The strategic communication of ministry of health in the kingdom of Saudi Arabia during the COVID-19 pandemic

by

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Abstract

The human and social toll of the coronavirus disease 2019 (COVID-19) pandemic has already spurred several major public health “lessons learned,” and the theme of effective and responsible scientific communication is among them. The Ministry of Health (MOH) in Saudi Arabia used Twitter as a fundamental tool to communicate with the public. This study examined the Twitter response strategies selected by MOH, through the lens of situational crisis communication theory, by using a qualitative content analysis of tweets from the MOH official Twitter account.

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Chapter 1 - Introduction

The Coronavirus disease (COVID-19) began to spread around the world quickly after its discovery in the city of Wuhan in the province of Hubei, China, on December 31, 2019 (Zumla & Niederman, 2020). On March 11, 2020 the World Health Organization (WHO) classified COVID-19 as a pandemic, and since that date, many countries have worked to limit the spread of coronavirus. Due to the high speed in which this virus spread and the number of people infected with it increased daily, the World Health Organization had no expected date of its end (WHO 2020).

During epidemics and pandemics, incorrect or little knowledge about the emerging disease can cause chaos and panic among the general public. Distributing the correct information may guide society through such events but may also increase epidemic preparedness for the future. Additionally, negative attitudes and practices towards new infectious diseases can aggravate epidemics can lead to pandemics (Alahdal et al., 2020).

To prevent the spread of the virus during the COVID-19 pandemic, health agencies across the world urged individuals to remain socially distant, wash hands at every opportunity, wear masks (when necessary), and be tested if symptoms developed. Unfortunately, rumors propagated on social media platforms often reinforce multiple and conflicting mental models of conspiracies, treatments, and inaccurate information regarding government motivations for responses. These rumors or inaccurate information may severely hamper crisis management efforts (Bunker, 2020).

During the COVID-19 pandemic, it was important for people to understand the virus was highly infectious, infecting large numbers each day around the world. This study was designed to review the communication actions and media practices the Saudi Ministry of Health (MOH)

undertook in attempting to manage the crisis while building health awareness among individuals in the Saudi society.

In Saudi Arabia, the first COVID-19 infected case was reported on March 2, 2020. On April 20, 2020, 10,484 people were reported infected (Alahdal et al., 2020). Before the first case was reported, awareness programs were initiated by the MOH to teach the general public about the virus' mode of transmission and the importance of the strict measures imposed by the MOH to manage virus transmission including but not limited to a curfew, limiting outdoor activities, suspending schools, minimizing social contacts, and banning prayers at a mosque. However, it appeared understanding the mode of transmission between humans was a more immediate need during this initial stage (Alahdal et al., 2020).

One of the most important developments in media and communications has been the emergence of a digital media landscape and the rise of social media, whose far-reaching implications will be seen also in crisis communication. Coombs (2014) notes while crisis managers traditionally have used indirect channels, social media now offers a faster and even more direct way of engaging with stakeholders. Among the advantages of this still rather new media of communication is how it makes it possible to rapidly reach an oversized number of stakeholders quickly. For example, while a possible risk will be found in not having the ability to measure up to stakeholders' demand for interaction where one could appear as passive when not responding to their queries. Similarly, both a promise and a challenge of social media are often found in stakeholders commenting upon an actor faced with a crisis as voices of a positive nature can help to fix the organization's image, whereas negative ones could make this work even harder (ibid, pp. 155-157).

Many scholars have begun to investigate how organizations used strategic health messaging about COVID-19. The MOH's use of Twitter for this purpose provides an opportunity to systematically investigate the content of these tweets to evaluate types of messaging that contributed to its success. This study reviewed the communication actions and media practices use by the Saudi Ministry of Health in managing the COVID-19 pandemic crisis and building health awareness among individuals in Saudi society. A recent study by Al-Shalhoub (2020) concluded people were pleased with the MOH's use of tweets about COVID-19. 74% of those responded in the survey reported being happy the tweets occurred and thought they were informative. 72% trusted the information provided to them on the MOH twitter account (Al-Shalhoub, 2020).

This research used content analysis methodology. By reviewing the video posts on Twitter to examine the messages that were sent to the Saudi public during COVID-19 pandemic, this study examined how MOH communicated with the public. This research studied the strategic messaging which will then help researchers and professionals learn the best way to communicate with the public during any future pandemic.

This case study is predicated on the work done by Coombs (2007) to develop and refine his situational crisis communication theory (SCCT). The research speculates response to crisis' situations are better resolved if organizations adopt specific crisis response strategies. Through experimental studies, researchers have shown that favorable impressions about organizations, both for profit (Coombs, 2006; Yang & Grunig, 2005) and nonprofit (Sisco, 2008), vary significantly when subjects are exposed to different response strategies employed by organizations in crisis. This study examines the crisis response strategies of MOH through the lens of the SCCT.

Chapter 2 - Literature Review

One of the furthest reaching and least expensive defenses reactions in the war against a pandemic is health awareness. Awareness of diseases enable individuals to have a correct scientific view in explaining the health phenomena. Awareness allows individuals to be able to search for causes of diseases and ailments in a way that enables them to avoid or prevent them. In addition, knowledge about the health phenomena is an asset a person could benefit from by employing the right information when needed to make the better health decisions (Al-Shalhoub, 2020).

Social Media for Health Communication

For-profit, governmental, and nongovernmental organizations around the world have worked frantically to understand how social media platforms can be used as effective tools for strategic communication in times of crisis. After the International Risk Governance Council's (IRGC) workshop in June, 2012, the Organization for Economic Co-operation and Development (OECD) identified 12 good practices for the utilization of social media in risk and crisis communication. Examples include the following: to boost public awareness about risks and crises; for monitoring and situational awareness; and to recognize survivors and victims (Wendling et al., 2013). The Trade Association for the World's Airlines (IATA) has introduced similar best practices and guidelines for airline companies, and they suggest a social media policy should be developed prior to a crisis (IATA, 2016). Nongovernmental organizations suggest effective social media crisis communication is about employing a calm and appropriate tone, constantly monitoring social media, and realizing social media is not a substitute for traditional media (Booz Allen Hamilton, 2009).

The growing interest in lists of do's and don'ts for social media usage during crises is not, however, limited to different organizations' development of policies for the social media usage during crises, disasters, and emergencies. During the last decade, a variety of studies have offered online and social media crisis communication practitioners practical implications within the following areas: informatics (White & Plotnick, 2010); marketing, promotional material, and strategic communication (Eriksson, 2012; González-Herrero & Smith, 2010; Taylor & Kent, 2007); and disaster- and crisis-management research (Houston et al., 2015; Veil et al., 2011). Such rapidly growing research, along with analysis and consolidation of practitioners' current experiences, could be a crucial part of developing effective tools for crisis communication practice (Booz Allen Hamilton, 2012).

Some weaknesses still exist within the scientific development of such concepts for effective social media crisis communication. One problem is best practice advice for social media crisis communication developed in research is often supported by more unsystematic samples of earlier published research studies (see e.g., Veil et al., 2011) or from a single experiences or experiments (see e.g., Chung & Lee, 2016; Ketter, 2016; Wang, 2016) instead of from more systematic reviews and/or meta-analyses of existing studies (Baumeister & Leary, 1997). Another liability is current systematic reviews of research on crisis communication and social media first and foremost analyze collective characteristics and trends of theories and theoretical models, research topics, crisis types, social media platforms, sample types, and research methods in existing studies (Cheng, 2016; Cheng & Cameron, 2017; Rasmussen & Ihlen, 2017; Thomas et al., 2016; Wang & Dong, 2017) instead of how the entirety contributes to knowledge of effective practice of social media crisis communication.

Social Media can Increase Public Health Awareness

COVID-19 public health awareness is the most capable tool to protect the public from the crisis. Public health awareness helps to decrease the intensity of spreading cases and decrease the death rate by educating the public of precautionary measures to control the pandemic (Ali & Bhatti 2020). Social media platforms are one the fastest mediums of public health awareness. The twitter hashtag provides information all over the world as the fastest reaching of social media platforms (Thelwall & Thelwall, 2020). Facebook, WhatsApp, and Instagram are also important message sharing sites about the latest updates of the situation. In addition to real and true information, some fake news and information were also sent via social media about this pandemic. Social media or alternative news create some alarm and fear as well as rumors about the pandemic during the lockdown period (Ashrafi -Rizi & Kazempour 2020; Boberg et al., 2020).

Social media platforms constitute a strong means of communication that can be used to lift public awareness of infectious diseases, particularly new ones, in terms of outbreak dates and spreading developments (Freberg & Palenchar 2013). Members of the general public address both traditional media outlets and social media to gather information on emerging infectious diseases which represent unprecedented risks to the population (Allgaier & Svalastog 2015). The general public's perceptions of those risks (which then affect behavior) are shaped by how information is communicated across social media platforms. The users of those platforms also participate in discussions and conversations by giving their own opinions and presenting their own experiences. However, information disseminated through social media platforms often lacks credibility because it is often generated by the users themselves instead of by medical specialists or professional health care institutions; therefore, this information may lack reliability, accuracy, correctness, or usefulness. As a result, the WHO has required proactive and effective use of

social media platforms to disseminate information on health issues, explicitly on emerging infectious diseases, to the general public (Al-Dmour et al., 2020).

Crisis Communication and Social Media

The use of social media during a time of crisis can provide rapid and clear communication which increases the standard of choices made by organizations to react to a crisis (Coombs, 2014). Social media also provides an interactive space during which all parties such as victims, lawmakers, and the general public can participate and interact during a crisis (Palen, 2008). It also allows a corporation to manage the data provided to the general public and choose the acceptable time to release it (Driedger, 2008). Liu and Jin (2011) found individuals use social media for four predominant reasons: entertainment, education, relationship maintenance, and networking. Their study indicated utilizing social media during a crisis not only offers some advantages to a corporation but also offers huge benefits for the public. The study suggested individuals who use social media during a crisis get information more quickly than those using traditional media.

Austin, Liu, and Jin (2011) suggested individuals use social media during a crisis as a free communication medium to remain connected to family and friends. For example, sometimes in a crisis, people will use social media to verify their own safety of the safety of their family and friends. People use social media for information during the crisis because it is easy and convenient (Austin 2012). Many organizations, as a result, have joined social media to interact with the general public and supply them with accurate and truthful information. However, organizations must be prepared to implement a comprehensive strategic plan before, during, and after a crisis through multiple communication channels, including social media (Veil & Ojeda, 2010). Additionally, with the emergence of social media, scholars suggest organizations should

regularly monitor social media to detect any warning signs of a crisis which may hit their organization (Coombs, 2014). Many individuals form opinions toward a service or product from social media posts, therefore, it is crucial to catch these signs and reply to them before they go viral and cause financial or reputational damages. Social media plays a vital role in both the amplification and attenuation of crises. There has been a growing body of crisis communication research that portrays social media as a critical variable or context (Austin & Jin 2017), explains how organizations should use social media during a crisis (Freberg, 2012; Liu et al., 2011) and describes the impact of stakeholders' use of social media during a crisis (Valentini & Romenti 2011). Blogs, Twitter, and Facebook were among the foremost discussed platforms of social media used in crisis communication research (Cheng, 2016).

A study by Ruggiero & Vos (2014) analyzed current knowledge on social media and crisis communication between 2009-2012 to grasp the foremost recommended methods suggested by crisis communication scholars to utilize social media during a time of crisis. The study revealed monitoring and scanning social media environments during a time of crisis should be the foremost step in managing a crisis. In fact, most promotional material practitioners and crisis communication scholars recommend monitoring citizens' interactions before, during, and after a crisis. Information exchanged on social media can build or destroy an organization's reputation (Lerbinger, 2011); thus, it is important to listen and monitor these platforms and respond properly, especially during a crisis.

The Situational Crisis Communication Theory

The Situational Crisis Communication Theory (SCCT) identifies three major crisis clusters and corresponding response strategies as a template for crisis managers. The theory suggests many different crises can be handled in a similar fashion (Coombs, 2007). The more

responsibility assigned to the organization regarding the crisis, the more severe the impact on the organizational reputation (Coombs, 1998). Therefore, different types of crises inflict different amounts of repetitional damage. The three types are victim, accidental, and preventable. Victim is when a crisis occurs, and the organization is perceived to be a victim of the crisis. Accidental is when the organization is at fault for the crisis, but its actions were unintentional. The final one is preventable which is when the organization intentionally takes a risk that leads to a negative outcome or event (Coombs, 2007). In this research, the researcher tried to understand how the MOH dealt with COVID-19 crisis by using Twitter as a platform to send the messages to the public using the Situational Crisis Communication Theory (SCCT).

SCCT offers methodology for safeguarding and repairing a reputation using crisis response strategies that are matched to the organization's responsibility for the crisis. SCCT could be a symbolic approach to crisis communication that provides explanation of the effectiveness of crisis response strategies in terms of reputational protection specializing in three core elements: the crisis situation, the crisis response strategies, and the method for matching the crisis situation to the crisis response strategies (Coombs, 2006).

Coombs (1995) introduced his initial guidelines for crisis communication strategies. Crisis response strategies were grouped into five categories: nonexistence, distance, ingratiation, mortification, and suffering. The five strategies were placed on a continuum where one end of the spectrum conveyed misinterpretation where a crisis failed to exist while the opposite end conveyed the organization as a victim littered with the results of the crisis. The target of the response strategies was to shape attributions of the crisis, change perceptions of the organization by affected stakeholders, and reduce the negative effect generated by the crisis. The rules suggested the public's perception of the responsibility for the crisis may well be modified

through use of a crisis response strategy matching the amount of responsibility the organization had for the crisis.

When a crisis occurs, crisis mangers should use appropriate crisis response strategies to deny, diminish, rebuild, or reinforce (Coombs & Holladay, 2004; Heath & Coombs, 2006). Strategies of denial claim there is no crisis or try and shift the responsibility for a crisis to a third party. Strategies of diminishment are designed to attenuate damage to organizations from the crisis event. Strategies of rebuilding offer compensation for the crisis or apologies. Finally, strategies of reinforcing are a support strategy being particularly useful for stakeholders. These four strategies are further divided into nine sub-strategies: attack the accuser, denial, scapegoat, excuse, justification, compensation, apology, bolstering, and ingratiation (Table 2.1).

Table 0-1 Crisis Response Strategies Employed in SCC

Strategies		Explanation
Denial Strategies	Atack the Accuser	Crisis manager confronts the person or group, claiming something is wrong with the organization
	Denial	Crisis manager asserts that there is no crisis
	Scapegoat	Crisis manager blames some person or group outside of the organization for the crisis
Diminish Strategies	Excuse	Crisis manager minimizes organizational responsibility by denying intenet to do harm and/or claiming inability to control events that triggered the crisis
	Justification	Crisis manager minimizes the perceived damage caused by the crisis
Rebuild Strategies	Compensation	Crisis manager offers money or other gifts to victims
	Apology	Crisis manager indicates the organization takes full responsibility for the crisis and asks stakeholders for forgiveness.
Reinforcing Strategies	Bolstering	Crisis manager tells stakeholders about the past good works of the organization
	Ingratiation	Crisis manager praises stakeholders

Coombs and Holladay (2004) argued if crisis responsibility is low, crisis managers may use defensive strategies such as denial or excuse. When crisis responsibility is high, accommodative strategies such as apology, corrective action, or compensation are better for addressing a crisis. However, crisis managers or companies should think about employing the strategy of apology which involves officially admitting responsibility, even though it could cause legal issues and an infinite expense later (Coombs, 2007). Table 2.2 defines the Situational Crisis Communication Theory Recommendations for Crisis Response Selection.

Table 0-2 Situational Crisis Communication Theory Recommendations for Crisis Response Selection

Situational Crisis Communication Theory Recommendations for Crisis Response Selection
1. Provide instructing information to all victims or potential victims in the form of warnings and directions for protecting themselves from harm.
2. Provide adjusting information to victims by expressing concern for them and providing corrective action when possible. (Note: Providing instructing and adjusting information is enough of a response for victim crises in an organization with no crisis history or unfavorable prior reputation.)
3. Use diminishment strategies for accident crises when there is no crisis history or unfavorable prior reputation.
4. Use diminishment strategies for victim crises when there is a crisis history or unfavorable prior reputation.
5. Use rebuilding strategies for accident crises when there is a crisis history or unfavorable prior reputation.
6. Use rebuilding strategies for any preventable crisis.
7. Use denial strategies in rumor crises.
8. Use denial strategies in challenges when the challenge is unwarranted.
9. Use corrective action (adjusting information) in challenges when other stakeholders are likely to support the challenge.

10. Use reinforcing strategies as supplements to the other response strategies.
11. The victim age response strategy should be used only with the victim cluster.
12. To be consistent, do not mix denial strategies with either the diminishment or rebuilding strategies.
13. Diminishment and rebuilding strategies can be used in combination with one another.

The World Health Organization (WHO), the International Federation of Red Cross and Red Crescent Societies (IFRC), and the Centers for Disease Control (CDC) have all utilized social media to disseminate health information and communicate with local and external stakeholders (Harris et al., 2013). The WHO adopted Twitter in April 2008 and Facebook in 2009 to disseminate health messages during health crises. The CDC adopted Twitter in October 2009 and Facebook in April 2009. The IFRC joined Twitter in August 2008 and Facebook in September 2008 (Harris et al., 2013). Health organizations mostly use social media to speak, inform, educate, and build awareness about various health issues. Many local health departments (LHDs) within the United States also emphasize the importance of teaching and informing individuals about health issues through utilizing social media (Harris et al., 2013). The general public Health Accreditation Board has included communication with residents about health issues as a requirement for health organization accreditation (Harris et al., 2013). Both the CDC and the WHO have utilized social media platforms such as Twitter and Facebook during critical times (Harris et al., 2013).

Using Social Media in Health Organizations

The use of social media by health organizations to speak with the general public, especially during crises, becomes necessary and indispensable as more people utilize social media on a daily basis. According to the Pew center report, 72% of Internet users within the United States use the internet to gather health information (Fox & Duggan, 2013). The same

report indicated 77% of people who seek health information on the web indicated they use Internet search engines first such as Google, Bing, and Yahoo (Fox & Duggan, 2013). Using search engines, emails, and looking out for health information online are the most common online activities across different generations (Lenhart et al., 2010). Social media has also been significantly used to obtain and share health information (Lenhart et al., 2010). While individuals can only use search engines to go looking for health information, social media (particularly Twitter) permits individuals to find and share health information (Choudhury et al., 2014).

A study by Fox (2011) found around 15% of web users utilize social media to procure health information, 23% of social media users follow their friends' personal health experiences, and 17% use social media to commemorate people with specific health conditions. Many researchers recommend health organizations adopt and develop effective communication methods, including social media, to speak with their patients to deliver information, build relationships, and be more oriented to patients (Gravili et al., 2013). As Gravili et al (2013) states, the employment of social media in health organizations has many benefits, including enhancing and organization's reputation and improving the prevention of diseases. In social media, the flow of data between doctors and patients or patients and patients enable patients to own both social and emotional support which are considered important factors for curing many diseases (Gravili et al., 2013).

The Saudi Health System

The Kingdom of Saudi Arabia is one of the largest countries in the Middle East (World Health Organization, 2003) and has one among the largest oil reserves in the world. Oil wealth has precipitated a rapid socio-economic transition over the past years causing a marked impact on health and lifestyle. Latest population figures show that Saudi Arabia has reached a

population of 34.54 million with 1,140,840 being under the age of 18 years (General Authority for Statistics KSA, 2021). The annual growth rate is 2.7% and the total natality is 3.8. Due to advancements in both health care and social services, life expectancy has increased from 52 years in 1970 to 72 in 2005, and since of the compulsory vaccination passed in the 1980s, the under 5 years old morbidity rate has dropped dramatically from 250 per 1000 live births in 1960 to 26 per 1000 in 2005. All urban populations in Kingdom of Saudi Arabia have access to good sanitation and 97% have access to clean water (MOH, 2017).

The Ministry of Health (MOH) in the Kingdom of Saudi Arabia (KSA) was established in 1951 to uphold all health affairs within the kingdom. The MOH is responsible for developing all regulations, laws, and legislation to any or all governmental and personal health sectors in KSA. It monitors and regulates health institutions' performance and offers health training to any or all health practitioners. Under the MOH (2014), there are over 260 hospitals and over 1,980 outpatient clinics in KSA. The health of Saudi people is given high priority by the government. Around 6-7% of the country's budget goes annually to the MOH to develop and enhance health services provided to residents of KSA (MOH, 2017). Many new enterprises such as building new hospitals and establishing new research centers are developed by the MOH to supply quality health services for all residents. Residents of KSA have access to several excellent health facilities and services free of charge. In an attempt to teach and increase awareness among people, many health campaigns are developed by the ministry to coach, increase awareness, and stall diseases among people in KSA. The MOH has also utilized many communication channels to interact with the general public and communicate with them regarding all health issues, including both traditional and new media.

On December 31, 2019, the world witnessed the first case of COVID-19 that caused significant concern, fear, and outrage among Saudi people. Since many individuals had died from the 2014 Coronavirus, which placed substantial pressure on the MOH to handle the crisis and educate the public before its spread in the country (Alsulaiman, 2018).

The Ministry of Health is additionally liable for strategic planning, formulating health policies, and supervising and monitoring all health-related programmers and activities within the dominion. While the MOH is the main source of national health services provided by the government, other government agencies such as the Ministry of Defense and Aviation, the Ministry of Interior, the Arabian National Guard, and the University Teaching Hospitals also deliver health care to their employees and a segment of the overall population. Health care within the private sector has significantly increased within the Kingdom and is coordinated within the referral network that features hospitals, clinics, dispensaries and pharmacies (Al-Yousuf et al., 2002). Thus, while the Ministry of Health provides 81% of the healthcare services, the non-governmental agencies (private sector) provide the remaining 19% (Aldosri, 2020).

The Saudi Arabian government has committed enormous resources to improving health care. The goal is to provide free and accessible healthcare services for each Saudi national and expatriate working within the general public sector. While expatriate workers within the private sector are sponsored by their employers, healthcare financing in the Asian nation is provided primarily from the government budget, supported by oil and gas revenues (Barroy et al., 2016). The total expenditure on health is 3.8% of GDP with 77.1% from government and 22.9% from private expenditure (Aldosri, 2020).

Hospitals and healthcare centers in Saudi Arabia are operated by governmental agencies and personal organizations. The Ministry of Health bears the overall responsibility for the

Kingdom's health care with the supply of preventive, curative, and rehabilitative services. The Ministry of Health provides primary health care through a network of healthcare centers throughout the dominion and with a referral system to acute and advanced health care through a broad base of general and specialist hospitals.

The Social media use in Saudi Arabia:

Saudi Arabia has a population of 34.54 million people. 25 million people, or 72.38% of the population, use social media. Saudi youth account for 75% of the KSA's overall population (General Authority for Statistics KSA, 2021). This majority has propelled Saudi Arabia to the top of the world's largest social media presence. Mobile penetration is 116% of the total population, with 40.20 million subscribers. The high rate of smartphone ownership is the primary explanation for the high number of active social media users. With over 84% of the country living in urban areas and access to super-fast internet, it comes as no surprise the active social media users stand at 25 million, an incredible 72.38% of the population. According to reports from Hoot Suite and We are Social, Saudis are the largest group of active users on Instagram, Twitter, and Snapchat in the region. The average time a Saudi spends on social media via any device is 3 hours and 2 minutes daily (Global Media Insight, 2020).

Table 0-3 Social Media Platform Usage in KSA

Social Media Platform	Users (in millions)	Percentage
YouTube	26.25	76%
Instagram	22.45	65%
Facebook	21.41	62%
Twitter	20.03	58%
LinkedIn	9.33	27%

As seen in Table 2.3, YouTube tops the list of social channels with 26.25 million viewers in KSA, 76% of the total social media users. Instagram and Facebook are the two most used

social media platforms. In 2020, Instagram's user base has risen to 22.45 million active users. With 21.41 million users, Facebook is marginally behind Instagram. On Twitter, there are 20.03 million Saudis, accounting for 58% of the country's total social media users. LinkedIn accounts for 27% of the social media users in Saudi Arabia with 9.33 million users (Global Media Insight, 2020).

Social media has created vast global networks that can quickly spread information and mobilize large numbers of people to facilitate greater progress toward public health goals (George et al., 2013). Social media can be a powerful tool for public education and advocacy regarding public health issues (Farnan et al., 2013). Some states' public health departments are using Twitter and other social media for these purposes (Courtney, 2013). In this study the researcher examined how MOH used social media and how they used the SCCT recommendations during the COVID-19 pandemic. The research questions in this study were:

RQ1: How did the response strategies selected by MOH match the response strategies suggested by the situational crisis communication theory?

RQ2: What specific characteristics are present in tweets that received the most engagement?

Chapter 3 - Methodology

In this study, data is in a form of educational tweets from the MOH Twitter account about COVID-19 crisis. The tweets were analyzed through a content analysis. Content analysis is a scientific coding and categorizing approach used for exploring large amounts of textual information unobtrusively to see trends and patterns of words used, their frequency, their relationships, and the structures and discourses of communication (Mayring, 2000; Pope et al., 2006; Gbrich, 2007).

The purpose of content analysis is to explain the characteristics of the document's content by examining who says what, to whom, and with what effect (Bloor, Wood, 2006). Oppositely, thematic analysis often is seen as a poorly branded method, in that it does not appear to exist as a named method of research within the same way that content analysis does. Thematic analysis as an independent qualitative descriptive approach is especially described as “a method for identifying, analyzing and reporting patterns (themes) within data” (Braun, Clarke, 2006, p. 79). Looking at the data qualitatively allows for and requires a deep reflection on the meanings and nuances of every and each datum (Saldaña, 2009). Qualitatively coding the Tweets promoted total immersion within the dataset, which quantitative content analysis studies during this area have not reached. In traditional quantitative content analysis, researchers have measured the frequency of words or items. Saldaña (2009) argues frequency of words or phrases is not necessarily an indicator of significance within the dataset. Qualitative coding does not only count instances of communication. Qualitative coding goes a step further to attempt to understand the nuances of the information through pondering, scrutinizing, and interrogating the dataset so as to take a position, connect, and conceptualize what is actually happening. Content analysis sought to form sense of what was occurring within the data (Saldaña, 2009).

The most essential advantage of using content analysis is it provides accurate insight of communication content and its replicability (Berelson, 2000). Benefits of using the content analysis method to approach communication research are the following: (1) content analysis may be used as an unobtrusive measure of communications while direct methods might involve bias; (2) content analysis offers potentials for examining effects of assorted message-content on recipients' responses; (3) content analysis initiates new research on specific subjects of communication; and (4) content analysis is employed in multimethod research (Kolbe, Burnett, 1991). Although content analysis is specifically appropriate for and has been widely employed in mass communication and journalism, applications of the study method are increasingly employed in legal, political, marketing, and commercial realms. Moreover, other applications of the research method are being used in "psychiatry, psychology, history, anthropology, education, philosophy and literary analysis, and linguistics" (Krippendorff, 2004, p. 46). Qualitative data provides the researcher with the opportunity for an in-depth analysis of participants' experiences to further the researcher's understanding of the experiences (Patton, 2002).

To understand how MOH used Twitter during the COVID-19 pandemic, a content analysis of their tweets was conducted. This study utilized the Qualitative Content Analysis method to answer research question. In addition, the researcher conducted a content analysis to see what specific characteristics in these tweet's supported themes, and to see the interaction with it. To create a sample, the researcher first reviewed the 53 actions reported on The Government Communication Center (GCC) report. These actions were dated from January 21-31, 2020. These actions and dates were reported on the GCC report published in May 2020. More than half of these tweets were educational videos posted on Twitter. From the original sample of 53 tweets recorded, the researcher selected 20 tweets to analyze.

Tweets were selected based on the number of the retweets those tweets received. The higher retweeted tweets were chose retweeting can be seen because the act of copying and rebroadcasting. This practice contributes to a conversational ecology during which conversations are composed of a public interplay of voices that bring about an emotional sense of shared conversational context. For this reason, a number of the foremost visible Twitter participants retweet others. This includes users of all types but notably marketers, politicians, and celebrities (Boyd et al., 2010).

Retweeting brings new people into a specific thread, inviting them to interact without directly addressing them (Marlow 2005). Retweeting may be understood both as a variety of information diffusion and as a way of participating in a very diffuse conversation. Spreading tweets is not simply to push messages to new audiences but also to validate and interact with others. That makes the most retweeted tweets appropriate to determine them as a sample (Boyd et al., 2010).

The researcher created a tri-axial coding scheme using an iterative process to reflect the following: 1) if the tweet's content was educational; 2) how many retweets occurred; and 3) the number of (SCCT) recommendations used. This coding scheme is appropriate because it specified the desired tweets and answered the research question. The focus was on the educational content related to the COVID-19. Any tweets not related were deleted to narrow down the sample. The researcher recorded the tweet and what the tweet type it was (warnings, educational or statement). By collecting tweets from the timeline selected, the sample provided insight as to how the organization continued to use crisis response techniques long after the initial crisis event passed. All the actions were posted on the Twitter official account of MOH. The tweets were collected manually, and to analyze the posts, videos was transcribed to text. The

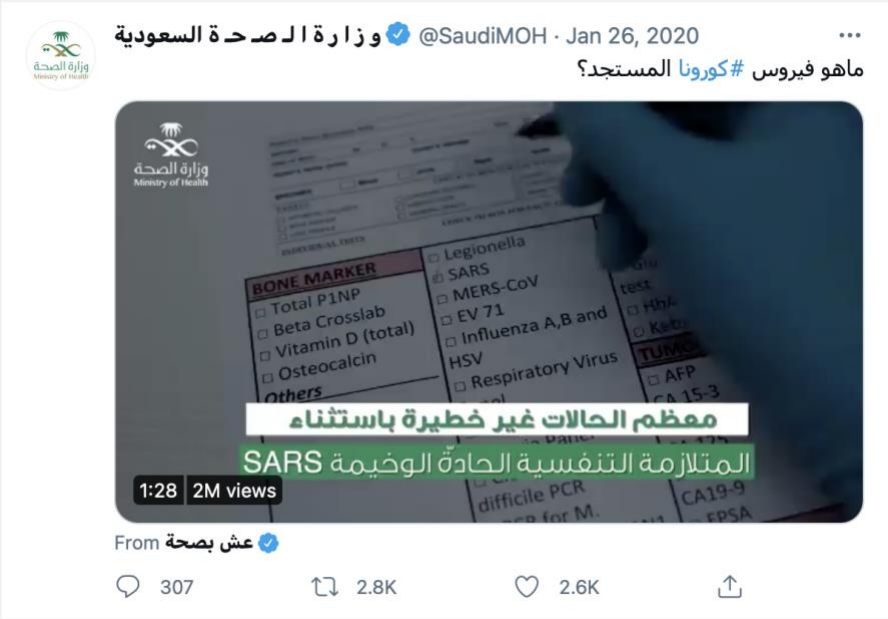
transcribed text was translated from Arabic to English. After completing data analysis, the researcher reviewed the results to identify how many recommendations were used from the SCCT recommendations for crisis response selection.

Chapter 4 - Results

From the original sample of 50 tweets recorded, the researcher examined 20 actions to analyze in a chronological order from Twitter. MOH's communication was evaluated based on the SCCT recommendations for crisis response selection.

On January 26, 2020, MOH shared this educational video about COVID-19 (Figure 4.1). This video received 2 million views and 2.8 thousand retweets. It explained the virus from a scientific point of view so it is clear to people. By identifying the virus in this video, MOH used one of the SCCT recommendations for crisis response selection. They provided instructing information to all victims or potential victims in the form of warnings and directions to protect themselves from harm. The tweet's link: https://twitter.com/SaudiMOH/status/1221490915392589825?s=20

Figure 0.1 Posted January 26, 2020: Warnings and Directions



On March 8, 2020, MOH shared this tweet about how to protect yourself from COVID-19 (Figure 4.2). This video received 1.3 million views and 6 thousand retweets. In this video, MOH explained the wrong practices that help spread the virus. This tweet uses reinforcement

strategy. It then clarified correct practices and explained their importance to society. In this video MOH used the SCCT recommendation for crisis response selection. They provided instructing information to all victims or potential victims in the form of warnings and directions to protect themselves from harm. The tweet's link:

https://twitter.com/SaudiMOH/status/1236705045493809152?s=20

Figure 0.2 Posted March 8, 2020: How to Protect Yourself from COVID-19

On March 9, 2020, MOH shared this tweet about how and when you should wear a mask to protect yourself from COVID-19 (Figure 4.3). This video received 1.1 million views and 3.8 thousand retweets. In this video, MOH explained when and how the person should wear a mask and showed the right way to wear a mask. This tweet was published before wearing the mask became mandatory. This tweet uses reinforcement strategy. In this video MOH used one of the SCCT recommendations for crisis response selection. They are provided instructing information to all victims or potential victims in the form of warnings and directions to protect themselves from harm. The tweet's link: https://twitter.com/SaudiMOH/status/1237074707918270464?s=20

Figure 0.3 Posted March 9, 2020: How and When to Wear a Mask

On March 11, 2020, MOH shared this tweet about how the correct way to wash hands to protect yourself from COVID-19. This video received 1.9 million views and 6.2 thousand retweets. The video began by explaining bacteria is invisible to the naked eye, and we often believe our hands are clean once washed. The video showed the wrong methods of washing hands and then testing the hands in the laboratory to show the number of bacteria still present. Then hands were washed in the correct way to explain to people the importance of this method and the differences between it and the wrong method. This tweet uses reinforcement strategy. In this video MOH used one of the SCCT recommendations for crisis response selection. They are provided information to all victims or potential victims in the form of warnings and directions for to protect themselves from harm. The tweet's link: https://twitter.com/SaudiMOH/status/1237822560257130497?s=20

Figure 0.4 Posted March 11, 2020: How to Wash Hands

On March 13, 2020 MOH shared this tweet about what must be done in home quarantine to maintain your health and the health of others (Figure 4.5 and Figure 4.6). This tweet received 1.7 thousand retweets. This tweet shared alerts about some practices that may be the cause of the spread of the virus at home during the quarantine. This tweet uses reinforcement strategy. In this tweet MOH used one of the SCCT recommendations for crisis response selection. They are provided instructing information to all victims or potential victims in the form of warnings and directions to protect themselves from harm. The tweet's link: https://twitter.com/SaudiMOH/status/1238595680031117312?s=20

Figure 0.5 Posted March 13, 2020: Home Quarantine Procedures

Figure 0.6 Posted March 13, 2020: Home Quarantine Procedures (English version)

On Marsh 14, 2020, MOH shared this tweet about avoid shaking hands and direct contact with people (Figure 4.7 and Figure 4.8). This tweet received 4.3 thousand retweets. In this tweet, MOH asked people to abandon a social habit, the handshake. A slang term was used here that the handshake is only looking into the eyes of the other person. It is a funny term to avoid embarrassment with people while refusing to shake their hands. This tweet uses reinforcement strategy. In this tweet MOH used one of the SCCT recommendations for crisis response selection. They provided instructing information to all victims or potential victims in the form of warnings and directions to protect themselves from harm. The tweet's link: https://twitter.com/SaudiMOH/status/1238913859722846210?s=20

Figure 0.7 Posted March 14, 2020: Shaking Hands

Figure 0.8 Posted March 14, 2020: Shaking Hands, Full Graphic

On March 15, 2020, MOH shared this tweet about positive acts people could reduce the spread of COVID-19. This tweet received 4.4 thousand retweets. In this tweet, MOH called on people to follow some important instructions such as spreading awareness of the surrounding community, supporting the spread of rumors and inaccurate news, and avoiding gatherings of 50 people and more. This tweet uses reinforcement strategy. In this tweet MOH used one of the SCCT recommendations for crisis response selection. They provided instructing information to all victims or potential victims in the form of warnings and directions to protect themselves from harm. The tweet's link: https://twitter.com/SaudiMOH/status/1239171450541654018?s=20

Figure 0.9 Posted March 15, 2020: Positive Acts to Reduce the Spread of COVID-19

Figure 0.10 Posted March 15, 2020: Positive Acts to Reduce the Spread of COVID-19 (English version)

On March 15, 2020, a speech from the minister of health about the situation, 12 days after the first case, was posted (Figure 4.11). This video received 14.5 million views and 50.5 thousand retweets, and it was the most viewed content on MOH Twitter account. The text of the speech is the following:

> My brothers and sisters, my sons and daughters, we are living with a great challenge. The Corona virus is now spreading all over the world and quickly, and as you know we are part of this world. Our leadership and our country, praise be to God, have made a group

> of precautions for your protection and the challenge is great and your cooperation is important from the heart I ask you for your cooperation in four points. The first point is to avoid shaking hands completely. The second point is to wash and sterilize hands frequently to ensure your safety, especially since the hands are the largest vector of disease. The third point is to avoid gatherings of all kinds, as gatherings are a means of transmitting disease to several people. The last point, if you have symptoms or you are coming from outside the Kingdom, you must isolate yourself in your room for 14 days for your safety and the safety of your loved ones. This is a national mission. We want your cooperation, and we are all responsible to achieve this mission. We are with you in the call center on the number 937 and I always thank you for your cooperation.

In the speech, the minister uses two of the SCCT recommendations, reinforcement and denying strategies. He provided adjusting information to victims by expressing concern for them and providing corrective action. He also provided instructing information to all victims or potential victims in the form of warnings and directions for protecting themselves from harm. The tweet's link: https://twitter.com/SaudiMOH/status/1239277704966529024?s=20

Figure 0.11 Posted March 15, 2020: Video Update from MOH

On March 16, 2020, MOH shared this tweet explaining people coming to the country from outside the Kingdom would be hosted in a quarantine period for 14 days, for their health and the health of everyone (Figure 4.12). This video received 788.6 thousand views and 3.6 thousand retweets. In this video, the Ministry of Health explained the tiring procedures for arrivals from outside the country and hosting them in a hotel for a period of 14 days until it became clear whether they were positive for COVID-19 or not. It also clarified their medical follow-up and their daily periodic examination to ensure that they do not have COVID-19. In this tweet MOH used one of the SCCT recommendations for crisis response selection. They provided adjusting information to victims by expressing concern for them and provided corrective action when possible. The tweet's link:

https://twitter.com/SaudiMOH/status/1239650458370801665?s=20

Figure 0.12 Posted March 16, 2020: Video About Quarantine for Incoming Visitors

On March 17, 2020, MOH shared this tweet saying, “in crises, be your little one source of safety.” (Figure 4.13 and Figure 4.14) This tweet received one thousand retweets. In this tweet, MOH was educating the parents about educating their children during a crisis. The Ministry recommended you listen to the child while expressing his concerns, give them more love and safety, talk with the child, and give him a chance to play and relax. This tweet uses reinforcement strategy. In this tweet MOH used one of the SCCT recommendations for crisis response selection. They provided instructing information to all victims or potential victims in the form of warnings and directions for protecting themselves from harm. The tweet’s link: https://twitter.com/SaudiMOH/status/1239948786555912194?s=20

Figure 0.13 Posted March 17, 2020: In Crisis, Be Your Source of Safety

Figure 0.14 Posted March 17, 2020: In Crisis, Be Your Source of Safety (full image)

On March 17, 2020, MOH shared this tweet to raise awareness about the importance of social distancing (Figure 4.15 and Figure 4.16). This tweet received 3.2 thousand retweets. In this ad they had an equation saying: Gathering + Close Contact = Infection Spread. In this tweet, MOH explains why it advised people to stay away from gatherings. It was indicated one of the main causes of the spread of infection was gathering and close contact. The goal of this tweet

was to raise awareness about the importance of social distancing. This tweet uses reinforcement strategy. In this tweet MOH used one of the SCCT recommendations for crisis response selection. They were providing instructing information to all victims or potential victims in the form of warnings and directions for protecting themselves from harm. The tweet's link: https://twitter.com/SaudiMOH/status/1239977214881472516?s=20

Figure 0.15 Posted March 17, 2020: Gathering + Close Contact = Infection Spread

Figure 0.16 Posted March 17, 2020: Gathering + Close Contact = Infection Spread (full image)

On March 20, 2020, MOH shared this tweet about what must be done in home quarantine to maintain your health and the health of others from COVID-19 (Figure 4.17 and Figure 4.18). This tweet received 1.3 thousand retweets. In this tweet, the MOH shared ideas to help stop the

spread of the virus at home during the quarantine. They recommended to open windows, not have guests, and disinfect surfaces. This tweet uses reinforcement strategy. In this tweet MOH used one of the SCCT recommendations for crisis response selection. They are provided instructing information to all victims or potential victims in the form of warnings and directions to protect themselves from harm. The tweet's link: https://twitter.com/SaudiMOH/status/1241025240261591041?s=20

Figure 0.17 Posted March 20, 2020: What to do in Home Quarantine?

Figure 0.18 Posted March 20, 2020: What to do in Home Quarantine? (English version)

On March 21, 2020, MOH shared this tweet about home quarantine (Figure 4.19). This tweet received 3.6 thousand retweets. MOH encouraged people to stay at home, reflecting awareness of the crisis. The tweet showed some of the activities that anyone in the family could do at home, and it was a way to communicate with all segments of society. This tweet used reinforcement strategy. In this tweet MOH used one of the SCCT recommendations for crisis response selection. They provided instructing information to all victims or potential victims in

the form of warnings and directions to protect themselves from harm. The tweet's link: https://twitter.com/SaudiMOH/status/1241338181531963392?s=20

Figure 0.19 Posted March 21, 2020: Encouragement to Stay At Home

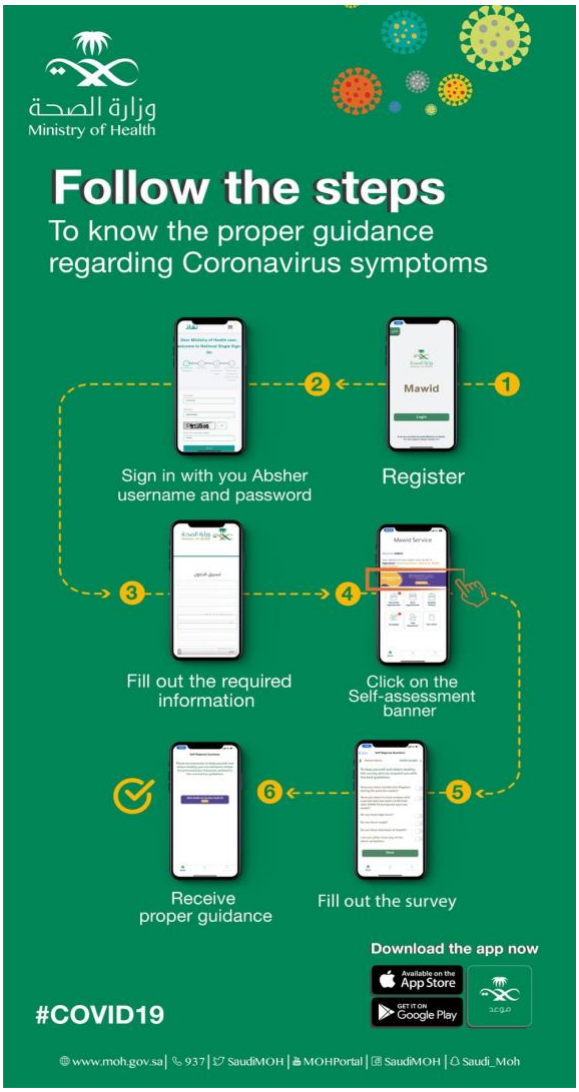
On March 21, 2020, MOH shared this tweet saying, "This is Yasser, one of the heroes of society and committed to home quarantine, know his story." (Figure 4.20) This video received 3.3 million views and 4.2 thousand retweets. Yasser was a citizen who had returned from abroad and was committed to home quarantine. In this video, Yasser demonstrated the correct ways of using home quarantine such as using plastic eating utensils and not socializing with his family. This method was education by example, and it was to teach those coming from abroad the correct methods of home quarantine. In this tweet MOH used one of the SCCT recommendations for crisis response selection. They provided instructing information to all victims or potential victims in the form of warnings and directions to protect themselves from harm. The tweet's link: https://twitter.com/SaudiMOH/status/1241445933176537089?s=20

Figure 0.20 Posted March 21, 2020: This Is Yasser Video

On March 21, 2020, MOH explained to people the steps for self-assessment on the smartphone application "Mowid" (Figure 4.21 and Figure 4.22). This tweet received 1.6 thousand retweets. This tweet uses reinforcement strategy. In this tweet MOH used one of the SCCT recommendations for crisis response selection. They provided instructing information to all victims or potential victims in the form of warnings and directions to protect themselves from harm. The tweet's link: https://twitter.com/SaudiMOH/status/1241332779335462913?s=20

Figure 0.21 Posted March 21, 2020: How to Use Mowid

Figure 0.22 Posted March 21, 2020: How to Use Mowid (English version)



On March 22, 2020, MOH shared this tweet saying, “This is Nawaf, one of the heroes of society who works with dedication at the National Center for Health Crisis and Disaster Management, know his story.” (Figure 4.23) This video received 1.1 million views and 1.7 thousand retweets. Nawaf is one of the employees in the National Center for Health Crisis and Disaster Management which is one of MOH’s agencies. In this video, MOH tries to show the efforts made during the pandemic to explain to people the extent of the existing work and the efforts made. This tweet uses denying and reinforcement strategies. In this tweet MOH is using one of the SCCT recommendations for crisis response selection. They are providing adjusting information to victims by expressing concern for them and providing corrective action when possible. The tweet’s link: https://twitter.com/SaudiMOH/status/1241783205369466881?s=20

Figure 0.23 Posted March 22, 2020: This is Nawaf Video

On March 23, 2020, MOH shared this video to raise awareness about the importance of social distancing (Figure 4.24). This tweet received 1.7 million views and 4.6 thousand retweets. In this tweet, MOH asked people to sit at home and isolate themselves from people to protect themselves from contracting the virus without their knowledge. This tweet uses reinforcement

strategy. In this tweet MOH used one of the SCCT recommendations for crisis response selection. They provided instructing information to all victims or potential victims in the form of warnings and directions to protect themselves from harm. The tweet's link: https://twitter.com/SaudiMOH/status/1242071613115445249?s=20

Figure 0.24 Posted March 23, 2020: Importance of Social Distancing

On March 26, 2020, MOH shared this tweet to raise awareness about the importance of staying home (Figure 4.25 and Figure 4.26). This tweet received 1.9 thousand retweets. In this tweet, MOH asked people to sit at home and isolate themselves from people and that it was a national duty to do so. This tweet uses reinforcement strategy. In this tweet MOH used one of the SCCT recommendations for crisis response selection. They provided instructing information to all victims or potential victims in the form of warnings and directions to protect themselves from harm. The tweet link: https://twitter.com/SaudiMOH/status/1243144974708940800?s=20

Figure 0.25 Posted March 26, 2020: Importance of Staying Home

Figure 0.26 Posted March 26, 2020: Importance of Staying Home (full image)

On March 29, 2020, MOH shared this tweet to raise awareness about the importance of staying home after coming from outside the country (Figure 4.27). This video received 2.4 million and 4 thousand retweets. This video shared a story of a married couple who traveled

from outside the country where one was committed to home quarantine and the other was not. That led to the infection of many of his friends with the COVID-19. This video was an example of the rapid spread of the virus in contact with people. This was away for MOH to let the people understand the importance of quarantine. This tweet uses reinforcement strategy. In this tweet MOH used one of the SCCT recommendations for crisis response selection. They provided instructing information to all victims or potential victims in the form of warnings and directions to protect themselves from harm. The tweet's link: https://twitter.com/SaudiMOH/status/1244341052196163585?s=20

Figure 0.27 Posted March 29, 2020: Staying Home After Returning from Another Country

On March 30, 2020, MOH shared this tweet to correct some erroneous information about the COVID-19 (Figure 4.28 and Figure 4.29). This tweet received 2.5 thousand retweets. In the tweet, MOH wrote, "here is the truth." This statement referred to some rumors spread about COVID-19 such as hot weather kills the virus or pets transmit the virus. In this tweet, MOH tried to correct the information spread to the people. This tweet uses denying and reinforcement strategies. In this tweet MOH used two of the SCCT recommendations for crisis response selection. They used denial strategies in rumor crises, and they also provided instructing

information to all victims or potential victims in the form of warnings and directions to protect themselves from harm. The tweet's link:

https://twitter.com/SaudiMOH/status/1244730870688169984?s=20

Figure 0.28 Posted March 30, 2020: Correction of Erroneous Information

Figure 0.29 Posted March 30, 2020: Correction of Erroneous Information (full image)

Discussion

This study answers each of the two research questions by utilizing qualitative content analysis of MOH's Twitter account during the selected time period amid the COVID-19 pandemic. In regard to the first research question which asked, "How did the response strategies selected by MOH match the response strategies suggested by the situational crisis communication theory," results show MOH used Twitter as an educational tool. MOH harnessed this opportunity and attempted to educate the public about COVID-19. MOH used at least one of the theory's recommendations. As the Table 4.1 shows, 95% of the tweets used the same recommendation to provide instructing information to all victims or potential victims in the form of warnings and directions to protect themselves from harm. This means most of the tweets issued were preventive to limit the spread of the virus. Ten percent of the tweets used the recommendation to provide adjusting information to victims by expressing concern for them and provide corrective action when possible. Also, 5% of the tweets used the recommendation to use denial strategies in rumor crises. This means that misinformation was not a significant factor, otherwise MOH would have to increase the number of tweets.

Table 0-1 Summary table of the recommendation usage

SCCT strategies /Recommendation	Tweet Sample	Number of tweets follows the recommendation	percentage
Reinforce / Provided instructing information	20	19	95%
Reinforce, deny / Provided adjusting information	20	2	10%
Reinforce, deny / Denial strategies in rumor crises	20	1	5%

The second research question posed was "What specific characteristics are present in tweets that received the most engagement?" By evaluating the number of tweet views, it can be seen that tweets that get the most interaction are those that contain a video. All tweets containing

a video reached an average of 5.8 million views. This indicates that the video had more impact than the a picture or infographic. As shown in table 4.2, 50% of the MOH's tweets contained a video. There were 6 (30%) infographic tweets, and most of the tweets contained practical steps. 20% of the tweets were photos. The tweet that received the highest number of retweets was the minister's speech with more than 50 thousand retweets. Other MOH's tweets did not achieve close to this number of retweets. The minister's message was honest, clear and short.

Table 0-2 Summary table of the type of tweets.

Tweet type	Tweet Sample	Number of tweets	percentage
Video	20	10	50%
Infographic	20	6	30%
Picture	20	4	20%

Theoretical and Practical Implications

The theoretical and practical implications of this study add to the literature of crisis communication in two ways. First, it provides a further examination of high-risk crises. Crisis communication literature has neglected include the strategy of SCCT and as a result there is limited examples in current works. Second, this study uses SCCT to further understand how it could be the framework for dealing with such crises. This study revealed that the use of SCCT can be successful if enacted correctly. This research will provide a suggestion for organizations to follow and avoid any problems while also protecting people's lives because of false information or rumors spread when the health organizations weren't able to refute it. The theory gave clarity to the communication process during crises and how to deal with them through the suggested recommendations. Acting with these recommendations makes reaching the required results easier and faster. It also protects the community from the consequences of mistakes and false news.

The messages sent by MOH were often for the identical purpose which made the message easier to grasp for a greater audience. Repetition of messages is a very important consider

convincing people of the message. The videos received an oversized number of views and better interaction showing it's one in all the foremost useful means of communication during crises. Messages must be short, accurate, clear and effective so as to attain the foremost benefit. Crisis communication could be a new use of Twitter and will have major benefits within the future. In the event that anything similar happens in the future, it is best to use short, informative, and focused videos. This is the best way to have greater interaction and interest during a crisis.

Limitations and Future Research

While this research yielded important findings to the sphere of crisis communication, there were several limitations which might be directions for future research. First, the dataset was limited in size and scope since the research only examined MOH Tweets. A dataset inclusive of more Tweets from other governmental organizations may yield additional findings. Second, while this research focused on Twitter specifically, data from news stories, press releases, or other communication mechanisms could have filled in missing response strategies. Since Twitter remains considered an emerging platform, organizations may not yet be using it to its full potential for crisis communications. Viewing other channels of crisis response by the organizations may show different response strategies and suggestions being employed on platforms other than Twitter. Additionally, future research should look more closely at the organizations and their intentions in their crisis response strategies. Knowing who the organizations' target publics are and therefore the goals of their communication messages would be beneficial in understanding how closely the response strategies matched the target audiences' needs within the wake of the crisis.

Another limitation is that this research did not include public replies or favorites. Future research examining these Twitter features would offer understanding into the way Twitter

facilitates two-way communication. Observing the interactions between organizations and their Twitter audiences would help to improve understanding of the effectiveness of response strategies on this platform. The researcher would then be able to know how the response strategies are being received by the general public and how the organizations are responding to those replies. This understanding may be the subsequent step in determining how helpful the crisis response strategies are in providing the general public with necessary information and techniques. Additionally, this might show an establishment of community over social media. Tracking replies could show if communities are forming over Twitter as a result of communications about the crisis. By Twitter allowing for and encouraging this kind of communication, it also provides an opportunity for organizations to act as facilitators in fulfilling the emotional connectedness and community needs that are often important following crisis events (Spence, et al., 2015). In terms of the dissemination of the two-way communication over Twitter, hashtags should be researched. Hashtags increase searchability and spread ability of messages of Twitter. Tracing the trail of hashtags that were included in Tweets by the organization could show how the knowledge is being received and spread by the general public.

Twitter is a very important emerging platform. Past research findings indicate the medium is more important than the message when it involves crisis response strategy and communication (Schultz, et al., 2011). This research found Twitter provided a singular opportunity for organizations to regulate their SCCT response strategies. Past research using SCCT has relied heavily on surveys, quantitative content analysis, and experimental design which has not allowed for thorough examination of actual output of organizations' messages. Additionally, it has not allowed for a examination of the medium of Twitter as it related to the response strategies of organizations. This research was able to show the importance of the

emerging platform of Twitter for communication during crises and the organizations' chance to use it to effectively communicate with their audiences.

Table 0-3 Summary table of the research results

	Tweet Content	SCCT recommendation used
1	Educational video about COVID-19	Provided instructing information.
2	Educational video about how to protect yourself from COVID-19	Provided instructing information.
3	Educational video about how and when you should wear a mask	Provided instructing information.
4	Educational video about how the right way to wash hands to protect yourself from COVID-19	Provided instructing information.
5	Tweet about what must be done in home quarantine	Provided instructing information.
6	Tweet about avoid shaking hands and direct contact with people	Provided instructing information.
7	Tweet about positive acts people could reduce the spread of COVID-19	Provided instructing information.
8	A speech from the minister of health about the situation	Provided instructing information / Provided adjusting information
9	Tweet explaining people coming to the country from outside the Kingdom	Provided instructing information.
10	Tweet explaining for parents how to deal with kids during COVID-19	Provided instructing information.
11	Tweet to raise awareness about the importance of social distancing	Provided instructing information.
12	Tweet about what must be done in home quarantine	Provided instructing information.
13	Tweet home quarantine	Provided instructing information.
14	One of the heroes of society "Yasser"	Provided instructing information.

15	Tweet about the steps for self-assessment	Provided instructing information.
16	One of the heroes of society “Nawaf”	provided adjusting information.
17	video to raise awareness about the importance of social distancing	Provided instructing information.
18	tweet about the importance of staying home	Provided instructing information.
19	Tweet about the importance of staying home after coming from outside the country	Provided instructing information.
20	Tweet to correct some erroneous information about the COVID-19	Denial strategies in rumor crises/ Provided instructing information.

Chapter 5 - Conclusion

This research examined whether MOH used the SCCT recommendations when communicating with people on Twitter during the beginning of the COVID-19 pandemic. The

SCCT theory was useful to understand this issue. The research found MOH used at least one of the theory's recommendations. These findings highlight the importance of strategic communication during a crisis to provide awareness and guidance.. MOH's communications sent the same message in different ways and different formats. The lack in the theory is there is no right number of the messages an organization needs to send to know the public is informed and they understood the messages. This will depend on the public and the issue itself.

This study answers the research question by utilizing qualitative content analysis to MOH Twitter account during the COVID-19 pandemic from January 21 - March 31, 2020. After the analysis of the tweets, MOH used one or more SCCT recommendations for crisis response selection. These results also highlight the benefits of using SCCT recommendations for crisis response selection.

For the future, organizations should follow one or more of the SCCT recommendations that will lead them to inform the public. The earlier the organization informs the public, the better. MOH started informing the public six weeks before the first case was reported in the country. Having information early made the public learn more about COVID-19. Standardization of voice and educational platform was also an important factor in not distracting people from different information from different accounts. This led to everyone hearing the same information from one health organization, which led to less panicking, fewer rumors, and more reassuring.

This research will provide a guideline for organizations to follow and avoid any problems while also protecting people's lives due to false information or rumors spread when the health organizations were not able to refute it. The messages sent by MOH were often for the same purpose which made the message easier to understand for a greater target audience. Repetition of messages is an important factor in convincing people of the message. The videos received a large

number of views and higher interaction showing it is one of the most useful means of communication during crises. Messages must be short, accurate, clear and effective in order to achieve the most benefit. Crisis communication is a new use of Twitter and could have major benefits in the future.

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