Review

A Review of Social Media Website Users' Interaction Paths with Governmental Accounts during the COVID-19 Pandemic

Amal Mohammed Nabil Abdul Azim Badr [1], Tarek Ismail Mohamed [1], Nassereldin Abdel Qadir Osman [1] and Alexey Mikhaylov [2,*]

[1] College of Mass Communication, Ajman University, Ajman 13306, United Arab Emirates; a.bader@ajman.ac.ae (A.M.N.A.A.B.); t.abdellatif@ajman.ac.ae (T.I.M.); n.ali@ajman.ac.ae (N.A.Q.O.)

[2] Financial Faculty, Financial University under the Government of the Russian Federation, 124167 Moscow, Russia

[*] Correspondence: ayumihajlov@fa.ru; Tel.: +7-901-908-9817

Abstract: This study aims to describe and analyze the paths of social media website users' interaction with the content of government accounts during the COVID-19 pandemic. The objectives of the study are to describe the roles of government accounts as a tool to support the concept of health communication among users of social media websites and analyze the targeted and untargeted roles that have emerged in this context, describe the roles of government accounts as a tool of government communication and analyze how government institutions employed them during the COVID-19 pandemic, and describe the roles of social media websites as a tool to address the problems and challenges created by the social spacing procedures and solutions provided by these websites to deal with these challenges. This study surveys a sample of previous studies conducted on the roles of government accounts on social media websites during the COVID-19 pandemic. The tools of this study are both analytical and comparative as they analyze and compare the results of previous studies on the interaction paths of internet users. The results indicate that social media websites have been considered a pivotal tool for building a renewable and interactive system. This coincides with developments in the communication environment in which the individual is present within the social pattern, and its depth of impact has been demonstrated, particularly after the repercussions of the spread of the COVID-19 pandemic.

1. Introduction

Since their emergence, social media websites have served as a distinctive arena for interactive communication between individuals. Over time, the importance and value of social media websites have made them an important tool for government communication between institutions and the public. Government communication experts have highlighted the importance of these websites and the need for government institutions to use them to communicate with their targeted audience [1].

This study aims to describe and analyze the paths of social media website users' interaction with the content of government accounts during the COVID-19 pandemic. The objective of the study is to describe the roles of government accounts as a tool to support the concept of health communication among users of social media websites and analyze the targeted and untargeted roles that have emerged in this context.

In this context, all Egyptian ministries have launched social media website accounts, especially on websites that have more users, such as Facebook and Twitter. Several previous studies have shown that the usage of social media websites (particularly Facebook and Twitter) increased significantly during the COVID-19 pandemic. It was the websites of the health agencies, in particular, that showed a tremendous increase in their usage, as

they were responsible for monitoring the paths of recovery, infection, or death as a result of the pandemic; methods of response; the availability of vaccines; and other related information [2,3].

The efforts put by the Ministry of Health to employ social media websites to interact with Egyptians during the various stages of the COVID-19 pandemic are a part of the process of health communication. The concept of health communication includes the use of communication strategies in the media and influence on individuals and society to make decisions that promote public health in society. Health communication is considered a tool for improving individual and public health.

Health communication includes a series of measures, the most important of which is to provide appropriate content to individuals seeking health information, support the efforts of health behavior awareness to face various diseases, create messages related to public health awareness campaigns, raise awareness of risks to individual health, and develop the concept of telehealth applications [4].

The first COVID-19 pandemic case that was detected in Egypt towards the middle of February 2020 was that of a Chinese worker. Subsequently, with the emergence of the virus among Egyptians, the Ministry of Health doubled its efforts in the field of health communication and focused, in particular, on using its social media website accounts as a window to communicate with the public.

The official Facebook account of the Ministry of Health was created approximately two weeks before the first case of COVID-19 in Egypt on 28 January 2020, which was managed by three people. The Ministry interacts with citizens through the account. The publishing rate was between one and two posts per day, and on 10 February 2020, the rate of publication on the page began to increase from four to six posts per day.

With this background, the importance of studying the paths of the interaction of Facebook and Twitter users with content provided through government official accounts during the COVID-19 pandemic was realized. It also became essential to analyze the ability of the content to play its part in health communication, raising awareness of the risks of the virus, the ways to prevent it, and motivating users to positively interact with the tools provided by the interactive concept of social media websites to address the problems created by social distancing procedures at educational institutes and the workplace.

Social media websites have become an arena used by governments to communicate with the public on vital issues related to public affairs in general and health issues in particular. This role has become crucial during the period of social distancing as these platforms have served as a tool for remote human communication and consequently reduce the possibility of spreading infection and the number of people infected with the virus.

The structure of this paper is organized as follows. The paper includes an introduction, literature review, and method, and the results are shown in Section 4. The conclusions and limitations of this paper are presented in Section 5.

2. Literature Review

Among the studies that have emphasized the raising-awareness role of social media websites in alerting the public to the risks of the COVID-19 pandemic, outbreaks, and the means to prevent infection, [2] aimed to identify the role of Twitter in raising awareness of the risks of the COVID-19 pandemic and provoking discussions about it. In this context, the study concluded that social media websites played an important role in raising public awareness about the COVID-19 pandemic and infection symptoms [2].

The researcher highlighted the limited role of YouTube, Facebook, and Twitter in Saudi medical cities in raising awareness about the COVID-19 pandemic's prevalence rates and risks [5–7].

There is an integration between traditional media websites on the one hand and social media websites on the other in playing the role of arising COVID-19 pandemic risk awareness among users. The news websites studied were *Al-Ahram* and *Al-Masri Al-Youm* [8,9]. This study relied on survey methodology. It revealed high interest rates in

three websites and their Facebook accounts with the developments and interactions of the COVID-19 pandemic. While *Al-Ahram's* website relied more on the reassurance framework in processing and providing information about COVID-19, including information on the scale of infections and deaths, *Al-Masri Al-Youm*'s processing information site relied heavily on the results framework. In addition to these frameworks, news websites relied on a variety of other frameworks to address the events and repercussions of the pandemic [8–10].

Social media websites (especially Facebook) are regarded as an alternative source of traditional media through which women have access to pandemic information. These websites have, therefore, played a key role in shaping women's awareness of the risks of the virus. It is recommended that when planning an awareness campaign regarding COVID-19 pandemic risks, the role of social media websites as a source of information should be considered [11–15].

An increasing trend of the public toward searching for information on health websites has been studied extensively in recent years. These studies have determined the importance of health websites in health education. In this context, Dutta (2004) analyzed the ways through which the public sought health information online and the methods by which users searched for such information. The study revealed that personal and online communication are the primary sources of accessing health information. In addition to adopting the procedures carried out by media campaign messages, the information obtained by individuals through these means leads to more established health beliefs. The study confirmed that traditional media, such as radio and television, also play an important role in conveying health information, even to people who are more interested in websites. However, it does not establish the recipient's health information with the same ability to communicate personally or online. Therefore, new media can be seen as a more valuable and useful tool in transmitting medical information and health awareness [16–19].

It was concluded that credibility and trust factors were the most influential factors in the adoption of information by users of health websites, while the ability to access the information did not have the same impact. The study concluded that there was a need to improve the level of credibility as well as the degree of trust in the information available on health-awareness websites [20,21].

Despite the awareness role of social media websites and other health websites, sometimes, they play unwanted roles. The most prominent of these is the dissemination of rumors. The role of disseminating rumors about the virus has emerged on the sidelines of Twitter's important role in providing users with information about the virus, how to prevent it and how to deal with it when confronted with it, and other information that has increased public awareness of the pandemic [2].

Facebook was the most used source of information, followed by WhatsApp. The largest proportion of young people (64.4%) believes that social media websites sometimes play a role in promoting rumors regarding the COVID-19 pandemic [12].

However, members of the public believe in the credibility and impact of the information published by these sources, just as they believe in the recognized sources. This study was based on measuring the impact of resource ignorance on the credibility of the theory of source-based attribution. The results proved the validity of the hypothesis and confirmed that anonymous sources were recognized by users as credible and influential sources, as well as recognized sources. The study recommended that the results of the present study should be considered when analyzing the ways through which internet users seek health information [13].

The study also showed that the strategy of different countries in employing means of communication to face the COVID-19 pandemic depends on taking advantage of all available communication means and tools. Most notably, social media websites are currently creating an effective interactive environment that helps people ask useful questions and receive answers about the virus [14].

This study used a survey approach. The sample of the study consisted of volunteers who have breast cancer from inside and outside Latin America. Their interest in seeking

health information was also taken into consideration. This study illustrated that most of the respondents were generally positive in the case of searching for information. However, they sometimes received information that had negative effects on them [15].

This study can be representative of other types of accounts in the world (not only governmental), such as private and corporative accounts.

3. Methods

The most important goal behind the government employing social media websites to interact with the public was to build awareness regarding significant issues and events, providing a rapid and effective way to communicate with the public during a crisis [5]. COVID-19 pandemic provides a model of how governments employ social media websites in crisis management. This is carried out by providing information that communicates their message professionally and clearly to the public, which increases their confidence in the information provided to them by concerned agencies for the pandemic and related developments. This trust is based on the assurance of the user to the fact that the government's social media account is disseminating accurate and transparent information, which has the effect of increasing the level of interaction by the public with the account [6].

The basic value of content on social media websites is determined by the level of public interaction with it. The preliminary survey of patterns of the public's interaction with government accounts, led by the Ministry of Health's Facebook and Twitter accounts during the third wave of the COVID-19 pandemic in Egypt, indicates that there are several paths for users of these accounts to interact with the content posted on them:

1. The path of interaction with social media websites accounts of government institutions as a tool of health communication.
2. The path of interaction with social media websites as a tool for communication between government institutions and the public.
3. The path of interaction with social media websites as a tool to provide government services in the atmosphere of social spacing.

Based on the above, the present study attempts to analyze the relationship between the COVID-19 pandemic and the paths of public use of social media websites accounts of government institutions, the new roles that arose for these accounts on the margin of the pandemic, and trends in activating these roles in the lives of users as revealed by scientific studies and research.

This study surveys a sample of previous Arab and foreign studies conducted on the roles of government accounts on social media websites during the COVID-19 pandemic. In addition, it uses a comparative approach as an adjunct to a horizontal comparison between the features of government account roles during the COVID-19 pandemic on different paths involved in the research.

The tools used for this study are both analytical and comparative, as they analyze and compare the results of previous studies on the interaction paths of internet users and platforms communicating with government accounts during the COVID-19 pandemic.

The systematic design of the study is based on the secondary analysis method. This type of methodical design deals with research problems around which a range of research studies accumulate. It is qualitatively analyzed to draw out the objective, methodological, and theoretical frameworks that govern it and the different research trends on which it is distributed. The research problem of this study is determined by the analysis of the paths of the interaction of social media website users with government accounts during the COVID-19 pandemic.

The population in this study consisted of studies on the topic of interaction between the public, social media websites, and communication platforms for public health purposes or special objectives during the COVID-19 pandemic. The sample included 29 studies (both Arabic and English) about this problem from 2001 to 2020. The studies were distributed over the years covered (Table 1).

Table 1. Distribution of studies covered by the research sample (2001–2020).

Publication Year	Arabic Studies		Foreign Studies	
	Quantity, Thousands	%	Quantity, Thousands	%
2001	0	0.00	1	4.5%
2002	0	0.00	1	4.5%
2003	0	0.00	1	4.5%
2004	0	0.00	3	13.6%
2007	0	0.00	2	9%
2009	1	14.3%	0	0.00
2011	1	14.3%	0	0.00
2012	0	0.00	3	13.6%
2013	1	14.3%	3	13.6%
2014	0	0.00	1	4.5%
2019	0	0.00	2	9%
2020	4	57.1%	5	22.7%
Total	7	100	22	100

The titles and the areas of the studies were reviewed to determine the extent of their relevance to the topic of the present study. The most relevant studies were included as a sample of the study. The total sample of studies subjected for analysis consisted of 29 studies: 7 Arabian and 22 international studies. Table 2 describes the objective-wise distribution of the sample in detail [16].

Table 2. Axis-wise distribution of the studies as per different research trends.

Axis of the Study Interests and Trends	Arabic Studies		Foreign Studies	
	Quantity, Thousands	%	Quantity, Thousands	%
The first axis: The interaction with government accounts on social media websites as a tool of health communication				
A. The role of social media websites in raising awareness of the risks of COVID-19	2	28.6%	4	18.2%
B. The role of social media websites in disseminating rumors about COVID-19	1	14.3%	2	9%
C. The role of social media websites in disseminating feelings of fear, anxiety, and panic from COVID-19	-	-	2	9%
The second axis: The course of interaction with social media websites as a tool for communication between government institutions and the public				
A. Priorities of government institutions in employing communication platforms as a tool to interact with the public	-	-	3	13.6%
B. Testing the efficiency of government services by interacting with the public on the websites of communication	-	-	3	13.6%
C. Activating the ability of the public to participate in public affairs and communicate with government institutions	2	28.6%	3	13.6%
The third axis: The path of interaction with social media websites as a tool to provide services in the atmosphere of social distancing				
A. Virtual human communication in the face of social distancing	1	14.3%	3	13.6%
B. The role of social media websites in performing remote activities during the COVID-19 pandemic	1	14.3%	2	9%
Total	7	100	22	100.00

4. Results

The results of studies dealing with the problem of this reference paper were divided into three axes. The first axis includes related results to the path of the interaction with websites and social media websites accounts of the government institutions as a tool of

health communication. The second axis focuses on the results of studies on the path of interaction with social media websites as a tool for communication between government institutions and the public. The third axis is relevant to the results of the path of interaction with social media websites as a tool for providing government services in an atmosphere of social distancing.

In the context of the interaction with social media websites as a tool of health communication, the results indicate that there is agreement among researchers that these websites play a key role in educating users about the health risks of COVID-19, but they are on the sidelines of this positive role.

At this level, the results of previous studies vary on three main axes. The first is the attitude of government institutions towards the use of social media websites as a communication tool. The second includes the results of studies that have considered the roles of communication platforms as a tool to test the efficiency of government services by communicating with the public. The third investigates the role of social media websites in activating the ability of the public to participate in public affairs and communicate with government institutions.

The results of studies at this level indicate the diversity of ways in which government institutions use social media websites to interact with the public in virtual space. There are differences in the type of audience addressed by each communication platform.

The results showed that ministers from the three countries use Facebook and Twitter in different ways, but there is a range of general trends governing the use of these two websites in government communication. The most important of these was that Facebook is usually used as a tool to communicate with the general public who use the services provided by the Ministry, while Twitter is used as a tool to communicate with professional elites [16].

Twitter usually combines the features of media practices with both traditional and new media. According to the results, the journalists in charge of the minister's or Ministry's account can also play the role of a gatekeeper who controls the content of the account. Media campaigns and government initiatives are considered among the most prominent activities government institutions carry out through their website accounts. Further, the Department of Health also used these websites in the Healthy Food campaign [17].

All contemporary government institutions, whether they are ministries, government institutions, or political parties, resort to the use of social media website platforms. In this context, the rates of social media websites' use as a tool for communicating with the public by government institutions of all types have increased. These government institutions, including parties and ministries, are increasingly benefiting from microblogging websites (Twitter) and social media websites (Facebook) [18].

The accounts of government institutions have become a testament to the transformation of many governments into E-Government systems that carry out services remotely or where the citizen is located. Social media websites provide governments with an innovative and interactive tool that helps officials to communicate and interact with citizens [19].

In this context, this study aimed to explore the current situation of government departments regarding the use of social media websites. It also aimed to draw out the different ways in which social media website services are integrated into government departments in these countries. It concluded that some countries took remarkable steps toward using social media websites. Many officials began to use these sites to fulfill the duties of their ministries and communicate with citizens. Some public figures in various governments used social media websites to measure public opinions on different issues related to the management of governments.

Social media websites have become a meeting place between governments and citizens that record public reactions to government performance. On the other hand, social media websites have become an accessible platform for anyone with internet access, thus increasing the capability of governments that have joined these websites to rebuild relationships with their citizens and increase participation in assessing their performance and identi-

fying their advantages and disadvantages. This study took the Jordanian E-Government Facebook page as a case study for E-Government performance models and found that the Jordanian public's visiting rate on the government page is high, as people can participate by liking, commenting, sharing, answering a question, or just watching the page. This study also found that page followers are mostly males between the ages of 25 and 34, who, in some cases, tend to criticize the performance of government institutions [20].

Social media website platforms are good tools to enable the public to interact, participate, and become engaged in discussions with government agencies about the actions and decisions they make, and many studies have been interested in examining this important role played by communication platforms. The values, standards, and concepts contained in the public atmosphere reflect, in one way or another, the nature of Kuwaiti youth's political thought and, consequently, their political behavior [20].

In Russia, the government has moved to set up several official websites and social media websites accounts, particularly Facebook and Twitter, not only to inform Russian citizens about government procedures but also to receive public comments [17]. The need to gather, monitor, analyze and summarize political information of government institutions and the public from social media has become urgent [18].

This study relied on an analysis of four main motivations for individuals' reliance on E-resources for political knowledge: requesting targeted information, monitoring, entertainment, and social benefit. This study found an indicative correlation between these four motivations. Several other factors were also identified in this study, such as the size of network use, the level of trust in government, users' sense of competence and effectiveness, interest in politics, the desire to vote, and the voter's willingness to vote [21,22].

In every country, during the COVID-19 pandemic, when the government imposed social distancing to control the virus and narrow down its spread, social media websites appeared to be an important tool. Large populations have benefited from communication platforms to address the effects of distancing procedures, both at the level of human communication and the level of interaction in educational and work services.

Along with the imposition of social spacing measures during the COVID-19 pandemic, social media websites platforms have stepped up their roles as a tool for human interaction and sharing public, family, or person news and information by exploiting the interactive public space provided by these platforms. The public atmosphere is an atmosphere of social life with a number of individuals with common characteristics and interests [23]. The public atmosphere provides all individuals with the ability to participate and access it as long as they feel they are a part of it [24]. The concept of the public atmosphere is not to a specific place but extends to all social media website networks through which information and opinions can flow and are constantly becoming a part of public opinion [25].

The official accounts of health ministries in different countries of the world have been an important source of information about the pandemic, particularly through the public information space provided by Facebook and Twitter. Rationality in content is achieved through a commitment to scrutinize information, demonstrate criticism, give everyone equal rights to express their opinions, and independence from any authority when expressing an opinion [24]. One of the most important impacts created by social media websites is to provide a mechanism for public influence in decision-making by discussing and communicating information and perspectives and identifying trends and attitudes on various public affairs issues [26]. In addition to creating a state of dialog at a very wide spatial and temporal level, it has thus increased the size and level of the extension of the public atmosphere [27].

The outbreak of the COVID-19 pandemic has resulted in social distancing and quarantine at homes. Europe and the United States have faced this phenomenon by studying and working from home. These two serious developments in the fields of education and work have relied on Facebook platforms, WhatsApp, and Instagram services and their ability to engage and transmit images and files of various sizes. Due to the pandemic's

dissemination, it became necessary to meet the educational needs of children and young people during the crisis, as well as to perform the services required for citizens [28–33].

Social media websites have been considered a pivotal tool for building a renewable and interactive system. This coincides with developments in the communication environment in which the individual is present within the social pattern, and their depth of impact has been demonstrated, particularly after the repercussions of the spread of the COVID-19 pandemic [34–36].

Due to social spacing procedures, many educational institutions (schools and universities) have turned to 'distance education'. It was concluded that if we want to run the distance education system successfully, then there is a need to provide equal access to internet infrastructure to all the countries of the world. Further, developing mandatory and complementary digital skills for teachers and students is also crucial. There is also an urgent need to support school management with adequate funding to promote policies toward digitalization [34–36].

5. Limitations and Future Works

This study revealed that despite the widespread prevalence of social media websites in Saudi Arabia and the diversity of their users, 73% of medical cities and hospitals in Saudi Arabia do not benefit from them or employ them in communicating with the public. This study also found that the use of health awareness websites is limited in medical cities and hospitals. There is also a decrease in the use of these websites in communicating with local communities regarding the promotion of a healthy culture and preventive medicine. In addition, this negligence in employing effective communication networks during epidemics increases the scale of national losses.

In the context of the path of interaction with social media websites accounts of government institutions as a tool of health communication, there was an interest in highlighting the awareness role of social media websites as well as various government health websites in alerting users about the risks of the virus, prevention approaches, and the most vulnerable groups. The social media websites studied also had some negative effects during COVID-19. The most serious of these effects relates to the dissemination of rumors and myths about the virus, especially anonymous information and news, which play the main role in this context.

At the level of the path of interaction with social media websites as a tool for communication between governmental institutions and the public, some studies have found that many ministries and government officials currently tend to use social media, specifically Facebook and Twitter. Further, Facebook is usually used to communicate with the public, while Twitter is used to communicate with professional elites. Studies have also found high public use rates for Facebook and Twitter, especially among young people. In addition to other social media, the governments of many countries use these platforms to communicate with the public about vital issues related to public affairs in general and health issues in particular. The results of other studies also demonstrate that media campaigns and government initiatives are among the most prominent activities that government institutions seek to carry out through their website accounts.

Future research can analyze why health institutions of some Arab countries do not benefit from social media websites in terms of achieving the objectives of health communication. There is also negligence on the part of health institutions to employ online communication regarding preventive medicine as a part of the objectives of health communication.

The problem of solving multiple stages is introduced, and the methodology can be further scaled for large-scale innovation problems. This approach can determine social media website users' interacting paths by utilizing a simulation-based testing environment. However, implementing our approach in real practice data has not yet been tackled and remains to be achieved by future research.

This study recommends that media offices within different government institutions should pay attention to the increasing value of the platform provided by social media

websites as a crisis management tool, and these communication platforms should be made into two-way platforms. It also recommended that Arab ministries related to health should pay more attention to the use of their accounts on communication platforms to disseminate accurate information regarding COVID-19.

6. Conclusions

The studies which analyzed the interaction between users of social media websites and government institutions during the COVID period have taken three interaction paths into consideration: the path of interaction with social media website accounts of government institutions as a tool of health communication, the path of interaction with social media website as a tool for communication between governmental institutions and the public, and the path of interaction with social media websites as a tool to provide governmental services in the atmosphere of social distancing.

At the level of the path of interaction with social media websites as a tool to provide governmental services in the atmosphere of social spacing, the results of the studies show that social media websites platforms have served as a tool for remote human communication during the periods of social distancing and consequently reduced the possibility of spreading the infection and the number of people infected with the virus. Social distancing was compensated for by virtual convergence across these platforms.

Communication platforms have also served as alternative arenas for performing some important remote activities, such as education and work activities. Studies in this context have highlighted the need to provide technological infrastructure to facilitate distance education, especially in developing societies. In addition, teachers and students need to be trained in digital methods of education, and funding should be provided to schools to promote policies toward digitalization.

At the level of remote work performance, there is an emphasis on the need to create the legislative and political frameworks necessary for this transformation. Further, there is also a need to deal with some of the negative effects of this transformation, particularly on workers.

Media offices within different government institutions should pay attention to the increasing value of the platform provided by social media websites as a crisis management tool. They have become a source of information for the public, thus reducing the uncertainty associated with the crisis, presenting their causes and interpretation, raising awareness regarding the ways to deal with them, and therefore contributing to a more successful media response to the crisis.

This study also recommends that media offices in government institutions allocate departments capable of correcting false news as well as rumors related to the organization's activity and work that promote social media websites platforms and reduce the impact of the organization's media message to the public.

It is also essential for government institutions to monitor and analyze the public's comments on communication platforms to measure and access the public opinion trends of the performance of the government institutions.

This study also recommends that communication platforms should be made two-way communication platforms. It is important that the administrator who is in charge of the accounts of government service institutions receives and quickly responds to the complaints and inquiries posted by social media website users.

Arab ministries related to health should pay more attention to the use of their accounts on communication platforms to disseminate accurate information regarding different waves of COVID-19, symptoms of different mutations of the virus, ways to prevent it, vaccination, etc., and create a connection between the Ministry and the public.

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