



مركز الاستشارات والبحوث والتطوير
بأكاديمية السادات للعلوم الإدارية

مجلة البحوث الإدارية

Journal of Management Research

علمية - متخصصة - مُدكّمة - دورية ربع سنوية

للسنة
الثانية والأربعون

Vol. 42, No.1; Jan. 2024

عدد يناير 2024



www.sams.edu.eg/crdc

رئيس مجلس الإدارة
أ.د. محمد حسن عبد العظيم
رئيس أكاديمية السادات للعلوم الإدارية

رئيس التحرير
أ.د. أنور محمود النقيب
مدير مركز الاستشارات والبحوث والتطوير

ISSN : 1110-225X

**The Impact of the Social Media Interactivity on
The Management of the Covid-19 Crisis within the Egyptian
Context**

A Research Paper Presented to Sadat Academy for Management Sciences
In partial Fulfillment of the requirements
For the Award of the Ph.D. degree in
Public Administration

Professor Doctor. Ninnet Fahmy

Professor of

Public Administration & Middle East Studies

Former Deputy Director of the Graduate Studies

Sadat Academy for Management Sciences

Researcher: Ahmed Mohamed Kamal El-deen

Master of Business Administration

(Sadat Academy for Management Sciences)

Master of Arts in Defense Studies

(King's College London)

Abstract

This research paper investigates the impact of Social Media Interactivity on Crisis Management during the COVID-19 pandemic in Egypt. This descriptive study focuses on both the Egyptian government officials responsible for managing public communication on social media during the COVID-19 pandemic and Egyptian citizens who actively use social media. Through the analysis of collected data from a total of 400 survey forms, a weak positive correlation (correlation coefficient of 0.130**) is observed between Interactivity and COVID-19 Crisis Management. Although the correlation is weak, it remains statistically significant, as the Social Media Interactivity increases, Crisis Management efforts also improve. This research contributes to the existing knowledge on the role of Social Media Interactivity in Crisis Management during public health emergencies. It provides insights for policymakers and practitioners seeking to utilize Social Media platforms effectively in enhancing response efforts and improving Crisis Management outcomes.

Keywords: Social Media Interactivity, Crisis Management and COVID-19 pandemic.

Introduction

The impact of social media interactivity on the management of the COVID-19 crisis within the Egyptian context presents a compelling study of digital communication's role in public health management. Since the outbreak of coronavirus, Egypt has been seeing [a noticeable increase in the number of mobile internet users](#), during which social distancing measures were introduced to combat the spread of the virus. According to Datareportal's 2022¹ findings, Egypt had 51.45 million social media users as of January 2022, accounting for 48.9% of the nation's total population. Meta resources revealed that during the same period, Facebook's user base in Egypt stood at approximately 44.70 million². Additionally, Twitter's data showed that it had around 5.15 million Egyptian users early in 2022, representing a reach of 4.9% of the country's total population.

This paper seeks to investigate how the interactivity of social media has influenced crisis management efforts in Egypt during the COVID-19 pandemic.

Operational Definitions

Social media

Social media refers to a diverse array of internet-based platforms and technologies that enable users to create, share, and interact with content and with each other. These platforms, including giants like Facebook, Twitter, Instagram, and LinkedIn, have revolutionized communication, allowing instant and global sharing of ideas, news, and personal experiences.

The web dictionary defines social media simply as “Websites and applications used for social networking”

“Social media are media for social interaction, using highly accessible and scalable publishing techniques” social media use web-based technologies to transform and broadcast media monologues into social media dialogues³”

Interactive forms of media that allow users to interact with and publish to each other, generally by means of the internet.

¹ Digital: 2022. EGYPT. Available at: <https://datareportal.com/reports/digital-2022-egypt> .

² Statista, 2023. Available at: [Egypt Facebook users by age 2023 | Statista](https://www.statista.com/statistics/1111111/egypt-facebook-users-by-age-2023/).

³ en.wikipedia.org/wiki/Social_media. Available at: <https://shawnjroberts.com/what-is-social-media/>

Social media encompasses a wide range of web-based applications that facilitate the creation, sharing, and exchange of user-generated content, as well as enable interaction among users. These platforms can take various forms, including social networking sites, blogs, internet forums, bookmarking sites, online community sites, and more.

Social media has transformed how we connect with friends and family, engage with news and entertainment, and even how businesses and governments interact with their audiences. It offers users the ability to participate in global communities, share opinions, and access a vast amount of information. This digital revolution has had profound impacts on society, influencing everything from individual relationships to large-scale social and political movements.

Interactivity

Interactivity is a dynamic, two-way communication process where users transcend traditional roles. No longer just passive recipients, users actively engage as both consumers and creators of content. This evolution in interactivity marks a significant shift in the user experience, from merely receiving information to actively participating and shaping the digital narrative. This definition underscores several key aspects:

Two way communication

Unlike traditional media platforms, where communication is largely one-directional (from the media to the audience), social media allows for a reciprocal flow of information. Users can respond, comment, and engage directly with content creators and other users.

User as Consumer

In this role, social media users consume content created by others. This includes reading posts, watching videos, and browsing through photos and articles. The consumer aspect is similar to traditional media but is enhanced by the interactive nature of the platform.

User as creator

This is a distinguishing feature of social media. Users can create and publish their own content, ranging from text posts and comments to photos, videos, and live streams. This content creation capability democratizes media production, allowing anyone with internet access to share their thoughts, experiences, and creations.

Community and Network Building

Social media interactivity is characterized by an immediate and often public feedback loop. Users can react (through likes, shares, comments), and content creators can respond to this feedback, creating an ongoing dialogue. This interaction happens in real time, making it a dynamic and evolving process.

Crisis management

Crisis management is a critical discipline that involves preparing for, responding to, and recovering from unexpected and disruptive events that can adversely affect government. It encompasses strategies and processes designed to mitigate the impact of such crises, safeguarding people and assets while maintaining or quickly resuming normal operations. Effective crisis management is characterized by swift, decisive actions and clear, transparent communication. It not only addresses the immediate challenges posed by a crisis but also involves learning from the experience to improve future response strategies. In our increasingly interconnected and fast-paced world, the ability to manage crises effectively has become essential for governments, underscoring the need for robust planning, adaptability, and resilience.

Managing by crisis

Managing by crisis is a reactive approach where governments or leaders respond to problems as they emerge, rather than through proactive planning. This management style is characterized by ad hoc, often hurried decision-making in response to emergencies, leading to short-term fixes rather than long-term solutions. While it can be effective in immediate problem-solving, managing by crisis typically results in high stress, resource strain, and potential damage to governments' reputation. It underscores the necessity for a shift towards more strategic, proactive management practices, emphasizing the importance of preparedness, risk management, and learning from past crises to build resilience and ensure long-term sustainability.

Covid-19 Pandemic

COVID-19, short for "Coronavirus Disease 2019," is an infectious disease caused by the novel coronavirus, SARS-CoV-2. First identified in Wuhan, China, towards the end of 2019, COVID-19 quickly escalated into a global pandemic⁴. Characterized primarily by

⁴ Sadeghi Dousari A, Taati Moghadam M, Satarzadeh N. COVID-19 (Coronavirus Disease 2019): A New Coronavirus Disease. *Infect Drug Resist.* 2020 Aug 12;13:2819-2828. doi:

respiratory symptoms that range from mild to severe, including fever, cough, and difficulty breathing, the disease can lead to more serious complications, particularly in older adults and those with underlying health conditions. COVID-19 spreads primarily through respiratory droplets from coughs, sneezes, or talking. Its rapid transmission across the world prompted widespread public health efforts including, social distancing, mask-wearing, and extensive vaccination campaigns, as part of global efforts to control its spread and mitigate its impact

Research Problem

In an increasingly interconnected world, The COVID-19 pandemic has posed an unprecedented challenge to governments and healthcare systems across the globe. Governments worldwide have been put to the test in managing this unforeseen crisis, with some countries achieving notable success through innovative approaches, while others have fallen short. A significant aspect in determining this success or failure lies in the utilization of modern communication tools, particularly social media. Countries such as South Korea and New Zealand have effectively leveraged social media platforms to disseminate real-time information, engage with the public, and enforce preventive measures, ultimately resulting in a more controlled spread of the virus.

On the contrary, the Egyptian government's response to the pandemic has been marked by a series of challenges and shortcomings, reflecting complexities that extend beyond traditional crisis management paradigms, including but not limited to, inadequate healthcare resources, delayed policy implementation, lack of coordination among various agencies, and public non-compliance with guidelines. Thus, the focus of this research paper is to explore and analyze the particular aspect of social media interactivity within the broader context of managing the covid-19 pandemic. It seeks to understand how an underutilized and sometimes mismanaged social media interactivity contributed to the overall challenges faced by the Egyptian government regarding managing the covid-19 pandemic. Therefore, the research problem can be stated as follows:

10.2147/IDR.S259279. PMID: 32848431; PMCID: PMC7429403. Available at:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7429403/>.

"The ineffective use of social media interactivity by the Egyptian government contributes to the suboptimal management of the COVID-19 crisis".

Survey of Literature

- Fahmy, (2020)

A study by Basant Morad Famy, 2020 titled Egyptian Audience Interaction about "Coronavirus" Crisis Content via Social Networking Sites and Mobile, aimed to explore how the public interacts with crisis content related to Coronavirus (COVID-19) on social media and mobile applications, specifically focusing on platforms like Facebook, Whatsapp, and Messenger. The study conducted a survey involving 408 participants from the general public. It relied on two models, namely the Appraisal Tendency Framework Model (ATF) and the Integrated Crisis Mapping Model (ICM).

The findings of the study revealed that social networking sites were the primary sources of information regarding the Coronavirus crisis, with Egyptian official pages on these platforms emerging as the most prominent sources of information about the crisis. The hypothesis tests conducted in the study confirmed a significant relationship between the extent of audience exposure and their engagement with Coronavirus content, considering whether it was presented in a serious or humorous manner, as well as their level of belief in the non-dangerous nature of the virus. Furthermore, the hypothesis tests indicated a noteworthy relationship between respondents' conviction that the virus was not as dangerous as portrayed by the media and their belief in the media's tendency to exaggerate similar previous crises⁵.

However, the study has several gaps that need to be addressed. Firstly, the study focuses on audience interaction with COVID-19 content on social media and messaging apps but does not elaborate on the depth of this interaction. Secondly, the study primarily relies on survey data, which is quantitative in nature, and lacks qualitative insights, such as user comments, sentiments, or in-depth interviews. Thirdly, the study mentions different social

⁵ Fahmy, (2020). Available at: [Egyptian Audience Interaction about "Coronavirus" Crisis Content via Social Networking Sites and Mobile \(ekb.eg\)](https://www.ekb.eg/journals/jmr/article/view/1110-225X).

media platforms but does not cover a broader range of platforms. Fourthly, the study mentions different content types but doesn't delve into how the tone and style of content impact audience interaction. Lastly, the study focuses on social media and does not specifically address how audiences interact with mobile applications like Whatsapp and Messenger. The study also does not provide recommendations for content creators, health authorities, or policymakers based on its findings.

- ElKholy (2020)

In his attempt, Mohamed ElKholy made a concerted effort to harness the potential of 60 percent of the population by leveraging innovative technological tools to engage and empower young individuals in the battle against COVID-19. To achieve this, he initiated PEERCAST, a youth-oriented podcast program designed to foster awareness among young people regarding population-related issues through the utilization of cutting-edge technologies.

As part of his endeavor, he successfully addressed the challenge of promoting hand-washing by creating an interactive platform that utilized various multimedia elements such as videos, photos, gifs, and animations. This platform was instrumental in disseminating crucial information about protective measures against COVID-19.

Additionally, ElKholy introduced "Ma'a Ba'ad" (standing together), another interactive initiative aimed at providing mental health support to the youth. Furthermore, he adopted Edutainment strategies to equip young individuals with authoritative information and awareness messages from the World Health Organization (WHO) through innovative digital platforms.

“Spreading awareness among youth is not just about dealing with current situation but also preparing this generation on how to deal with emergency situations as youth today are tomorrow’s decision makers,” he said ⁶.

⁶ Mohamed Elkholy, Podcasts fight misinformation in Egypt. STORIES FROM THE FIELD. AVAILALABLE AT: [HTTPS://WWW.UN.ORG/ES/CORONAVIRUS/PODCASTS-FIGHT-MISINFORMATION-EGYPT](https://www.un.org/es/coronavirus/podcasts-fight-misinformation-egypt).

The researcher identified some gaps in his approach. Firstly, the impact of these initiatives was not measured, which is crucial for assessing whether the interactive platforms effectively achieved their intended outcomes. Secondly, there is a lack of information on user engagement metrics, which could help evaluate the success and effectiveness of the initiatives. Thirdly, it's unclear if the initiatives facilitated two-way communication, which is essential for true interactivity. Lastly, data privacy and security were not prioritized when using digital platforms, which is crucial for building trust and encouraging participation.

- Iao Pang et al, (2022)

A research paper by (Iao Pang et al, 2022), titled "Social Media Engagement in Two Governmental Schemes during the COVID-19 Pandemic in Macao," explored how the public interacted with COVID-19 resilience initiatives on social media in Macao. This study analyzed 1107 Facebook posts and 791 comments related to the government's initiatives on face mask distribution and consumption vouchers. Using the Crisis Lifecycle model, the research segmented the data to examine the nature and extent of engagement in these posts and the semantics of user comments.

The findings revealed a significant and positive engagement with these resilience measures on social media, particularly in the initial phase of the pandemic. This suggests that social media is a potent tool for mobilizing the community, maintaining social resilience, and facilitating two-way communication in times of public health crises. Additionally, the study highlighted Facebook's role as a key communication channel between the government and the public, noting that nearly 70% of internet users in Macao use Facebook. The Macao Government, recognizing this, utilized Facebook to disseminate information. The research also uncovered that since the onset of COVID-19, there has been robust social media engagement in various stages of the 2020 outbreak in Macao, with a notable increase in the number of comments and shares. This indicates that the public was not only consuming pandemic-related information but also actively engaging with it, demonstrating commitment, interaction, and extensive reach. Therefore, the study concludes that social media serves as an effective and engaging medium for conveying resilience measures to the public in the face of public health emergencies .

The research identifies several gaps that may impact the study's findings. Firstly, the study focuses on quantitative metrics like the number of posts, comments, and shares, but it

might lack a deeper analysis of the quality of engagement. Understanding the depth of interactions, such as the sentiment of comments, the tone of discussions, and the level of user involvement beyond likes and shares, would provide a more comprehensive view of public engagement. Secondly, the research does not delve into the demographic specifics of who is engaging with these posts. Different age groups, educational backgrounds, and socio-economic statuses might interact differently on social media, and understanding these differences could be crucial for targeted communication strategies. Additionally, the study does not address how misinformation or conflicting information on social media might affect public engagement and trust in governmental communications during the pandemic. Furthermore, the study lacks a longitudinal perspective to understand how social media engagement evolved over the course of the pandemic. Public attitudes and behaviors can change over time, and a longitudinal analysis could reveal trends and shifts in engagement. Finally, the research lacks an exploration of the motivations behind user engagement. Understanding why people choose to engage or not with these posts (e.g., seeking information, expressing opinions, seeking social interaction) would add depth to the findings.

- Samir, (2022)

A study by (Samir, 2022) sought to identify the public's interaction with the publications of the Ministry of Health and Population through Facebook, the study relied on the theory of dialogic communication, and how to use it in publications. It's worth noting that the first case of Omicron variant COVID-19 infection in Egypt was reported up to March 2, 2022. The study's findings revealed a substantial level of audience interaction with the Ministry's publications. These results indicated that the principles of interactive dialogue were effectively applied by the audience, resulting in increased engagement with publications that incorporated interactive dialogue compared to those that did not. Various forms of interaction were observed, including expressions of admiration, comments, and active participation. Furthermore, the study identified key principles of interactive dialogue that played a significant role in enhancing engagement, such as the use of hashtags, responding to questions, making references, and posing inquiries. Additionally, the study found that

text and infographics were the most commonly used formats in the publications, followed by videos, images, and links⁷.

However, the researcher believes that the study failed to address certain gaps. Firstly it did not explore whether the increased interaction led to changes in public behavior or compliance with health guidelines. Secondly, it did not assess the quality of the interactions, such as whether the comments and discussions were constructive or included misinformation. Lastly, the study focused on immediate engagement metrics without evaluating the long-term impact on public trust and perception of the Ministry's credibility.

- Bali et al, (2023)

A study by (Bali et al, 2023) in Iraq aims to investigate how the public engages in officials' posts about COVID-19 on social media and to identify factors influencing the levels of engagement.

A cross-sectional study was conducted through a self-administered online questionnaire targeting adults aged 18 years or above in Iraq. The questionnaire measures levels of public trust in government officials, engagement in officials' posts on social media and other health behaviours based on a binary scale (Yes/No) or a 3-point scale (Yes/To somewhat/No).

The study showed that the majority of participants (61.1%) indicated that they somewhat wrote comments and clicked like on the officials' posts about COVID-19 on social media, while about one-fifth of the participants did not react to the officials' posts. Similarly, over half of the participants indicated that they somewhat posted and shared officials' posts, whilst about 38% participants did not. Over 55% participants investigated the information about COVID-19 on social media according to the information from international sources, whilst nearly 84% participants changed their behaviours in response to officials' posts about COVID-19.

Results found that there were correlations between fear of COVID-19, compliance of government instructions and public engagement in officials' posts on social media. Public

⁷Samir, R. (2022). The Egyptian public interacted with the official pages of the ministries during crises: An applied study on the official page of the Egyptian Ministry of Health and Population via Facebook during the Omicron virus crisis. *The Arab Journal of Media and Communication Research (AJMCR)*, 2022(37), 120-141. [doi: 10.21608/jkom.2022.253068](https://doi.org/10.21608/jkom.2022.253068).

engagement in officials' posts has played a role in disseminating health information and preventing the spread of COVID-19⁸.

The study is however, has several potential gaps that might impact the study's findings. Firstly, the use of a self-administered online questionnaire in Iraq may lead to sampling bias, as it may not accurately represent individuals with limited internet access or those not active on social media. Secondly, the study's use of binary and 3-point scales to measure public trust and engagement levels is considered too simplistic and may not capture the nuances of public opinion. Additionally, the research heavily relies on quantitative data, lacking qualitative insights that could provide a deeper understanding of public engagement. Furthermore, the study does not account for temporal aspects, such as changes in public engagement and trust over time, which could be influenced by evolving pandemic situations and government policies. Finally, the research fails to establish a clear link between its findings and specific policy or practical recommendations for improving public engagement and trust in health communication via social media.

Research Variables and Hypothesis

Research Variables

The paper attempts to describe and analyze the relationship between social media interactivity and the COVID-19 crisis management, providing a comprehensive image of the current scenario in Egypt. "To explore and analyze the specific shortcomings in the Egyptian government's application of social media interactivity for crisis management during the Covid-19 pandemic."

The core components of this descriptive study are the independent variable, embodied in the identified social media interactivity, and on the other hand, the dependent variable under examination manifested in the management of the COVID-19 crisis.

⁸ Bali AO, Al Halbusi H, Ahmad AR, Lee KY. Public engagement in government officials' posts on social media during coronavirus lockdown. PLoS One. 2023; 18(1): e0280889. Published online 2023 Jan 23. [doi: 10.1371/journal.pone.0280889](https://doi.org/10.1371/journal.pone.0280889). Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9870155/>.

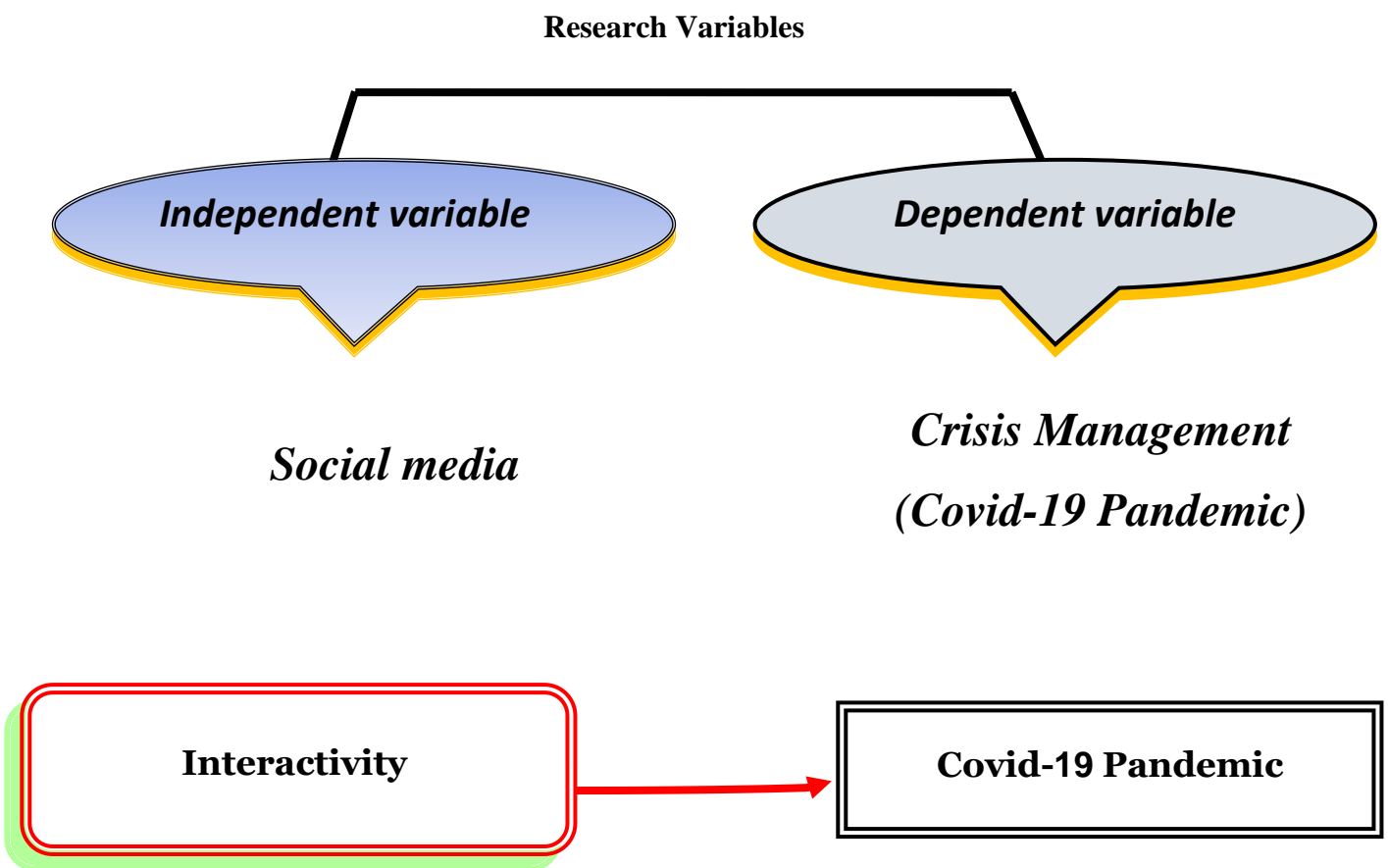


Figure (1) proposed research model

Source: prepared by the researcher

Figure (1) illustrates the relationship between the independent and dependent variables. It shows how changes in social media interactivity (the independent variable) are associated with changes in the management of the COVID-19 crisis (the dependent variable).

Research Hypothesis

When formulating the research hypothesis, the researcher relied on several different sources, most notably previous studies and literature directly and indirectly related to the problem of the current study, and interviews and observations. Based on the study problem and the questions related to it, the study hypothesis is formulated in the form of null hypothesis, which will be tested to achieve the results. The study hypothesis is formulated as follows.

H_0 = “There is a correlation between the ineffective use of social media (Interactivity) by the Egyptian government and the poor management of the Covid-19 crisis”.

The population and sample size of the study

The study focuses on both the Egyptian government officials responsible for managing public communication on social media during the COVID-19 pandemic, and Egyptian citizens who actively use social media. These individuals are required to have at least a bachelor’s degree, master’s degree, doctorate degree, or equivalent education level, and they should possess substantial knowledge related to the research topic.

To gather the essential data for the research, a total of 400 survey forms were distributed among the members of the target population.

The researcher used the following equation to estimate the sample size:

$$n = \frac{N * p(1-p)}{[(N-1) * [d^2/z^2] + (P(1-P))]}$$

where:

- d: The permissible error rate in the estimate is 0.05.
- Z: standard score corresponding to the confidence level = 95% (1.96)
- P: Ratio of availability of the property and neutrality, equal to 0.5

Statistical Analysis

Validating the Hypothesis Testing of the Study

This study utilizes a carefully structured questionnaire as its main instrument, for gathering first-hand data from officials in the Egyptian government who handled public communication via social media throughout the COVID-19 pandemic, and Egyptian citizens who are active social media users. The questionnaire comprises two main parts: one detailing demographic characteristics, and the other consisting of a series of questions

organized into two distinct sections, each targeting a different set of responses regarding the Impact of social media interactivity during the COVID-19 crisis within the Egyptian context, outlined as follows:

Demographic variables

This part includes five questions focused on the respondent's demographic characteristics:

1. Gender: (Male, Female)
2. Age: (18 – 34 years old, 35 – 54 years old, 45 – 64 years old, 65 years old and above)
3. Current Employment Status: (Medical doctors, Nurses, Healthcare workers, Other)
4. Level of Education: (Bachelor's degree, Master's degree, Doctorate degree, Other)
5. Years of Experience: (Less than 5 years, 6 - 15 years, 6 - 25 years, 26 years and above)

Gender

The distribution of the study sample based on gender is visually represented as follows:

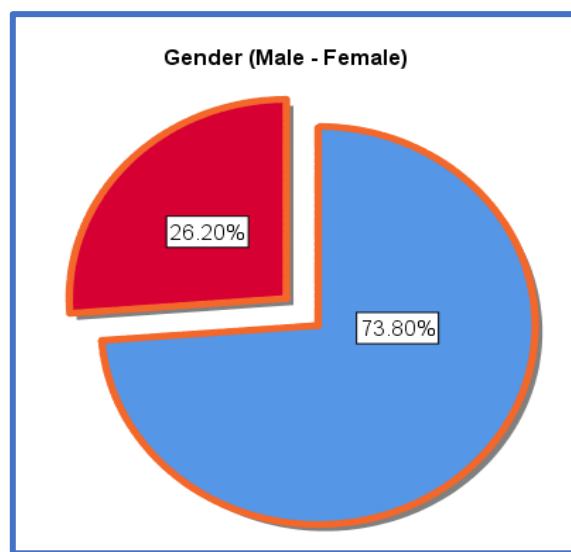


Figure (2)

Illustration of the study sample categorized by the “Gender” variable.

Figure (2) strongly indicates that most of the sample consists of males with 73, 80% while the females' sample was about 26, 20% only.

Age years

The distribution of the study sample based on age years is visually represented as follows:

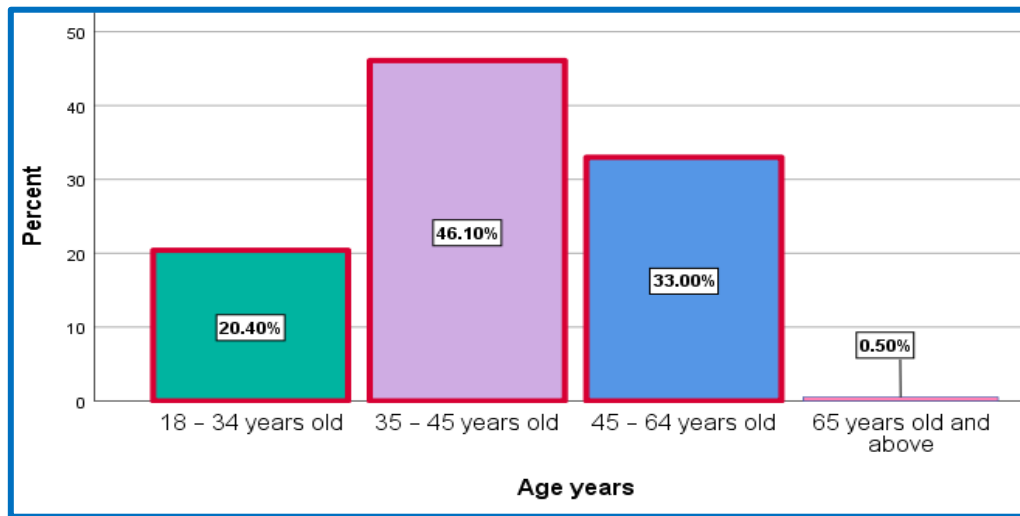


Figure (3)

Figure (3) strongly indicates that the largest portion of the study sample falls within the age group of “35-54 years”, comprising 46.1% of the total observations. The next most significant age group is 55-64 years, accounting for 33.0% of the sample, followed by the 18-34 years age group with a 20.4% share. The age group of 65 years and above represents only 0.5% of the total observations. This data underscores that most of the sample is in the “35-54 years” group.

Current employment status

The distribution of the study sample based on Current Employment Status is represented as follows:

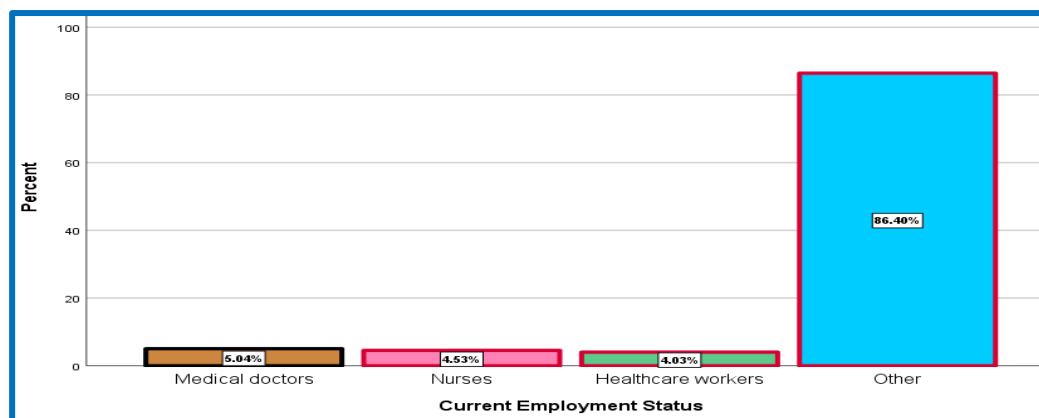


Figure (4)

Figure (4) shows that the largest portion of the study sample falls within the group “Other”, comprising 86.4% of the total observations. The next most significant group is “Medical

doctors”, accounting for 5.0% of the sample, followed by the Nurses group with a 4.5 % share, and the group of “Healthcare workers” and above represents only 4.0 % of the total observations. This data underscores that most of the sample is in the “Other” group.

Level of education

The distribution of the study sample based on the “Level of Education” is represented as follows:

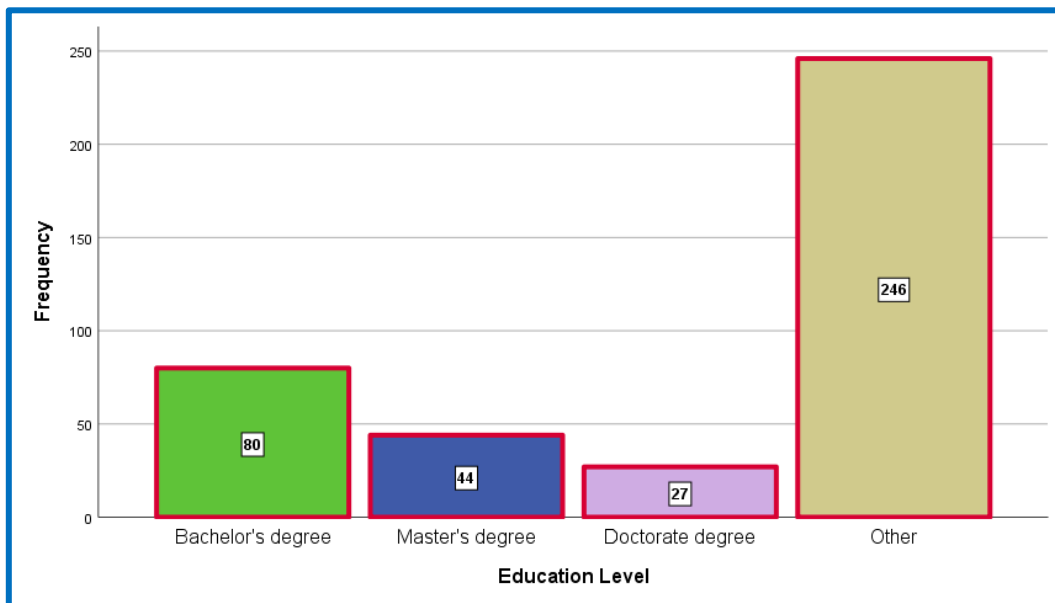


Figure (5)

Figure (5) illustrates that the largest portion of the study sample falls within the group “Other”, comprising 62.0% of the total observations. The next most significant group is “Bachelor’s degree”, accounting for 20.2% of the sample, followed by the “Master’s degree” group with an 11.1% share, and the group “Doctorate degree” and above represents only 6.8 % of the total observations. This data underscores that most of the sample is in the “Other” group.

Years of Experience

The distribution of the study sample based on the “Years of Experience” is represented as follows:



Figure (6)

Figure (6) shows that the largest portion of the study sample falls within the group “6 - 15 years” comprising 47.9% of the total observations. The next most significant group is “6 - 25 years”, accounting for 40.6 % of the sample, followed by the “26 years and above “group with a 7.6 % share, and the group “Less than 5 years” and above represents only 4.0 % of the total observations. This data underscores that most of the sample is in the “6 - 15 years” group.

Questionnaire construction

This part is further divided into two distinct sections, each designed to address specific aspects of the research topic. The questionnaire is structured with statements that would facilitate the collection and analysis of responses, ultimately serving the study's objectives and hypothesis testing.

First section

This section shows social media interactivity, and how the Egyptian government used it in managing the covid-19 crisis. The questionnaire consists of 15 statements. Each statement is to be evaluated using a five-point Likert scale, which spans from ‘1- Strongly Disagree’ to ‘5- Strongly Agree’, including intermediary options like ‘2- Disagree’, ‘3- Agree to some extent’, and ‘4- Agree’. The allocation of statements across the dimension of Interactivity, is specifically designed to offer an in-depth evaluation of the role and impact of each aspect

during the crisis. Additionally, the questionnaire provides an opportunity for respondents to offer insights or recommendations that could aid in the improvement of crisis management strategies through social media interactivity in government settings.

Second section

This section aims to evaluate how effectively the Egyptian government utilized social media interactivity for managing the COVID-19 crisis from the perspective of respondents. It consists of 15 statements, each is assessed using a five-point Likert scale ranging from ‘1-Strongly Disagree’ to ‘5-Strongly Agree’, with intermediate options such as ‘2-Disagree’, ‘3-Agree to some extent’, and ‘4-Agree’. This section focuses on the dependent variable of crisis management, particularly Covid-19 crisis. Additionally, respondents are encouraged to provide their recommendations on enhancing the effectiveness of the Egyptian Government’s use of social media in handling future health crises.

Transcribing the data contained in the questionnaire lists

After collecting and reviewing the survey forms, the researcher coded the questionnaire statements within each dimension of the study and gave weight according to the five-point Likert scale, as follows:

Table (1): Five-point graduated Likert scale.

Degree of agreement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Weighting score	1	2	3	4	5

Source: Prepared by the researcher. For more details, see⁹:

Also the availability levels are evaluated based on the criteria outlined in the following table:

⁹ Tanujaya, B., Prahmana, R. C. I., & Mumu, J. (2022). Likert scale in social sciences research: Problems and difficulties. *FWU Journal of Social Sciences*, 16(4), 89-101.

Table (2): The five-point Likert scale weights

Degree of agreement	Degree of availability	Range
Strongly Disagree	Very High	4.2 to 5
Disagree	High	3.4 to less than 4.2
Neutral	Medium	2.6 to less than 3.4
Agree	Low	1.8 to less than 2.6
Agree Strongly	Very low	1 to less than 1.8

Analysis of the relative importance of the variables and dimensions of the study

The researcher conducted the Friedman test on the phrases within each dimension to assess the relative importance of each phrase.

Relative importance of Interactivity dimension phrases, and the findings are outlined below:

Table (3): Relative importance of Interactivity dimension phrases

Phrases	Mean Rank	Rank	χ^2 value	Significance
1. The Egyptian government's use of social media helps in the early detection of COVID-19 outbreaks, tracks cases, and identifies potential hotspots in the country.	6.83	1	131.016	0.000
2. The Egyptian government's use of social media successfully facilitated clear and prompt communication to manage the immediate effects of the COVID-19 crisis.	7.36	3		
3. The government's use of social media during the crisis demonstrated competence in crisis preparedness and response, addressing public concerns and maintaining transparency.	8.59	14		
4. The government's social media posts consistently communicated updates on the progress of COVID-19 containment efforts and their effects on the community.	8.13	7		
5. I changed my behavior in response to COVID-19 information on preventive measures shared by the government on social media. (e.g., mask-wearing, social distancing, hand washing)	8.35	12		

Phrases	Mean Rank	Rank	χ^2 value	Significance
6. The government's social media presence was valuable for interactive communication, facilitating two-way engagement, and enabling the public to seek clarifications, and receive prompt responses, indicating an effective crisis management approach.	8.30	9		
7. The government's social media initiatives were instrumental in mobilizing resources and coordinating efforts across various sectors, showcasing an effective crisis management approach in mitigating the impact of the COVID-19 pandemic.	8.34	11		
8. I believe the Egyptian government's social media efforts played a significant role in encouraging citizens to actively engage in COVID-19 crisis readiness exercises and drills.	8.20	8		
9. The government's social media communications consistently provided timely updates regarding the availability and status of emergency services, ensuring the public remained informed about their ability to respond to incidents related to COVID-19.	7.75	5		
10. The government's social media efforts during the crisis, conveyed a sense of urgency and seriousness in managing the evolving situation, thereby fostering trust and confidence among the public.	8.38	13		
11. The Egyptian government's social media presence effectively showcased their efforts to collaborate with healthcare professionals and business leaders, during the pandemic.	8.08	6		
12. The government's social media strategies during the crisis, address misinformation promptly, and provide evidence-based information, thereby demonstrating a commitment to crisis communication that prioritized accuracy and reliability.	8.30	10		
13. Through their active presence on social media, the Egyptian government effectively conveyed a strong dedication to long-term recovery and rehabilitation endeavors following the impacts of the pandemic.	6.98	2		

Phrases	Mean Rank	Rank	χ^2 value	Significance
14. The government's consistent social media communication provided reassurance to the public by expressing their unwavering commitment to applying the lessons learned from the COVID-19 crisis to enhance future crisis management strategies.	7.55	4		
15. The government's social media initiatives foster a sense of resilience and hope during the crisis, effectively communicating messages of unity, solidarity, and determination in overcoming the challenges posed by the COVID-19 pandemic.	8.86	15		

From the provided table: It is apparent that the Chi-squared test's significance level is less than 0.05, indicating a significant difference in the perceived importance of each statement within this dimension among the respondents. Phrase number (15) holds the top rank in terms of relative importance, with a recorded mean rank of (8.86), while phrase number (1) occupies the lowest rank.

Relative importance of Crisis Management dimension phrases, and the findings are outlined below:

Table (4): Relative importance of Crisis Management dimension phrases

Phrases	Mean Rank	Rank	χ^2 value	Significance
1. The Egyptian government's use of social media helps in the early detection of COVID-19 outbreaks, tracks cases, and identifies potential hotspots in the country.	6.76	1	123.386	0.000
2. The Egyptian government's use of social media successfully facilitated clear and prompt communication to manage the immediate effects of the COVID-19 crisis.	7.89	5		
3. The government's use of social media during the crisis demonstrated competence in crisis preparedness and response, addressing public concerns and maintaining transparency.	8.65	14		
4. The government's social media posts consistently communicated updates on the progress of COVID-19 containment efforts and their effects on the community.	7.70	3		

5. I changed my behavior in response to COVID-19 information on preventive measures shared by the government on social media. (e.g., mask-wearing, social distancing, hand washing)	8.09	8		
6. The government's social media presence was valuable for interactive communication, facilitating two-way engagement, and enabling the public to seek clarifications, and receive prompt responses, indicating an effective crisis management approach.	8.36	13		
7. The government's social media initiatives were instrumental in mobilizing resources and coordinating efforts across various sectors, showcasing an effective crisis management approach in mitigating the impact of the COVID-19 pandemic.	8.22	10		
8. I believe the Egyptian government's social media efforts played a significant role in encouraging citizens to actively engage in COVID-19 crisis readiness exercises and drills.	6.84	2		
9. The government's social media communications consistently provided timely updates regarding the availability and status of emergency services, ensuring the public remained informed about their ability to respond to incidents related to COVID-19.	7.87	4		
10. The government's social media efforts during the crisis, conveyed a sense of urgency and seriousness in managing the evolving situation, thereby fostering trust and confidence among the public.	8.79	15		
11. The Egyptian government's social media presence effectively showcased their efforts to collaborate with healthcare professionals and business leaders, during the pandemic.	8.16	9		
12. The government's social media strategies during the crisis, address misinformation promptly, and provide evidence-based information, thereby demonstrating a commitment to crisis communication that prioritized accuracy and reliability.	8.30	11		

13. Through their active presence on social media, the Egyptian government effectively conveyed a strong dedication to long-term recovery and rehabilitation endeavors following the impacts of the pandemic.	8.00	6		
14. The government's consistent social media communication provided reassurance to the public by expressing their unwavering commitment to apply the lessons learned from the COVID-19 crisis to enhance future crisis management strategies.	8.06	7		
15. The government's social media initiatives foster a sense of resilience and hope during the crisis, effectively communicating messages of unity, solidarity, and determination in overcoming the challenges posed by the COVID-19 pandemic.	8.32	12		

From the provided table: It is apparent that the Chi-squared test's significance level is less than 0.05, indicating a significant difference in the perceived importance of each statement within this dimension among the respondents. Phrase (10) holds the top rank in terms of relative importance, with a recorded mean rank of (8.79), while phrase number (1) occupies the lowest rank with a mean rank of (6.76).

Descriptive Statistics for the study variables

Descriptive Statistics for the independent variable Usage of Social Media: **Interactivity**

Table (5): Arithmetic means, standard deviations, and coefficient of variation for the phrases of social media: Interactivity

Phrases	Arithmetic Mean	Standard Deviation	Variation Coefficient	Rank	Degree of availability
1. The Egyptian government's use of social media helps in the early detection of COVID-19 outbreaks, tracks cases, and identifies potential hotspots in the country.	3.97	.795	20.03	1	High
2. The Egyptian government's use of social media successfully facilitated clear and prompt communication to manage the immediate effects of the pandemic.	4.08	.596	14.61	3	Very High

3. The government's use of social media during the crisis demonstrated competence in crisis preparedness and response, addressing public concerns and maintaining transparency.	4.31	.621	14.41	14	Very High
4. The government's social media posts communicated updates on the progress of COVID-19 containment efforts and their effects on the community.	4.17	.691	16.57	6	High
5. I changed my behavior in response to COVID-19 information on preventive measures shared by the government on social media. (mask-wearing, social distancing, hand washing)	4.20	.783	18.64	8	Very High
6. The government's social media presence was valuable for interactive communication, facilitating two-way engagement, and enabling the public to seek clarifications, and receive prompt responses, indicating an effective crisis management approach.	4.22	.688	16.30	13	Very High
7. The government's social media initiatives were instrumental in mobilizing resources and coordinating efforts across various sectors, showcasing an effective crisis management approach in mitigating the impact of the COVID-19 pandemic.	4.22	.712	16.87	11	Very High
8. I believe the Egyptian government's social media efforts played a significant role in encouraging citizens to actively engage in COVID-19 crisis readiness exercises and drills.	4.20	.700	16.67	9	Very High

9. The government's social media communications consistently provided timely updates regarding the availability and status of emergency services, ensuring the public remained informed about their ability to respond to incidents related to COVID-19.	4.12	.698	16.94	5	High
10. The government's social media efforts during the crisis, conveyed a sense of urgency and seriousness in managing the evolving situation, thereby fostering trust and confidence among the public.	4.23	.681	16.10	13	Very High
11. The Egyptian government's social media presence effectively showcased their efforts to collaborate with healthcare professionals and business leaders, during the pandemic.	4.18	.703	16.82	7	High
12. The government's social media strategies during the crisis, address misinformation promptly, and provide evidence-based information, thereby demonstrating a commitment to crisis communication that prioritized accuracy and reliability.	4.22	.667	15.81	12	Very High
13. Through their active presence on social media, the Egyptian government effectively conveyed a strong dedication to long-term recovery and rehabilitation endeavors following the impacts of the COVID-19 pandemic.	4.01	.742	18.50	2	High

14. The government's consistent social media communication provided reassurance to the public by expressing their unwavering commitment to applying the lessons learned from the COVID-19 crisis to enhance future crisis management strategies.	4.11	.581	14.14	4	High
15. The government's social media initiatives foster a sense of resilience and hope during the crisis, effectively communicating messages of unity, solidarity, and determination in overcoming the challenges posed by the COVID-19 pandemic.	4.33	0.667	15.40	15	Very High
The total score for a dimension	4.17	0.273	6.55		High

Source: Prepared by the researcher based on the results of SPSS statistical analysis.

- Based on the information provided in table (15), it is evident that the responses to the phrases within the dimension social media interactivity tend to favor agree and strongly agree, based on the weights assigned in the five-point Likert scale. Additionally, the coefficients of variation for the dimension's phrases indicates a low level of dispersion and providing insights into the stability of the arithmetic mean values.

Descriptive Statistics for The dependent Variable: Crisis Management

Table (6): Arithmetic means, standard deviations, and coefficient of variation for the Crisis Management phrases

Phrases	Arithmetic Mean	Standard Deviation	Variation Coefficient	Rank	Degree of availability
1. The Egyptian government's use of social media helps in the early detection of COVID-19 outbreaks, tracks cases, and identifies potential hotspots in the country.	3.97	0.824	20.76	1	High

2. The Egyptian government's use of social media successfully facilitated clear and prompt communication to manage the immediate effects of the COVID-19 crisis.	4.17	0.604	14.48	5	High
3. The government's use of social media during the crisis demonstrated competence in crisis preparedness and response, addressing public concerns and maintaining transparency.	4.31	0.674	15.64	14	Very High
4. The government's social media posts consistently communicated updates on the progress of COVID-19 containment efforts and their effects on the community.	4.11	0.702	17.08	3	High
5. I changed my behavior in response to COVID-19 information on preventive measures shared by the government on social media. (e.g., mask-wearing, social distancing, hand washing)	4.19	0.717	17.11	7	High
6. The government's social media presence was valuable for interactive communication, facilitating two-way engagement, and enabling the public to seek clarifications, and receive prompt responses, indicating an effective crisis management approach.	4.24	0.67	15.80	2	

7. The government's social media initiatives were instrumental in mobilizing resources and coordinating efforts across various sectors, showcasing an effective crisis management approach in mitigating the impact of the COVID-19 pandemic.	4.20	0.729	17.36	10	Very High
8. I believe the Egyptian government's social media efforts played a significant role in encouraging citizens to actively engage in COVID-19 crisis readiness exercises and drills.	3.99	0.799	20.03	2	High
9. The government's social media communications consistently provided timely updates regarding the availability and status of emergency services, ensuring the public remained informed about their ability to respond to incidents related to COVID-19.	4.16	0.565	13.58	4	High
10. The government's social media efforts during the crisis, conveyed a sense of urgency and seriousness in managing the evolving situation, thereby fostering trust and confidence among the public.	4.31	0.728	16.89	15	Very High
11. The Egyptian government's social media presence effectively showcased their efforts to collaborate with healthcare professionals and business leaders, during the pandemic.	4.20	0.647	15.40	9	Very High

12. The government's social media strategies during the crisis, address misinformation promptly, and provide evidence-based information, thereby demonstrating a commitment to crisis communication that prioritized accuracy and reliability.	4.23	0.725	17.14	11	Very High
13. Through their active presence on social media, the Egyptian government effectively conveyed a strong dedication to long-term recovery and rehabilitation endeavors following the impacts of the COVID-19 pandemic.	4.18	0.683	16.34	6	High
14. The government's consistent social media communication provided reassurance to the public by expressing their unwavering commitment to applying the lessons learned from the COVID-19 crisis to enhance future crisis management strategies.	4.19	0.749	17.88	7	High
15. The government's social media initiatives foster a sense of resilience and hope during the crisis, effectively communicating messages of unity, solidarity, and determination in overcoming the challenges posed by the COVID-19 pandemic.	4.24	0.689	16.25	12	Very High
The total score for a dimension	4.18	0.31	7.42		High

Source: Prepared by the researcher based on the results of SPSS statistical analysis.

- Based on the information provided in Table (18), it is evident that the responses to the phrases within the dimension of covid-19 crisis management tend to favor agree and strongly agree, based on the weights assigned in the five-point Likert scale. Additionally, the coefficients of variation for the dimension's phrases indicates a low level of dispersion and providing insights into the stability of the arithmetic mean values.

Results of testing the study hypothesis

In developing the study hypotheses, the researcher drew upon various sources, particularly literature, and previous studies which connected to the current study's problem directly and indirectly. Derived from the study's problem and its associated questions, the hypotheses were articulated as the negation of the null hypotheses. These will be subject to testing to derive the study's results. Before initiating the hypothesis testing phase, the researcher analyzed the correlation between the study variables, which is detailed as follows:

Examining the correlation between the independent variable " Usage of Social Media Interactivity) and the dependent variable and the Covid -19 Crisis Management" was conducted through the application of the Spearman correlation coefficient, as follows:

Table (7): Correlation Matrix between “Usage of Social Media Interactivity” and the Covid -19 Crisis Management”.

Relation Between Variables		Crisis Management	Usage of Social Media	Interactivity
Crisis Management	Spearman Correlation	1.000		
	Sig. (2-tailed)	-----		
	N	397		
Usage of Social Media	Spearman Correlation	0.676**	1.000	
	Sig. (2-tailed)	0.000	-----	
	N	397	397	
Interactivity	Spearman Correlation	0.130**	0.527**	1.000
	Sig. (2-tailed)	0.009	0.000	-----
	N	397	397	397

** Indicates the significance of the correlation coefficient at a significance level of 0.01

*Indicates the significance of the correlation coefficient at a significance level of 0.05

Source: Prepared by the researcher based on the results of SPSS statistical analysis.

Findings

The study aimed to investigate the impact of social media interactivity on managing the COVID-19 crisis in Egypt. It utilized a carefully structured questionnaire as its main instrument to gather first-hand data from officials in the Egyptian government and Egyptian citizens who are active social media users. The main hypothesis of the study is that, "there is a correlation between the ineffective use of social media (interactivity) by the Egyptian government and the poor management of the COVID-19 crisis". The research focused on evaluating the public responses, community resilience, and crisis management and communication authorities' tasks in the context of social media usage during the COVID-19 pandemic. Based on the information provided in the Correlation Matrix Between "Usage of Social Media Interactivity and the Covid-19 Crisis Management", the following conclusions can be drawn as follows:

- The correlation coefficient value of (0.676**) signifies a strong positive relationship between the two variables (Usage of Social Media and Crisis Management). The significance level is below 0.01, indicating that the correlation is both significant and statistically meaningful.
- The correlation coefficient value of (0.130**) suggests a weak positive relationship between the two variables, (Interactivity) and covid-19 Crisis Management. The significance level remains below 0.01, signifying a statistically significant correlation.

Action Plan

No	Recommendations	How to implement	Responsibility	Time Frame
1	Establishing a Centralized Social Media Command to coordinate all social media activities across various government departments, ensuring consistency, accuracy, and timeliness of information.	<p>Develop a legal and regulatory framework to govern social media use by government entities.</p> <p>Establish a dedicated unit responsible for overseeing and coordinating social media activities across all government agencies.</p> <p>Develop comprehensive guidelines for social media use and provide training to employees</p> <p>Analyzing social media activities to ensure effectiveness of the government's efforts.</p> <p>Leverage social media listening tools to monitor and respond to dialogue about the government efforts, public sentiment, and global trends</p>	Ministry of Health and Population (MoHP) and the National Superior Committee	As soon as possible
2	Developing a Comprehensive Social Media Crisis Communication Plan	<p>Outline the steps to be taken when a crisis emerges, communicate with the public, and how to prevent the issue from occurring again</p> <p>Determine the frequency, tone, and content type for each platform</p> <p>Plan for the worst and be adaptable to the changing nature of the crisis</p>	Central Administration for Preventive Affairs	Once the crisis emerges
3	Enhancing Two-Way Communication	<p>Government leaders should communicate with transparency and empathy consistently</p> <p>Virtual campaigns and Q&A sessions can be used to foster a sense of community and togetherness.</p> <p>Interactive polls, and comment monitoring</p>	leadership, communications teams within the government and the MOHP	immediate action
4	Feedback loop for policies improvement	<p>Define the objectives for gathering feedback on policies and communication strategies</p> <p>Understand the concerns, desires, and online behavior of the community through surveys and data gathering</p> <p>Asking for feedback on communication strategies</p> <p>Use mobile workforce management apps and other tools to keep two-way communication open with the government and the public.</p>	Crisis Preparedness and Response Center	the timeframe for implementing the feedback loop should be dynamic and responsive to the evolving nature of the crisis

9- Conclusion

The study sought to understand how social media crisis response and social interaction contribute to public resilience and the management of the COVID-19 crisis. It also emphasized the importance of preparing and responding to public audience demands, addressing sources of anxiety and misinformation, and generating clear and suitable messages for effective communication.

Based on our analysis and findings, this research paper concludes that there is a weak positive relationship (0.130**) between social media interactivity and COVID-19 crisis management. Although the correlation is weak, it is still statistically significant. This suggests that higher levels of interactivity on social media platforms are associated with better crisis management outcomes.

The ability of social media to facilitate rapid information dissemination, foster community engagement, and mobilize resources has proven to be valuable in managing the COVID-19 crisis. Policymakers, healthcare professionals, and communication practitioners should recognize the significance of social media interactivity in crisis management strategies and employ it effectively to enhance response efforts.

In conclusion, this research paper highlights the positive impact of social media usage and interactivity on crisis management during the COVID-19 pandemic.

Thus, emphasizing the need for continued exploration and utilization of social media platforms as effective tools for managing public health emergencies and fostering community resilience.