COVID-19, social media was rife with conspiracy theories and unverified cures, posing a challenge to public health efforts.

Social media amplified emotional responses and fueled public anxieties during the crisis (Vemprala et al., 2021), which led to panic buying, social unrest, and difficulty in maintaining social order.

The rapid spread of misinformation, often fueled by political agendas and distrust in traditional media, posed a significant challenge.

Social media use has been linked to increased anxiety and depression (Vaterlaus et al., 2021; Najah et al., 2021). The constant stream of negative news and graphic content surrounding COVID-19 exacerbated these issues. Unequal access to technology and digital literacy skills created disparities in information access and utilization of social media for support during the pandemic (Najah et al., 2021).

## 2.11. Conceptual Model

H1: People that used social media platforms more frequently were perceived to receive information quicker during the Covid-19 pandemic compared to other sources:
IV: Frequency of social media use ⟶ DV: Perceived speed of information

H2a: People that cross-check or verify information more often feel more confident about the accuracy of the information obtained on social media:
IV: Verification frequency ⟶ DV: Confidence Level

H2b: People that verified information more often were perceived to panic less and were less confused:
IV: Verification of information ⟶ DV: Perceived panic and confusion

H3a: People that came across information from official channels during the COVID-19 Pandemic had a reduced risk of misinformation:
IV: Information from official channels ⟶ DV: Reduction in misinformation

H3b: People that came across information from official channels had an increased awareness of the Covid pandemic situation:
IV: Information from official channels ⟶ DV: Increased awareness

# 3. METHODOLOGY

This research study is situated in the context of the Covid-19 pandemic, a global health crisis that significantly disrupted normal life and called for effective crisis communication. Social media platforms were one of the major mediums of communication and disseminating information during this period. They were a major player in managing and gauging public perceptions and coordinating responses. Understanding the dynamics of social media use in crisis management can provide valuable insights for enhancing future strategies and policies (Liu & Fraustino, 2014; Jin et al., 2011).

## 3.1. RESEARCH DESIGN

This research method employed a quantitative research design, making use of survey data to test the hypotheses and also to explore the relationships between the variables.

### 3.1.1. SURVEY DESIGN

All precautions were taken when designing this survey to minimize bias and ensure clarity. All the questions were reviewed for relevance and alignment with the research objectives.

| Rationale | Questions | Scale |
|---|---|---|
| H1: People that used social media platforms more frequently were perceived to receive information quicker during the Covid-19 pandemic compared to other sources. | 1. During the COVID-19 pandemic, how often did you use social media to get updates and information?<br>2. How quickly do you feel you received information about the COVID-19 pandemic through social media compared to other sources? | *1. Likert scale - 1(Never) to 5(Multiple times a day)*<br><br>2. *Likert scale - 1(Much Slower) to 5(Much Faster)* |
| H2a: People that cross-check or verify information more often feel more confident about the | 1. When you received information about COVID-19 on social media, how often did you | 1. *Likert scale - 1 (Very rarely) to 5(Very often)*<br><br>2. Likert scale - *1(Strongly* |

| | | |
|---|---|---|
| accuracy of the information obtained on social media.<br>H2b: People that verified information more often were perceived to panic less and were less confused. | verify it through other sources?<br>2. To what extent do you agree that social media contributed to widespread panic and confusion during the COVID-19 pandemic?<br>3. How confident were you in the accuracy of the COVID-19 information you received through social media?<br>4. How often did you encounter conflicting information about COVID-19 on social media? | *Disagree) to 5(Strongly Agree)*<br><br>*3. Likert scale - 1 (Not confident at all) to 5 (Extremely Confident)*<br><br>4. *Likert scale - 1 (Very rarely) to 5 (Very Often)* |
| H3a: People that came across information from official channels during the COVID-19 Pandemic had a reduced risk of misinformation.<br><br>H3b: People that came across information from official channels had an increased awareness of the Covid pandemic situation. | 1. How often did you come across information from official channels (e.g., WHO, CDC) about COVID-19 on social media?<br>2. How effective did you find the communication from official channels on social media during the COVID-19 pandemic?<br>3. How did the information from official channels on social media impact your level of concern or | 1. *Likert scale - 1 (Very rarely) to 5 (Very Often)*<br><br>*2. Likert scale - 1 (Not effective at all) to 5(Extremely Effective)*<br><br>*3. Likert scale - 1 (Decreased Significantly) to 5(Increased Significantly)*<br><br>*4. Likert scale - 1 (Very Unclear) to 5 (Very Clear)* |

| | | |
|---|---|---|
| | anxiety during the COVID-19 pandemic?<br>4. How clear and understandable was the information provided by official channels on social media during the COVID-19 pandemic?<br>5. Did social media play a role in your decision to adopt health measures (e.g., wearing masks, social distancing) during the COVID-19 pandemic? | 5. Likert scale -<br>1 (No role at all) to 5 (The decisive role) |
| Most used platforms | Which social media platforms did you primarily use for information during the COVID-19 pandemic? | Nominal scale |
| Influence of celebrities or influencers | How did the information shared by influencers or celebrities on social media impact your perception of the COVID-19 pandemic? | Ordinal scale |
| Understand actions taken to curate their information feed | Did you unfollow or mute any accounts due to the type of COVID-19 information they shared? | Nominal scale |
| Perceptions | 1. How has your trust in social media as a source of information changed since the COVID-19 pandemic? | 1. Ordinal scale<br>2. Nominal scale |

| | | |
|---|---|---|
| | 2. What type of information about COVID-19 did you find most valuable on social media? | |
| Demography | 1. What is your age group?<br>2. What is your gender? | 1. Ordinal scale<br>2. Nominal scale |
| Recommendations | What improvements would you suggest for crisis communication on social media? | Nominal scale |

### 3.1.2. DATA COLLECTION METHODS

The data for this research study was collected using an online survey that was administered through Qualtrics. The survey was made up of 20 multiple choice and Likert scale formatted questions aligned with the study's hypothesis:
Data collection was conducted over a three (3) month period from March 8th 2024 to June 7th 2024. The survey was hosted online which made it easy to access and increased broad participation aligning with the study's aim to capture wide range of experiences and perceptions (Couper, 2000).

### 3.1.3. ETHICAL CONSIDERATION

All participants were required to be over 18 years old and give informed consent before participating. The introductory section of the survey clearly explained the purpose of the research study, assured them of their anonymity and that their data would be protected and used for research purposes only. The survey only requested for basic demographic data i.e., age and gender to maintain confidentiality and adhere to ethical research standards. The survey for submitted for ethical consideration and it was approved according to the regulations of the Ethics Committee of NOVA IMS and MagIC Research Center.

## 3.2. DATA TREATMENT

The target participants for the survey were adults who went through the COVID-19 pandemic. The participants were chosen using convenience sampling, (also known as Haphazard Sampling or Accidental Sampling) is a type of nonprobability or nonrandom sampling

where members of the target population that meet certain practical criteria, such as easy accessibility, geographical proximity, availability at a given time, or the willingness to participate are included for the purpose of the study (Etikan, 2016) . The participants were sourced through social media and Instant messaging platforms like Instagram, Twitter, Whatsapp, LinkedIn and Facebook. It was also shared through emails to my personal and professional networks.

There were 203 survey responses in total. This data was cleaned, and at the end of the cleaning, only 153 responses were viable. The data was cleaned using Excel and this is how it was cleaned;
Duplicate responses were removed and missing values in the dataset were addressed by either filling them with appropriate values or removing the incomplete responses.
The texts were standardized by converting all uppercase text to lower case making it easier to analyze and compare text responses. The data was separated into Qualitative and Quantitative data. The Quantitative data/responses were converted to numerical form Using the Likert scale format, the data were transformed based on their intensity.

The study analysed the obtained data descriptively and inferentially. Frequency table and percentage counts were used to identify the trends in the insights of the respondents on the role of social media in crisis management, specifically during the COVID-19 Pandemic. Specifically, Excel and JASP were used to code and analyse the questionnaire to develop frequencies. Pearson correlation was adopted to show the relationship between the variables in the hypotheses.

# 4. RESULTS AND DISCUSSION

## 4.1. INTRODUCTION

It has been established in the literature reviewed that social media platforms are instrumental in maintaining and controlling human emotions during crises. However, with the focus of this study on COVID-19, it is pertinent to subject it to empirical investigation. Accordingly, the data obtained were analysed descriptively and inferentially. Items developed on the research questions were analysed using frequency tables and percentage counts to highlight the trend in the respondents' insights. The research hypotheses were analysed using Pearson Correlation at a 95% level of significance.

## 4.2. DESCRIPTIVE STATISTICS

The result of the analysis of the obtained data related to the demography of the study's participants and items on the research questions are presented as follows:

**Table 4.1:**
*Gender distribution of respondents*

| | Frequency | Percent |
|---|---|---|
| Male | 50 | 32.7 |
| Female | 102 | 66.7 |
| Non-binary | 1 | .6 |
| Total | 153 | 100.0 |

Table 4.1 indicates that the majority of the respondents are female. However, the data obtained from the male participants also showed that they are well represented indicating that the result of the study is generalizable.

**Table 4.2:**
*Age distribution of respondents*

| | Frequency | Percent |
|---|---|---|
| 18-24 | 38 | 24.8 |
| 25-34 | 90 | 58.8 |
| 35-44 | 18 | 11.8 |
| 45-54 | 5 | 3.3 |
| 65+ | 2 | 1.3 |
| Total | 153 | 100.0 |

The result in Table 4.2 illustrates the age distribution of the respondents. It can be inferred from the distribution of the data that participants between 25 and 34 years are well-represented in the study.

**Table 4.3:**

*Frequency of social media use for COVID-19 updates.*

| | Frequency | Percent |
|---|---|---|
| Rarely | 6 | 3.9 |
| A few times a week | 5 | 3.3 |
| Daily | 26 | 17.0 |
| Multiple times a day | 116 | 75.8 |
| Total | 153 | 100.0 |

Table 4.3 shows respondents' insight on the regularity of how they used social media to get updates during COVID-19 revealed that a significant majority of the respondents got updates on social media on COVID-19 multiple times a day. In contrast, a small number of the respondents revealed that they rarely got updates on COVID-19 during the pandemic. From this data, it can be inferred that a high number of people used social media to get updates during the pandemic.

**Table 4.4:**

*Frequency of verifying COVID-19 information from social media through other sources.*

| | Frequency | Percent |
|---|---|---|
| Never | 4 | 2.6 |
| Rarely | 22 | 14.4 |
| Sometimes | 60 | 39.2 |
| Often | 40 | 26.2 |
| Always | 27 | 17.6 |
| Total | 153 | 100.0 |

Table 4.4 above shows the number of individuals that actually took the time to verify the information gotten from the internet during the COVID-19 pandemic and the ones that didn't.

**Table 4.5:**

*Perceived impact of social media on COVID-19 panic and confusion.*

| | Frequency | Percent |
|---|---|---|
| Strongly Disagree | 5 | 3.3 |
| Disagree | 7 | 4.6 |
| Neutral | 16 | 10.5 |
| Agree | 62 | 40.4 |
| Strongly Agree | 63 | 41.2 |
| Total | 153 | 100.0 |

Table 4.5 above shows a clear representation of people's perception of social media and whether it contributed to widespread panic and confusion during the COVID-19 pandemic.

**Table 4.6:**

*Confidence in Accuracy of COVID-19 Information on Social Media*

| | Frequency | Percent |
|---|---|---|
| Not confident at all | 10 | 6.5 |
| Slightly confident | 41 | 26.8 |
| Moderately confident | 76 | 49.7 |

| | | |
|---|---|---|
| Very confident | 20 | 13.1 |
| Extremely confident | 6 | 3.9 |
| Total | 153 | 100.0 |

Table 4.6 reveals the level of confidence the respondents had in the COVID-19-related information received on social media. The output of this data indicates that a significant percentage of the respondents were not well-confident about the information received through social media.

**Table 4.7:**
*Frequency of Encountering Official COVID-19 Information on Social Media*

| | Frequency | Percent |
|---|---|---|
| Very rarely | 3 | 2.0 |
| Rarely | 9 | 5.9 |
| Sometimes | 48 | 31.4 |
| Often | 66 | 43.1 |
| Very Often | 27 | 17.6 |
| Total | 153 | 100.0 |

Table 4.7 shows the respondents' insight on the number of times they came across COVID-19 updates from official channels on social media. From this data, it can be inferred that these government agencies were quite active in sharing information via social media.

**Table 4.8:**
*Perceived Effectiveness of Official COVID-19 Communication on Social Media*

| | Frequency | Percent |
|---|---|---|
| Not effective at all | 7 | 4.6 |
| Slightly effective | 17 | 11.2 |
| Moderately effective | 62 | 40.5 |
| Very effective | 55 | 35.9 |
| Extremely effective | 12 | 7.8 |
| Total | 153 | 100.0 |

Table 4.8 indicates the effectiveness of the communication network of official channels on social media during COVID-19. A high percentage either found it moderately effective or very effective.

**Table 4.9:**

*Impact of Official COVID-19 Information on Social Media on Concern and Anxiety*

| | Frequency | Percent |
|---|---|---|
| Decreased significantly | 2 | 1.3 |
| Decreased Slightly | 14 | 9.2 |
| No change | 43 | 28.1 |
| Increased Slightly | 73 | 47.7 |
| Increased Significantly | 21 | 13.7 |
| Total | 153 | 100.0 |

Table 4.9 shows the level of impact of the information from official channels and how It either increased or decreased panic and anxiety.

**Table 4.10:**

*Respondents unfollowing or Muting Accounts Due to COVID-19 Information*

| | Frequency | Percent |
|---|---|---|
| Yes | 62 | 40.5 |
| No | 54 | 35.3 |
| Not sure | 37 | 24.2 |
| Total | 153 | 100.0 |

Table 4.10 shows the steps individuals took in controlling the kind information they received during the pandemic and the data shows that people were more active in getting rid of accounts that spread of misinformation.

**Table 4.11:**
*Changes in Trust Toward Social Media as an Information Source Post-Pandemic*

| | Frequency | Percent |
|---|---|---|
| Significantly decreased | 9 | 5.9 |
| Somewhat decreased | 40 | 26.1 |
| No change | 73 | 47.7 |
| Somewhat increased | 26 | 17.0 |
| Significantly increased | 5 | 3.3 |
| Total | 153 | 100.0 |

Table 4.11 illustrates the change in the trust of the respondents in information gotten on social media since the COVID-19 pandemic.

**Table 4.12:**
*Clarity of COVID-19 Information from Official Channels on Social Media*

| | Frequency | Percent |
|---|---|---|
| Somewhat unclear | 14 | 9.2 |
| Neutral | 23 | 15.0 |
| Somewhat clear | 86 | 56.2 |
| Very clear | 30 | 19.6 |
| Total | 153 | 100.0 |

Table 4.12 shows people's perception on the clarity of information sent out by official channels on social media during the COVID-19 pandemic.

**Table 4.13:**
*Influence of Social Media on Adopting COVID-19 Health Measures*

| | Frequency | Percent |
|---|---|---|
| No role at all | 18 | 11.8 |
| A minor role | 14 | 9.2 |
| A moderate role | 57 | 37.3 |

| | | |
|---|---|---|
| A major role | 53 | 34.5 |
| The decisive role | 11 | 7.2 |
| Total | 153 | 100.0 |

Table 4.13 above shows the perception of the respondents on the role played by social media in influencing them to adopt health measures during the pandemic.

**Table 4.14:**
*Frequency of Encountering Conflicting COVID-19 Information on Social Media*

| | Frequency | Percent |
|---|---|---|
| Rarely | 21 | 13.7 |
| Sometimes | 70 | 45.8 |
| Often | 56 | 36.6 |
| Very often | 6 | 3.9 |
| Total | 153 | 100.0 |

The data presented in Table 4.14 shows respondent's insights on how often they encountered conflicting information about COVID-19 on social media. It can be inferred from the trend of this data that the majority of the respondents encountered conflicting information on social media about COVID-19.

## 4.3. TEST OF HYPOTHESES

This section of the study presents the analysis of the formulated hypotheses. Pearson Correlation was used to test and identify the relationship between the variables in the hypotheses. According to (Senthilnathan, 2019), Pearson Coefficient examines the relationship between two variables. However, this correlation is not a causal relationship, rather it indicates the movement of two variables on the same axis. As a result, a positive relationship implies that the variables tested are moving on the same axis. Conversely, a negative relationship highlights that the variables move on opposite axes. (Senthilnathan, 2019) explains that there are variations in the level of correlation between variables. A strong relationship falls between 0.70 – 1, and values between 0.50 – 0.69 show a moderate relationship, consequently, values

between 0 – 0.49 show a weak relationship. Accordingly, PPMC was used to show the level and type of relationship that exists between the variables in the formulated hypotheses.

**H1: People that used social media platforms more frequently were perceived to receive information quicker during the Covid-19 pandemic compared to other sources.**

| | | Frequency of use |
|---|---|---|
| Perceived Speed of Information | Pearson Correlation | 0.59 |
| | P-Value | .0001 |
| | N | 153 |

The result of the analysis revealed a significant, positive, and moderate relationship between the frequency of social media use and the perceived speed of receiving information. This indicates $r$=0.59 and $p$<0.05 ($df$ = 151). By implication, the hypothesis that stated that the frequency of social media use is positively related to the perceived speed of receiving information during the COVID-19 pandemic is supported. This result implies that as the frequency of using social media to get updates increases, the speed at which people feel they receive information also increases.

**H2a: People that cross-check or verify information more often feel more confident about the accuracy of the information obtained on social media**

| | | Verification Frequency |
|---|---|---|
| Confidence Level | Pearson Correlation | -.014 |
| | P-Value | .87 |

| | | |
|---|---|---|
| | N | 153 |

The result of the analysis revealed a negative relationship between confidence level and the verification frequency of information on social media. This indicates the hypothesis that stated that people that verify information more often feel more confident about the accuracy of the information obtained is not supported. This indicates $r$=-0.014 and $p$>0.05 ($df$=151).

**H2b: People that verified information more often were perceived to panic less and were less confused.**

| | | Perceived panic and confusion |
|---|---|---|
| Verified information | Pearson Correlation | .029 |
| | P-value | .72 |
| | N | 153 |

The result of the analysis revealed a non-significant, positive and weak relationship between verified information and perceived widespread panic. This indicates $r$=-0.029 and $p$>0.05 ($df$=151). By implication, the hypothesis that stated that the verification of information means less perceived widespread panic and confusion is not supported.

**H3a: People that came across information from official channels during the COVID-19 Pandemic had a reduced risk of misinformation.**

| | | Reduction in misinformation |
|---|---|---|
| Official channels | Pearson Correlation | .50 |
| | P-value | .001 |

| | | |
|---|---|---|
| | N | 153 |

The result of the analysis revealed a significant, positive, and moderate relationship between the frequency of coming across information from official channels and the perceived risk of misinformation and communication overload. This indicates a correlation coefficient $r$= 0.50 and $p$ <0.05 ($df$ = 151).

By implication, the hypothesis that stated that people that came across information from official channels during the COVID-19 Pandemic had a reduced risk of misinformation is supported.

**H3b: People that came across information from official channels had an increased awareness of the Covid pandemic situation**

| | | Increased awareness |
|---|---|---|
| Official Channels | Pearson Correlation | .09 |
| | P-value | .25 |
| | N | 153 |

The result of the analysis revealed a non-significant, positive and weak relationship between official channels' information and increased awareness. This indicates $r$=-0.09 and $p$>0.05 ($df$=151). By implication, the hypothesis that stated that the use of official channels to pass information during the covid-19 pandemic led to increased awareness is not supported.

### 4.4. SUMMARY OF RESULTS

- **Hypothesis 1 – Supported**

  This hypothesis proposed that social media platforms were a quicker source of information during the COVID-19 pandemic. The results confirm this, indicating that individuals relied heavily on social media for real-time updates. This aligns with

existing literature, which highlights the speed at which social media can spread information compared to traditional news sources. However, this also raises concerns about the accuracy and reliability of the information being shared.

- **Hypothesis 2a – Not Supported**
  This hypothesis examined whether verifying information from multiple sources increased confidence in its accuracy. The lack of a strong relationship suggests that while people may have verified information, it did not necessarily translate into greater confidence. This could be due to the overwhelming amount of conflicting information available, leading to confusion rather than reassurance.
- **Hypothesis 2b – Not Supported**
  The expectation that verifying information would lead to lower levels of panic was not supported. This may indicate that external factors, such as the severity of the pandemic and government responses, played a more significant role in shaping emotional reactions than personal efforts to fact-check information.
- **Hypothesis 3a – Supported**
  The study found that access to information from official channels (e.g., WHO, CDC) reduced the risk of misinformation. This suggests that authoritative sources remain crucial in mitigating the spread of false information. However, the challenge remains in ensuring that such sources are visible, accessible, and trusted by the general public.
- **Hypothesis 3b – Not Supported**
  Although access to official information reduced misinformation, it did not necessarily translate into increased awareness. This could imply that simply providing information is not enough—effective communication strategies and engagement methods are necessary to enhance public understanding and awareness.

### 4.5. DISCUSSION

The support for Hypothesis 1 confirms that individuals perceived social media as a quicker source of information compared to other mediums during the COVID-19 pandemic. This aligns with previous research that highlights the speed at which social media facilitates information dissemination during crises (Liu et al., 2016b; Jin et al., 2011). Social media platforms, with their real-time updates, ensured rapid access to evolving information, fulfilling the public's need for immediacy in a rapidly changing situation. However, this speed often came at the expense of information accuracy, underscoring the dual-edged nature of social media during crises.

Contrary to expectations, the study did not find strong evidence to support Hypothesis 2a or 2b. People who verified the information they received on social media did not report significantly higher confidence in its accuracy, nor did they exhibit reduced panic or confusion. These findings suggest that verification behaviors alone may not suffice to mitigate the emotional and cognitive overload caused by the sheer volume of information on social media. This is consistent with research indicating that information fatigue and conflicting narratives on social media can diminish the efficacy of verification efforts (Pennycook et al., 2020). Furthermore, the lack of relationship between verification and reduced panic highlights the complex interplay between information processing and emotional resilience, calling for a more nuanced examination of these dynamics.

The support for Hypothesis 3a reaffirms the critical role of official channels, such as the WHO and CDC, in reducing the risk of misinformation. This finding is consistent with prior studies emphasizing the importance of credible institutions in crisis communication (van der Meer & Jin, 2020). Official channels, with their authoritative voice, acted as a counterbalance to the misinformation often prevalent on social media platforms. However, the lack of support for Hypothesis 3b indicates that exposure to information from official sources did not necessarily translate to increased awareness of the pandemic situation. This may be attributed to factors such as communication clarity, message retention, and public trust in official institutions. Studies suggest that even credible information can lose its impact if it is not effectively communicated or fails to resonate with the audience's values and priorities (Reynolds & Seeger, 2005).

# 5. CONCLUSIONS AND FUTURE RESEARCH

The study examined the impact of social media on crisis management. The study built on the existing literature by focusing on the use of social media communication by government agencies and crisis management entities during the COVID-19 pandemic. The outbreak of COVID-19 reshaped the use of social media from mere social platforms to the hub of disseminating information about the pandemic. While government agencies and crisis management entities were trying to promote educative content that would ease the worries of people about the pandemic, some unverified information was going around to increase fears and panic among people. As a result, the study unraveled the benefits and limitations involved in the use of social media communication for crisis management.

Accordingly, the study acknowledged the potential of social media in managing crises through the dissemination of frequent updates. As such, it was identified that certain strategies promote the proper use of social media in crisis management. The study discovered that the use of official channels and the creation of online rescue communities with the presence of notable official bodies further create assurance with the information shared on social media platforms. Some of the obvious benefits identified from the insights of the study's participants in the use of social media in crisis management have made the study infer that its impact cannot be undermined in curbing misinformation and getting information quicker during crises. Hence, the study further supports the use of social media communication in managing crises such as the COVID-19 pandemic.

Furthermore, the study emphasised the need for the right ethical measures to be implemented in mitigating the challenges posed by social media communication. Particularly, the majority of the respondents opined that it is essential for the social media platform to create a distinction between verified and unverified information by showing their sources. This measure will further reduce the efforts of fake information in rendering the crisis management activities done by government agencies on social media ineffective. Consequently, the use of social media in managing crises can be challenging and beneficial. However, with the implementation of the right social media communication strategies, there are indications that crises will be brought under control as referenced in the literature.

## 5.1. Key Findings

- Social media platforms were a quicker source of information during the Covid-19 pandemic.
- Verifying information didn't help with feeling more confident about its accuracy during the Pandemic.
- People that verified information more often didn't panic less and or were less confused.
- The use of official channels to pass information during the Covid-19 pandemic helped to reduce the risk of misinformation.
- The use of official channels to pass information during the Covid-19 pandemic didn't increase public awareness.

## 5.2. Recommendations

Based on the findings of the study, the following recommendations were made:

1. It is evident that social media is quicker source of information compared to other mediums. In this case, it also means rumors and untrue stories can spread swiftly on social media. As a result, the government needs to establish information control on social media. This is not to deprive people of their rights to speech but to set measures that will ensure that misinformation is not spread.
2. Official channels have been proven to help in reducing the risk of misinformation. As a result, the government needs to optimize and promote its channels to help curb fake news and the spread of misinformation.

## 5.3. Limitations and Future Research

This study, while providing valuable insights into the role of social media in crisis management during the COVID-19 pandemic, is not without limitations. These limitations must be addressed to contextualize the findings and guide future research directions.

1. Sampling Bias and Representativeness

The reliance on convenience sampling through social media platforms and personal networks introduces a potential sampling bias. While this method allowed for broad and rapid participation, it limited the diversity of the sample, which may not fully represent the wider population's perceptions and behaviors during the pandemic. Future studies should aim for

more randomized and stratified sampling methods to ensure greater representativeness across demographics and geographic locations.

2. Self-Reported Data

The study relied on self-reported survey data, which is subject to biases such as social desirability and recall bias. Participants may have overestimated or underestimated their use of social media, the frequency of information verification, or their emotional responses. Incorporating behavioral tracking data or triangulating survey responses with qualitative interviews could enhance the reliability of future research.

3. Lack of Contextual Insights

Although the survey design captured quantitative data efficiently, it lacked the depth that qualitative methods could provide. For instance, open-ended questions or interviews could have uncovered nuanced perceptions about why certain platforms or official sources were more trusted or effective. Combining qualitative and quantitative approaches in future research would provide a more holistic understanding of social media's role in crisis management.

4. Platform-Specific Analysis

This study did not differentiate between various social media platforms, despite the likelihood that different platforms serve distinct roles in information dissemination and user behavior. Future research should investigate platform-specific dynamics, examining how unique features, algorithms, and user demographics influence the dissemination and reception of crisis-related information.

5. Verification and Emotional Impact

The hypotheses related to verification behaviors and emotional responses (H2a and H2b) were not supported, suggesting that these phenomena are influenced by more complex psychological and contextual factors. Future studies should explore these variables in greater depth, incorporating psychological constructs such as trust, cognitive load, and emotional resilience, to better understand their interplay with social media use.

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# APPENDIX A

This is to certify that
Project No.: **DDMKT2024-7-89776**
Project Title: **Social Media in Crisis Management (A study of the covid-19 Pandemic)**
Principal Researcher: **Abayomi Adenekan**

according to the regulations of the Ethics Committee of NOVA IMS and MagIC Research Center this project was considered to meet the requirements of the NOVA IMS Internal Review Board, being considered **APPROVED** on 7/8/2024.

It is the Principal Researcher's responsibility to ensure that all researchers and stakeholders associated with this project are aware of the conditions of approval and which documents have been approved.

The Principal Researcher is required to notify the Ethics Committee, via amendment or progress report, of
- Any significant change to the project and the reason for that change;
- Any unforeseen events or unexpected developments that merit notification;
- The inability of the Principal Researcher to continue in that role or any other change in research personnel involved in the project.

Lisbon, 7/8/2024

NOVA IMS Ethics Committee
ethicscommittee@novaims.unl.pt

**Questionnaire**

**1. During the COVID-19 pandemic, how often did you use social media to get updates and information? (Multiple Choice)**

- Multiple times a day
- Daily
- A few times a week
- Rarely
- Never

*Rationale: Establishes the frequency of social media use for crisis information, setting a baseline for further questions.*

**2. How quickly do you feel you received information about the COVID-19 pandemic through social media compared to other sources? (Likert Scale)**

- Much slower
- Somewhat slower
- About the same
- Somewhat faster
- Much faster

*Rationale: Tests H1 by comparing the perceived speed of information dissemination through social media to other channels.*

**3. When you received information about COVID-19 on social media, how often did you verify it through other sources? (Likert Scale)**

- Always
- Often
- Sometimes
- Rarely
- Never

*Rationale: Directly addresses H2 by gauging the frequency of cross-verification of information received on social media.*

**4. To what extent do you agree that social media contributed to widespread panic and confusion during the COVID-19 pandemic? (Likert Scale)**

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

*Rationale: Probes into the perceived impact of social media on public sentiment during the pandemic, relevant to H2.*

**5. How confident were you in the accuracy of the COVID-19 information you received through social media? (Likert Scale)**

- Not confident at all
- Slightly confident
- Moderately confident
- Very confident
- Extremely confident

*Rationale: Assesses trust in social media as a source of information during the pandemic, complementing H2.*

**6. How often did you come across information from official channels (e.g., WHO, CDC) about COVID-19 on social media? (Likert Scale)**

- Very rarely
- Rarely
- Sometimes
- Often
- Very often

Rationale: Evaluates the presence and visibility of official sources on social media, relevant to H3.

**7. How effective did you find the communication from official channels on social media during the COVID-19 pandemic? (Likert Scale)**

- Not effective at all

- Slightly effective
- Moderately effective
- Very effective
- Extremely effective

*Rationale: Measures the effectiveness of official communications in managing the crisis on social media, tying into H3.*

**8. How did the information from official channels on social media impact your level of concern or anxiety during the COVID-19 pandemic? (Likert Scale)**

- Increased significantly
- Increased slightly
- No change
- Decreased slightly
- Decreased significantly

*Rationale: Assesses the emotional impact of official communications, complementing H3.*

**9. Which social media platforms did you primarily use for information during the COVID-19 pandemic? (Select all that apply)**

- Facebook
- Twitter
- Instagram
- LinkedIn
- YouTube
- TikTok
- Other: ____

*Rationale: Identifies which platforms were most relied upon for crisis information, aiding in understanding platform-specific dynamics.*

**10. Have you ever shared information about COVID-19 on social media without verifying its accuracy? (Multiple Choice)**

- Yes
- No
- I'm not sure

*Rationale: Touches on personal responsibility and awareness regarding the spread of potential misinformation, relevant to H2.*

**11. How did the information shared by influencers or celebrities on social media impact your perception of the COVID-19 pandemic? (Likert Scale)**

- Greatly worsened my perception
- Somewhat worsened my perception
- Had no effect
- Somewhat improved my perception
- Greatly improved my perception

*Rationale: Explores the influence of public figures on crisis perception and management, which can intersect with all three hypotheses.*

**12. Did you unfollow or mute any accounts due to the type of COVID-19 information they shared? (Multiple Choice)**

- Yes
- No
- I don't remember

*Rationale: Indicates respondent actions taken to curate their information feed, reflecting on their stance towards misinformation.*

**13. How has your trust in social media as a source of information changed since the COVID-19 pandemic? (Likert Scale)**

- Significantly decreased
- Somewhat decreased
- No change
- Somewhat increased
- Significantly increased

*Rationale: Gauges the long-term impact of the pandemic on perceptions of social media's reliability, relevant to all hypotheses.*

**14. What type of information about COVID-19 did you find most valuable on social media? (Select all that apply)**

- Updates on COVID-19 case numbers and spread
- Health and safety guidelines (e.g., how to wear masks, wash hands)
- Information on vaccine availability and efficacy
- Government policy updates and lockdown measures
- Tips for coping with mental health and stress
- Personal stories and experiences from individuals affected by COVID-19
- Analysis and commentary from health experts
- Other (please specify): ____

*Rationale: This question is designed to capture a broad range of informational needs met by social media during the pandemic. Understanding what users found valuable can inform better strategies for content prioritization and dissemination in future crises, touching on aspects of all three hypotheses.*

**15. How clear and understandable was the information provided by official channels on social media during the COVID-19 pandemic? (Likert Scale)**

- Very unclear
- Somewhat unclear
- Neutral
- Somewhat clear
- Very clear

*Rationale: Directly assesses clarity of communication from official sources, crucial for H3.*

**16. Did social media play a role in your decision to adopt health measures (e.g., wearing masks, social distancing) during the COVID-19 pandemic? (Likert Scale)**

- No role at all
- A minor role

- A moderate role
- A major role
- The decisive role

*Rationale: Evaluates the actionable impact of social media information on personal behavior, linking to H1 and H3.*

**17. How often did you encounter conflicting information about COVID-19 on social media? (Likert Scale)**

- Very rarely
- Rarely
- Sometimes
- Often
- Very often

*Rationale: Measures the prevalence of information conflicts, which can contribute to misinformation and panic (H2).*

**18. What is your age group? (Multiple Choice)**

- Under 18
- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65+

**19. What is your gender? (Multiple Choice)**

- Male
- Female
- Non-binary
- Prefer not to say

**20. What improvements would you suggest for crisis communication on social media? (Select all that apply)**

- More frequent updates from official channels
- Clearer distinction between verified and unverified information
- Increased moderation to reduce misinformation
- More direct engagement from authorities (e.g., Q&A sessions, live updates)
- Enhanced collaboration with social media influencers to spread accurate information
- User-friendly guides on how to verify information
- Option to report misleading information more easily
- Other (please specify): ____

*Rationale: This question provides structured feedback options on improving crisis communication, covering various aspects from frequency and clarity of updates to engagement strategies and misinformation control. The inclusion of an "Other" option allows for capturing unique or unforeseen suggestions, ensuring comprehensive insights that can address H1, H2, and H3 by improving information speed, verification processes, and official communication effectiveness.*


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