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ROLE OF SOCIAL MEDIA AND COMMUNICATION DURING COVID-19 PANDEMIC

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Abstract

The study investigates social media's impact and challenges in disseminating accurate information to people during the Covid-19 pandemic. The study employed a mixed method for data collection. The questionnaire used for the survey consists of 4 sections: the demographic profile, preferred type of social media, the impact of social media, and challenges in using social media. A total of 50 teacher respondents from 10 schools participated in the survey. In addition, 7 teachers and 5 students from Indonesia were randomly selected to participate in the interview. The findings reveal that WhatsApp application is the respondents' most preferred social media medium. The respondents also highly favour social media to retrieve information regarding the Covid-19 pandemic. However, the respondents faced challenges in determining whether the information they received was accurate. Conspiracies and rampant misinformation can adversely impact the effectiveness of containment strategies and fundamentally distort people's risk perception of the virus. Therefore, information filtering and crosschecking between sources were applied in order to ascertain the information's accuracy. To conclude, social media is one of the best ways to retrieve information during the Covid-19 pandemic but ascertaining the accuracy of the information is required to avoid misinformation which can have adverse effects on the populace.

Keywords: Crosschecking, covid-19, information filtering, social media, misinformation

1. Introduction

The role of social media and communication during the Covid-19 pandemic played an essential role in dealing with the Covid-19 virus. Social media serves the information, interpretation, instructive, bonding, and diversion functions during the Covid-19 pandemic. With social media, people can learn or find information about Covid-19 and how to avoid the virus, such as wearing a mask, maintaining social distancing, and staying at home. It can be interpreted as disseminating messages widely, rapidly, and continuously to large and diverse audiences to influence them in some way (Suppiah et al., 2022). This situation makes social media the primary medium for all people as all the information is online.

Social media usage increased by 87% during the lockdown (Anwar et al., 2020). Indeed, social media platforms such as Facebook, WhatsApp, Instagram, and Twitter, give a bundle of information each day, which has led to an increase in fake news and misinformation, which causes panic among people (Suppiah et al., 2022). To add to the impact of social media, Arumugam, Shafiqah, et al. (2022) reckoned that building a medical App will allow easy access to both patients and their healthcare providers as the public prefers disseminating information through WhatsApp.

2. Problem Statement

The COVID-19 epidemic has caused a worldwide health crisis. During this period, social media played an important role in covering the news on COVID-19 and the various measures taken by the government to combat this crisis, which had a profound effect on daily life. There are various effects of disseminating information through social media. The big hurdle of social media and the dissemination of information is the "filter bubble", a concept created by Pariser (2011) that refers to algorithms that control and determine what users encounter on the Internet. There are many challenges at the ground level in spreading information to people across the nation. Therefore, the scientific literature is disseminated on social media platforms such as Facebook, Twitter, etc. to increase the number of downloads, queries, and readers. Social media is responsible for much panic surrounding COVID-19 internationally, leading to a situation where social media companies try to eradicate posts about COVID-19 from their platforms (Sharma et al., 2020). Therefore, it is essential to study the role of social media in disseminating pertinent information to the public.

The researchers aim to identify media used to disseminate information accurately. In addition, they aim to explore the challenges in sharing precise information with people and the impact of social media in disseminating accurate information on the covid-19 pandemic. This study aims to fill the gaps by answering the following research question.

i. What is the impact of social media in disseminating accurate information on the covid-19 pandemic?

2.1. Significance of the study

At this time, the outcome of this study could be helpful for social media users. Media have been a robust power to form how we experience this world. In this era, the media is known as one of the most

important means of communication. Media is a crucial aspect of the study as it is contemporary and constantly changing. During this crisis, social media informed and made people aware. Social media is the collective of online communications channels dedicated to community-based input, interaction, content-sharing, and collaboration. This study also plays an outstanding role in creating and shaping public opinion and strengthening society. Besides, the media acts as a watchdog to protect the public interest against malpractice and create public awareness. Social media research also tries to capture important demographic information about media audiences.

2.2. Conceptual framework

Ruban and Athul (2017) explain that Information Filtering (IF) aims to provide users with only the relevant information according to their needs. They further explain that the filtering process involves discarding irrelevant information and only retrieving essential information accordingly. This study adopted a framework (see figure 1.) based on the Information Filtering System created by Luhn in 1958 as "Selective Dissemination of Information," which was later named "Filtering" by Denning in 1975 (Ruban & Athul, 2017).

According to Ruban and Athul (2017), there are 3 types of information filters: Content-based filters, Collaborative Filters, and Hybrid Filters. Content-based filters, also known as cognitive filtering, filter information according to the user's needs and interests (Eberhagen, 1993). Collaborative Filters, also known as social filtering, filter information based on the existing relations between users in an organization or group (Eberhagen, 1993). Hybrid Filters, as the name suggests, are a combination of Content-based Filters and Collaborative Filters. This process involves filtering the information based on the filtering process and then including a secondary filter from the later process as shown in Figure 1 (Ruban & Athul, 2017). For this study, in particular, the aim was to investigate the role of social media in disseminating accurate information to the public during the Covid-19 pandemic.
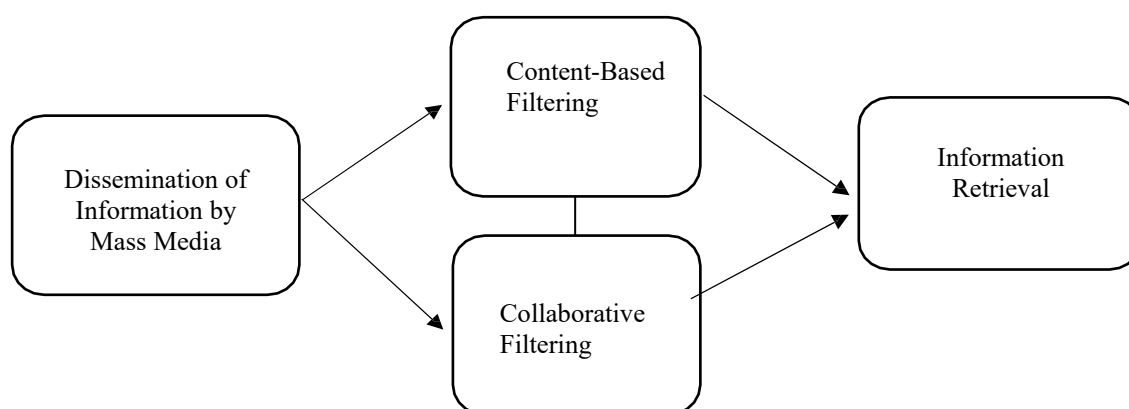

Figure 1. Information filtering system

3. Research Methods

This study adopted the mixed method to collect the data to study the role of social media during the Covid- 19 pandemic. In this research, researchers use two types of data, namely primary and

secondary data. The main data source is the initial data source and is the source where the researcher uses the data for a particular study or mission. The prime data were retrieved from a self-conducted questionnaire through Google Forms and interviews. The process of getting the data was completed by using Google Forms and giving the surveys to 5 schools in Malaysia.

3.1. Research instruments

The questionnaire consists of four sections; Section A comprises demographic details; Section B aims to discover the preferred type of mass media (adapted from Gurleen & Sukhmani, 2020; Kasthuri, 2018); and Section C investigates the impact of the mass media (adapted from Bartik et al., 2020; Kumar & Dwivedi, 2020; Wang & Zhao, 2020).

In this study, the questions for each variable were adapted from several previous studies related to this research. The questions for each variable were adapted from several previous studies related to this research. The questions were in the form of a 5-point Likert scale (Joshi et al., 2015) (1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-strongly agree) to allow respondents to express how much they agree and disagree with the statement provided in the questionnaire.

3.2. Location of study and respondents

In this study, 10 schools from different states participated. The survey was conducted in several schools in different states, namely SMK Dato Bentara Dalam, Segamat Johor, MK Khir Johari, Bagan Datuk, Perak, SMK Tengku Indera Petra, Gua Musang Kelantan, SMK Seksyen 7, Shah Alam Selangor and SMK Jengka 2, Jengka Pahang. The school is also close to the red zone area (COVID-19 pandemic), which caused the school to be wary of this epidemic. A total of 50 teacher respondents participated in answering the questionnaire. The target respondents must be 25 years old and above to fulfill the replacement of the study. 54% of the respondents are males, while the rest are female. 46% of the teachers fall into the 25 to 30 age categories, the highest percentage followed by 26% (31 to 37) and 24 % (aged 38 to 50). The lowest category showed 4% (aged 51 -56) respectively. 82% of the respondents are Malays, followed by 8% Chinese and 10% Indian teachers. For the interview, seven teachers were selected. Four of them are from Sumatra, and three are from Java. In addition, five students were also selected to participate in the interview.

3.3. Rationale

We chose this study to be conducted in schools because teachers are the agent of change who disseminate information to students, especially when the world is facing an epidemic. At this juncture, social media played a crucial role as the source of information for teachers to educate students on keeping themselves safe. Teachers learn more about COVID-19 from social media. For example, teachers learn the facts that will reduce the fear and anxiety of students against the covid-19 virus.

3.4. Data collection

The questionnaire was designed using Google Forms. During the data collection process, questionnaires are distributed through mobile applications, namely WhatsApp, Telegram, Facebook, and other mobile applications. Google Form links to questionnaires are distributed through these social media platforms. Therefore, only individuals who meet the stated conditions will answer the questionnaire. Once the researcher collects the feedback, the data from the Google Forms spreadsheet is transferred to a manual calculator. The research questions were answered using the statistic generated by google forms software and Microsoft Excel. The data were analysed in percentages from the frequency count.

4. Findings

4.1. Type of media used to disseminate information accurately

Table 1 shows the perceptions of the type of media used to disseminate accurate information to people in descending order.

Table 1. Social media is often used to disseminate Covid-19

Item	Always (1)	Most of the time (2)	About half the time (3)	Once (4)	Never (5)
Twitter	16%	20%	14%	28%	22%
Instagram	16%	14%	20%	24%	26%
WhatsApp	20%	30%	10%	12%	28%
Telegram	16%	20%	26%	28%	22%
Facebook	24%	20%	14%	21%	30%

Based on the teachers' perception regarding the type of social media to disseminate accurate information about the pandemic, Twitter represents 16% as always disseminating accurate information, 20% said most of the time, 14% said about half the time, and 28% said once. In comparison, 22% of Twitter said they never disseminate accurate information. Next, for Instagram, 16% always disseminated Covid-19 information, 14% said most of the time, 20% about half the time, 24% once, and 26% said never. For WhatsApp, 20% always use WhatsApp to disseminate the right and precise information, 30% most of the time, 10% about half the time, 12% once, and 28% never use it. In addition, for telegram, 16% always perceived Telegram to circulate accurate information about the virus during the pandemic. In comparison, 20% said it most of the time, 26% about half the time, and 28% once. In comparison, 22% said they never. Finally, Facebook media to update and educate the public during the pandemic, 24% said Facebook consistently disseminates accurate information about Covid-19. In comparison, 20% said most of the time, 14% about half the time, 21% once, and 30% never.

WhatsApp is teachers' most preferred social media during the epidemic of Covid-19. This shows that when the news of the COVID-19 epidemic was released, a handful of teachers did not trust the information on WhatsApp. While the world is experiencing the Covid-19 epidemic, many daily activities of teachers are affected. Hence, some teachers in schools prefer to use the WhatsApp application as a medium for them to share their daily activities, such as cooking, decorating their home page, and

providing information to students. The App also can help students feel more engaged in learning, create deeper interactions between teachers and students, and develop a learning community outside the school walls (Jones et al., 2008). In conclusion, regarding social media to spread information about the COVID-19 pandemic, teachers are more likely to use the WhatsApp application because they can share information personally and widely. In addition, some teachers are also made up of veterans by such they prefer to use the WhatsApp application because its usage is not complicated (Amry, 2014; Arumugam et al., 2019).

In short, based on teachers' perceptions of the type of social media to spread information about the COVID-19 pandemic, teachers like to use WhatsApp because they use the platform as a place to find information. Teachers believe that the information on WhatsApp is true and accurate.

Table 2. Trustworthy news about Covid-19 is published

Item	Always (1)	Most of the time (2)	About half the time (3)	Once (4)	Never (5)
Twitter	12%	20%	16%	26%	16%
Instagram	14%	14%	16%	28%	18%
WhatsApp	20%	30%	18%	8%	24%
Telegram	10%	20%	28%	28%	14%
Facebook	18%	16%	14%	20%	30%

Based on the teacher's perception regarding the type of social media, as displayed in Table 2., they trust when news about Covid-19 is published on Twitter, 12% said they always trust the updates, 30% indicated that the teachers trust most of the time, 16% revealed that only half of the time the teachers trust the information posted, and 26% shared that they buy it only once in a while 16% said they never trust this social media platform. As for Instagram, 14% said it most of the time, 16% about half the time, 28% once, and 18% said they never trusted the information on the Instagram platform. For WhatsApp, 20% said they believe when news about Covid-19 is published, 30% said most of the time, 18% about half the time, 8% once, and 24% said never. Next, for Telegram, 10% said they always trust the information and news shared, 20% trust the information most of the time, 28% shared the same percentage about half the time, and 14% said they never trust any messages posted via Telegram. Lastly, for Facebook, 18% said they always believe when news about Covid-19 is published, 16% said most of the time, 14% said about half the time, 20% said once, and 30% said never. This proves that when the news of the COVID-19 epidemic was released, a handful of teachers did not trust the information on Facebook. Another emerging insight is that COVID-19 conspiracies and rampant misinformation can adversely impact the effectiveness of containment strategies. Indeed, misinformation about COVID-19 can fundamentally distort people's risk perception of the virus (Krause et al., 2020).

In conclusion, most teachers do not believe the news released on Facebook. This proves that when the news of the COVID-19 epidemic was released, a handful of teachers did not trust the information on Facebook. Krause et al. (2020) shares another emerging insight that COVID-19 conspiracies and rampant misinformation can adversely impact the effectiveness of containment strategies. Indeed, misinformation about COVID-19 can fundamentally distort people's risk perception of the virus. While the world is experiencing the Covid-19 epidemic many daily activities of teachers are affected. Hence, some teachers

in schools like to use the Facebook application as a place for them to share their daily activities, such as cooking and decorating their home page. At the same time, WhatsApp is an application; they believe news is conveyed. This is because when the COVID-19 epidemic hits our country, teachers are more likely to use the WhatsApp application. After all, they can share information personally and widely. In addition, some veteran teachers prefer to use the WhatsApp application because its users are not complicated.

4.2. The impact of the social media in disseminating accurate information regarding the Covid-19 Pandemic

Table 3 shows perceptions of the impact of disseminating accurate information regarding the covid-19 pandemic in descending order.

Table 3. Perceptions of the dissemination of accurate information on the Covid-19 pandemic

Item	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %
The news conveyed by social media is true.	4	2	32	44	18
Social media have a more positive effect.	4	2	32	28	34
Social media cause the public to get new information about covid-19 more accurately.	-	-	18	40	42
Social media can spread effective measures to prevent the problem of Covid-19 complications.	-	-	14	38	48

Table 3 shows the frequency of teachers in school towards social media as the latest development tool for this covid-19 pandemic. 62% of the respondents agreed that the news conveyed by social media is accurate, while 6% disagreed and 32% of the respondents are neutral. Sharma et al. (2020), the distinction between news and entertainment can sometimes be fuzzy, but the news is technically facts and interpretation of facts, including editorial opinions, expressed by journalism professionals. The overflow of news and information will exacerbate social communication, dampening the media's impact. The government and social media should find suitable news themes and numbers to prevent harmful mental pressure about the outbreak.

Besides, the teacher respondents strongly agree that social media has a more positive effect on the impact of disseminating accurate information on the covid-19 pandemic. 62% of the respondents agreed that social media have a more positive effect, 6% disagreed, and 32% of the respondents were neutral. Many teachers agree that social media has a more positive effect. Teachers should use social media and have a positive effect on their students. Arumugam et al. (2021), social networking sites allow people to communicate, remain in contact with friends, and meet new people. These studies allow individuals to find others with similar interests with whom they can develop a relationship and get to know each other. Through using platforms such as blogging and texting to share ideas and stories, social networking allows

for creative expression. Public health departments and individuals increasingly use social media platforms to communicate and exchange information during public health emergencies.

Meanwhile, 82% of the respondents agreed that social media caused the public to get new information about the Covid-19 pandemic more accurately, while 18% were neutral. Social media platforms have generally taken an aggressive stance toward countering coronavirus misinformation (Kumar & Dwivedi, 2020).

Next, 86% of the respondents agreed that social media could spread effective measures to prevent the problem of covid-19 complications, while other respondents were neutral. This shows that most teachers agree that social media can spread effective measures to prevent the problem of covid-19 complications. Arumugam, Ibrahim, et al. (2022) opine social media and social media platforms play a crucial role in providing information. During the COVID-19 pandemic, social media offered it immediately. Social media could be an efficient source of information and an effective means for staying abreast of the vast amount of medical knowledge (González-Padilla & Tortolero-Blanco, 2020).

In conclusion, respondents have agreed that the media can play an important role in realizing the dream of society toward health. Social media plays a massive role in circulating information, influences public behaviour, and can curtail the spread of disease. The positive and negative impacts of media and proposed steps that can be taken to use media effectively in outbreaks. This evaluation can serve as feedback for the media to help devise better and more effective strategies to control and prevent subsequent outbreaks.

4.3. Filtering information from social media: Teachers and students

All participants perceive that news about COVID-19 presented by social media of all forms needs to be filtered in terms of the quality of its content. Most participants say that television has become the major and initial source that has brought information about the coming and the growth of this viral disease. All participants admit that they know about the COVID-19 pandemic from the news on tv. Internet news portals and videos are in the second position as the sources are distributed mainly by social media such as WhatsApp, Facebook, and Instagram. Newspapers and other printed media are not widely used among the participants. The participants did not easily believe the news from social media. They have various ways to screen the news: media-to-media crosscheck, media-to-expert verification, personal expertise, and media-to-family confirmation.

4.3.1. Media to media crosscheck

The virus, which had been viral since early 2020, became the attention of all people, especially social media. As a result, teachers and students receive massive news. One content may come with different qualities and different forms. This allows participants to be selective and critical. As news comes, another piece of news stimulates participants to compare them. Participants crosscheck one piece of news with another by nature. One of the participants, T2, said,

> *"After reading or watching the news from social media, I don't take them for granted. I analysed and crosschecked the information between the varied sources".*

Similarly, S1 also noted:

> *"I always read all the news and watch TV. I compared the news from websites with the news from TV. If the news is similar, I think it is trustable."*

These participants agreed that media-to-media crosschecking is one way to validate the quality of news. The crosscheck can be in several methods. They can validate news from one television station with others or they can compare news on television with what they found on websites. Older participants, in this case, teachers, have another source: printed media. By nature, participants who find similar content in different sources will consider that as good news. They will believe it, and it is possible that the news quality becomes more valid as many sources tell the same content.

4.3.2. Media to expert verification

The amount of information that comes from the media could drive further questions besides its contribution to the participants' new knowledge. Some participants tried validating the information with experts to get valid answers. Based on her experience, T1 said:

> *"I joined a WhatsApp group. This group gives a quick update about Covid-19. The member of this group… come from different sectors. I know many doctors are in the group. If I have a question, I usually put questions there. The doctors usually answer my questions. My relatives are also a doctor, so I usually ask her."*

Usually, the media support the content by giving references from epidemiologists, specialists, or government bodies. Quotes from an official source are a way for the media to give good-quality information (Hermida, 2010). However, this is not always the case to make their news truly convincing to those respondents. They imply that direct personal interaction with experts may be more conclusive than passive interaction as what social media has. Then, it is vital to notice that the interactive communication of respondents with doctors gives more trustworthiness than indirect interaction with social media.

4.3.3. Personal expertise

Two participants (T4) in this research are biology teachers who do a personal analysis of all information related to Covid 19. Personal expertise means that they use their own knowledge to judge the news. This is related to their profession, in this case, biology teachers, which supports them in filtering information. T4 said:

> *"I read a lot of news on the internet. I analysed them. I try to understand them. I also read all the news that I got on WhatsApp. I read all and filtered all because I am a biology teacher. I need this information because I would share it with my students."*

T4 shows good confidence in her knowledge and skill in filtering the news. According to Li and Suh (2015), information users should evaluate the argument strength of the news, and their prior knowledge probably becomes the basis. As both are biology teachers, their analysis should cover the

virus's biological matter of the virus its physical appearance, contagiousness, and other nature. So, their analysis is considered relevant to news content around their expertise.

4.4. Recommendations

When the world faces a dangerous coronavirus outbreak, social media is a very useful platform for daily life. Therefore, social media's ability needs to be upgraded to the maximum level to help the community. Therefore, among the proposals to repair social media is that the government should first increase control over fake news. Furthermore, the government needs to use a simpler social media platform so that the elderly can find information. In addition, online advertisements or campaigns should be intensified so that the public is not deceived by fake news and always take care of their safety. Finally, social media platform needs to be improved so that the public likes to use it. For example, creating a user-friendly application.

5. Conclusion

The current study has shown that what can be learned from the spread of epidemics and public unrest is about the spread of fake news that worsens the situation. It can be said that most of the news about the epidemic regulation has caused controversy and no less also invites the public to engage in routine activities and ultimately resulting in the failure of the economic sector and investment of country laws are stricter so that such things do not happen again and interfere with the well-being of society.

In the context of communication, disseminating information based on reliable and consistent sources will produce credible and trusted information by all users including teachers. It can be used to access the ability and readiness of the information to influence the thinking and behaviour of users in critical situations. Teachers should always ensure that the information they get is true to be conveyed to students.

In addition, the qualitative approach encompasses a few ways to filter information on the pandemic. It consists of cross-checking information across the media and between experts, personal expertise, and the confirmation of said information with family members. In order to make sure the information is accurate, respondents take the initiative to look up the information by using all the necessary resources at hand, namely by taking matters into their own hands, and checking themselves if it is valid by checking it from other forms of media or getting confirmation from experts online. Finally, respondents filtered information from the people around them using a cognitive and sociological approach. Students would filter the information from their parents as they would see them daily at home. These social interactions catalyse information on the pandemic to be disseminated as students believe their parents more.

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