

SOCIAL MEDIA EFFECT ON PRACTICE AND ENGAGEMENT OF INSTAGRAM BY MALAYSIA MINISTRIES DURING PANDEMIC COVID-19

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ABSTRACT

The rapid diffusion of social media applications is ushering in new possibilities for non-profit organizations to communicate with and engage the public. Social media can be a means of participation and engagement, namely the delivery of information through social media that is directed to encourage public participation and engagement by providing comments, responses, and input to government agencies. Instagram, a mobile photo (and video) capturing and sharing service, has quickly emerged as a new medium in spotlight in the recent years. In this study, the researcher analyze the level of citizen engagement with Malaysia government ministries practices and calculate the engagement rate of each ministry of Instagram, a social media for image sharing. This research had been conducted for period of one year which from 1st January until 31st December 2020. Through the formula of the Engagement Rate measurement, results showed 21 accounts from 27 ministry Instagram accounts received a low Engagement Rate quality, which means 77.78% of ministry Instagram accounts had not been able to optimize their Instagram accounts to get engagement from their followers.

Keywords: Non-profitEngagement, Instagram, Ministry, COVID-19

INTRODUCTION

The rapid diffusion of social media applications is ushering in new possibilities for non-profit organizations to communicate with and engage the public (Nah & Sexton, n.d). The advent of social media has created a social cyber environment, where people, businesses, organization and others connect to each other with ease irrespective of distance or the geographical barriers. Social media can be a means of paranalyzesion and engagement, namely the delivery of information through social media that is directed to encourage public participation and engagement by providing comments, responses, and input to government agencies. The use oa f social media by the government can provide opportunities for the government to fulfil the basic objectives of democracy, namely transparency, citizen participministriesnd engagement. On social media, people can people can have direct conversations with politicians, civic officials, and even entire government agencies. It also gives them the opportunity to participate back.

A lot of countries use social media to establish communication with their people. Social media also does not require a large investment for its implementation. Social media also has principles of openness, accountability, the collaboration of all stakeholders andparticipationy (community participation). The public administration can use social media to connect with its citizens to increase the level of citizen participation. Instagram, a mobile photo (and video) capturing and sharing service, has quickly emerged as a new medium in the spotlight in the recent years. It provides users with an instant way to capture and share their life moments with friends through a series of (filter manipulation) pictures and videos. Since its launch in October 2010, it has attracted more than 150 million active users, with an average of 55 million photos uploaded by users per day, and more than 16 billion photos shared so far (Instagram 2013). The extraordinary success of Instagram corroborates the recent Pew report which states that photos and videos have become the key social currencies online (Rainie, Brenner, and Purcell 2012).

LITERATURE REVIEW

A literature review is a survey of academic resources on a specific topic. It outlines an overview of current knowledge, allowing us to identify relevant theories, methods, and gaps in the existing research. This part of research is complete with the previous research that related to the topic. The purpose of this study are to analyse Malaysia government ministries practices and to calculate the engagement rate of each ministry of Instagram, a social media for image sharing.

Instagram is a free online photo sharing application and social networking platform that was acquired by Facebook in 2012. Instagram allows users to edit and upload photos and short videos through a mobile application. Users can add a caption to the uploaded post and use hashtags and location-based geotags to index these posts and make them searchable by other users within the app. Each user's post will be displayed on the Instagram feed of its followers, and can also be viewed by the public when tagged with hashtags or geotags. Users can also choose to make their profile private so that only their followers can view their posts.

Instagram is not only a tool for individuals, but also used by government. After launching in late 2010, the photo-sharing service Instagram now has more than 150

million monthly active users. For many, the app is synonymous with selfies and artfully filtered food pics. But governments increasingly are using Instagram to connect with citizens, whether to push out important information, share the whereabouts of political leaders or just to post a pleasant photo. When viewed together, these public-sector Instagram feeds provide a snapshot of government life across the country (Cournoyer, 2013).

HISTORY OF INSTAGRAM

There are many ideas about the first occurrence of social media. Carton (2009) stated that, "Throughout much of human history, we have developed technologies that make it easier for us to communicate with each other". The earliest information encountered by the writers of this article referred to 1792 and the use of the telegraph to transmit and receive messages over long distances (Ritholz, 2010).

Emile Durkheim, a French sociologist known by many as the father of sociology, and Ferdinand Tonnies, a German sociologist, are considered pioneers of social networks during the late 1800s. He believed that social groups could exist because members shared values and beliefs or because shared conflict. His theory dealt with the social contract conceptions of society. Durkheim combined empirical research with sociological theory. Also, in the late 1800s, the radio and telephone were used for social interaction, albeit one-way with the radio (Rimskii, 2011, Wren, 2004).

Launching October 6, 2010, as an iPhone app, Instagram was originally designed with the purpose of allowing users to share life moments through pictures as they happen in real time (Instagram, 2015). Since 2010, Instagram has become one of the most popular websites in the world ranking as the 17th most popular site in the United States and 30th globally. In 2012, roughly 57% of Instagram users visited the site at least once a day while 58 photographs were being uploaded each second. In 2015, Instagram surpassed 300 million active users with more than 70 million average photos uploaded per day. Instagram provides smartphone users (iPhone and Android) the ability to capture photos using their phone's camera through the Instagram app (Instagram, 2015).

Once a photo or video has been captured, users can edit the image and apply filter(s) before sharing with others. In addition, users can add a description of the photo, tag people who are depicted in the photo, and can also add the location where the picture was captured.⁶ Once users are satisfied with the appearance of their photo, they can directly send their photo to the Instagram newsfeed. Once the image has been shared to the newsfeed, the users' followers have the option of liking the photo or commenting underneath the image. Users can see which followers have liked or commented on each picture by clicking the "news" tab, or users can select the "following" tab to stay up to date on the liking and commenting activity of their romantic partners, friends, family, or followers for whom users have no offline relationship (Ridgway and Clayton, 2016).

ONLINE ENGAGEMENT THROUGH SOCIAL MEDIA

Governments are accountable to citizens and society at large, since they are responsible for safeguarding the interests of the general public. By using the Internet and social media (SM) a huge amount of information can be published for a rela-

tively low cost. In this way, the use of ICTs in the public sector (e-government) has become a powerful strategy for administrative reform at all levels of government. In regard to the use of ICTs in local governments, Johannessen, Flak, and Sæbø (2012) found that SM is ranked third among the preferred modes of communication by the identified stakeholders' groups (politicians, administration and civil society) after the e-mail and the municipality web site. They also concluded that effective municipal communication and e-participation require the use of different media, and that 70% of respondents preferred some kind of digital communication.

Growing dynamics of SM suggest that it is not a fad. This study focuses on Facebook since it is on the first place among SM sites according to Alexa rankings (Alexa.com., 2013). Furthermore, Facebook has the highest levels of engagement among SM users, with 63% of Facebook users visiting the site at least once a day and 40% doing so multiple times throughout the day (Pew Research Center, 2013). The use of Facebook to enable contact among citizens can be characterized as a normal practice. So, among all the available SM, Facebook offers the clearest possibilities for more sustained interaction between citizens and their local authority (Ellison & Hardey, 2013).

Few studies in the literature focus on an exploration of online sharing in mobile app. Camila et. Al (2014) examine the use of Instagram on how people are interacting with images nowadays. In this paper, they analyse the scope and character of activities on ministry Instagram account. Instagram includes dedicated mobile applications that allow users to take and manipulate photographs by adding filters and frames, and to share them online where other users can react through comments and likes.

Launched in October 2010, Instagram has seen enormous growth. According to usage statistics, the service has 200 million registered users who have posted so far 20 billion photographs, with an average of 60 million photographs per day. Based on these numbers, Instagram can be considered one of the most popular applications for sharing photos and for interacting with friends, acquaintances and worldwide brands. With the growing prevalence of social media, there has been an emergent focus from both academics and practitioners on the concept of engagement in social media platforms (Brodie, Ilic, Juric, and Hollebeek, 2013).

Social media is one of the more prevalent channels through which customers engage with a brand or firm, and businesses are recognising the need to engage where current and potential customers are paying most attention (Baird and Parasnis, 2011). Social media platforms provide users with an interactive avenue to create value and engage with the firm (Brodie et al., 2013; Gummerus, Liljander, Weman, and Pihlström, 2012).

Users create social media content through their contributions, comments and likes. Subsequently, their input facilitates the engagement and interaction of other members. Therefore, companies want to encourage their followers to not just passively consume content, but actively exhibit SMEBs in such a way that they comment and create new content (Baird & Parasnis, 2011; Gummerus et al., 2012).

A vital aspect of citizens' engagement is the use of effective communication channels like social media, which are crucial for ensuring sustained public involvement (Hoffman & Fodor, 2010; Meijer & Thaens, 2013), due to the unique charac-

teristics of related technologies, including blogs, wikis and social networks such as Facebook, which enable public authorities to interact with the public, in the form of user-generated content and real-time communication (Agostino & Arnaboldi, 2016). Among these local governments, special interest is paid to providing information that corresponds to the information needs of citizens. By contrast, the contents that are intended to attract users' attention and increase the likelihood of their returning to the site are given least consideration. Regarding strategies related to two-way communication, or dialogic loop, a little over half of the pages examined encourage feedback from citizens. Therefore, while previous studies have shown that Latin American politicians use social media content for self-promotion (Segado-Boj et al., 2015) and to disclose their personal activities (Welp & Marzuca, 2016).

Based on the content analysis conducted to answer the first two research questions, it is difficult to see how Instagram addresses social concern. On Instagram, there appears to be a narrative that engages a subpopulation which is particularly interested in the re-decking project from the point of view of the phenomenal and complex engineering feat that it was. Instagram offered the opportunity to engage directly with that group, though it is unclear how much of the engagement was thoughtful engagement on questions of complex industrial engineering and how much was an opportunity to simply capture spectacular sights as a form of organizational propaganda. Thus, while Instagram use may have positively increased the public profile of the project and allowed public access to the project, Instagram's content seems geared towards an audience that is more technically-oriented (Gruzda, Lannigan, and Quigley, 2018). This reinforces Renn and Walker's (2008) concern that there continues to be a strong bias towards the perspective of the technical expert in this type of exercise.

E-government (or digital government) is the use of the internet and the World Wide Web for delivering government information and services. It involves the use of IT, information communication technologies (ICTs), and other web-based communication technologies to improve or enhance the efficiency and effectiveness of service delivery in the public sector (Australian Government Management Information Office, 2006). E-government involves a number of activities such as providing information, directions and advice, two-way communication, including notifying problems, providing comments, or submitting requests. Conducting transactions. This includes paying accounts, purchasing products and materials, lodging returns, and submitting applications for services and grants and governance, enabling active citizen participation through informing, representation, consultation, and involvement. The recently released e-government survey, *Interacting with Government*, indicates that Australians have embraced the internet as a way of interacting with government. The internet has now become commonplace and a natural means for dealing with government and is the preferred means of accessing government services (Australian Government Management Information Office, 2011).

According to Vadivu and Neelamalar, (2015), they presented the adoption of the use of social media in government and the use of data mining to analyse big data from government social media platforms, the level of engagement in the scope and features have been applied in official Facebook presence. Engagement occurs when

is driven by social interaction, consumption of information, interests, and sense of presence the analysis of network data revealed that the engagement level of the followers/ fan does not correlate with the frequency of moderators' post or the quantity of the fan base. It can be assumed that factors such as interactivity, quality of post (based on the type of media content such as text, photo video etc) grabs the attention of the social audience rather than the quantity of post. The study also showed that the brand's initial efforts for gaining a huge fan base becomes futile if the brand fails to make the fans interact and engage with the page continuously. If the lack of engagement prevailed for a longer duration, then the fans tend to form a weak affinity or ties with the page as a result of the edge rank algorithm will avoid posting these low affinity posts in its user's page which may led to disconnection of the fans from the brand page.

This research will provide an overview and analyse Malaysia government ministries practice as the rapidly growing of social media makes many governments have engagement with their citizens, thereby facilitating participatory decision making. Other than that, this research will calculate the engagement rate of each ministry of Instagram, a social media for image sharing. We use a year of Instagram data were posted from 1st January 2020 until 31st December 2020.

RESEARCH QUESTION

As stated in the problem statement, this are the research question researcher want to highlight:

1. How far is the level of citizen engagement with Malaysia government ministries practices.
2. What are the frequency of the engagement rate for each ministry of Instagram, a social media for image sharing.

This research will focus on Instagram: looking at posts, like,s and comments of 27 ministries in Malaysia anfindingnd out the engagement rate for each of the Instagaccounstount. This study will be significant for several reason. First of all, the research has shown that Instagram is one of the material that the Malaysia ministries used to informd to engage with the citizens. A lot of countries use social media to establish communication with their people. Social media also does not require a large investment for its implementation. Social media also has principles of openness, accountability, the collaboration of all stakeholders and participatory (community participation) (United Nations,2016). The public administration can use social media to connect with its citizens to increase the level of citizen participation (R.K.Verma, 2017). Besides, this study this study will benefit as we know how far each ministry engage with the citizen and the mass audiences through Instagram. The ministry can keep on improving their engagement with the citizen by posting the information about public's interest regarding to their field more often, so that the engagement rate will increase.

METHODOLOGY

Research methodology is the specific processes or techniques used to identify, select, process, and analyze information about a subject. The methodology may

include publication research, surveys and other research techniques, and could include present and historical information. Research can also be defined as a search any information to get the knowledge, systematic and scientific search for getting relevant answers on any taken up specific topic, and research also is a movement from the unknown to the known.

The research methodology that the researcher used is content analysis. Content analysis is a research tool that is used to determine the existence of certain words, themes, or concepts in some given qualitative data (i.e. text). Using content analysis, researchers can quantify and analyse the existence, meaning and relationships of such certain words, themes, or concepts.

This study would involve 27 Instagram of ministries in Malaysia. This research will calculate the engagement rate of each ministry of Instagram. This study took a year of Instagram data posted from 1st January of 20 until 31st December of 0. All of the Instagram account will be analysed to see level of citizen engagement with Malaysia government ministries practices and to calculate the engagement rate of each ministry of Instagram, a social media for image sharing. The Instagram account for each of the ministries will be identified through website of www.kabinet.gov.my. Then, the total of post, like and comment will be obtained by conducting data mining to track and summarize engagement activities on the Instagram accounts of Ministries.

Data collection is defined as the procedure of collecting, measuring, analyzing accurate insights for research using standard validated techniques. The researcher can evaluate their hypothesis on the basis of the collected data. The researcher refers to non-printed material through the internet to get through websites, journals, articles and, others to gain the background and further information on the research. In this research, data collection was collected directly from Instagram by collecting the total number of posts, likes and, comments. The process of collecting the total number of posts, likes and comments was taking a long time to complete. The researcher takes around three or four weeks to collect the data.

In conducting research on measuring the Engagement Rate on Instagram, the Malaysia government ministries and institutions carried out several stages. Firstly, we generated a list of all 27 ministries in Malaysia based on data from the www.kabinet.gov.my. Second, we conduct data mining to track and summarize engagement activities on the Instagram accounts of Ministries and Institutions for a period of one year, between January 1, 2020 and December 31, 2020. We search the official ministry website in Google's search engine to locate the official Instagram account of each ministry and then find their Instagram account on their website. We find in Google's search engine and Instagram's internal search function for the name of each ministry if we could not find the Instagram account on their website.

We collected post features (Total number of posts, total number of likes and total number of comments). There are two ways through which an Instagram user can interact/ engage with another user. First is by Likes – Hitting the heart symbol to like the Instagram post, second is Comments – Posting their opinion, views, and a question related to the Instagram post in the comment's section in text format. Third, we propose a new formula to measure the Engagement Rate on Instagram Malaysian government ministries and institutions based on previous studies or the-

ories about measuring the Engagement Rate (ER). We give various level of value in these two engagement types. Comments are the highest level of engagement with a value of 2 for each comment; due commenting is interacting with another user in the type of text. Likes to post's value is 1 for each like because is only hitting the heart symbol. By combining these two types, the total engagement value that a user can offer to another Instagram user post would be three. In this study, the researcher uses specific formula to accomplish the research:

$$\text{Engagement rate} = (\text{Total Likes} \times 1 + \text{Total Comments} \times 2) / 3$$

Following is an explanation of each variable contained in the Formula based on literature studies as in Table 1 below.

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Table 1: formula variables based on literatures studies

| No. | Variables | Literature study |
|-----|--|---|
| 1 | Likes Comments | According to Atmoko (2012), Araujo et al., (2014) |
| | Weight value (1 for likes, 2 for comments) | Vadivu and Neelamalar (2015), Kim et al., (2017). Azmi and Budi (2018), |
| | Weighing value (3) | Mariani et al., (2018). |
| | Post | Bonson & Ratkai (2013), Vadivu and Neelamalar (2015), Mariani et al., (2018). |

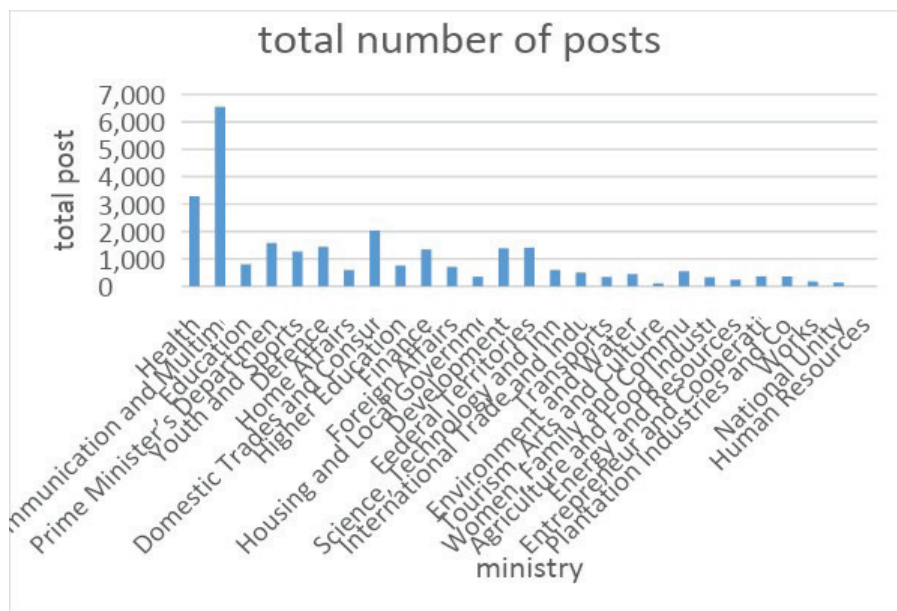
RESULT AND DISCUSSIONS

Based on the study, all of the data were analysed from official ministry website in Google's search engine to locate the official Instagram account of each ministry and then find their Instagram account on their website. It is focused on the engagement rate and the engagement rank for each of the Instagram ministries. The data of this study were determined according to the total of likes, posts and comment of each of the Instagram ministries. In this section, the researcher discusses the finding of Malaysia Government Ministries practices in Instagram. From 27 Ministry that were being analysed, all of the ministry websites have links to their Instagram and have the Instagram account, 19 ministries registered as a verified account. Based on the data, the researcher analyses their posts on application and interaction with the posts. The post formats are photo and video. The following tables and graphs show the Malaysia government ministries Instagram account share their photos and video and the percentages.

Table 2: Total number of post

| Ministry | Post | Percentage(%) |
|--|-------|---------------|
| Ministry of Health | 3,291 | 11.9 |
| Ministry of Communication and Multimedia | 6,552 | 23.7 |
| Ministry of Education | 800 | 2.9 |
| Prime Minister's Department | 1,581 | 5.7 |
| Ministry of Youth and Sports | 1,271 | 4.6 |
| Ministry of Defence | 1,438 | 5.2 |
| Ministry of Home Affairs | 591 | 2.1 |
| Ministry of Domestic Trades and Consumer Affairs | 2,034 | 7.4 |

| | | |
|--|-------|-----|
| Ministry of Higher Education | 757 | 2.7 |
| Ministry of Finance | 1,342 | 4.9 |
| Ministry of Foreign Affairs | 705 | 2.6 |
| Ministry of Housing and Local Government | 350 | 1.3 |
| Ministry of Development | 1,387 | 5.0 |
| Ministry of Federal Territories | 1,409 | 5.1 |
| Ministry of Science, Technology and Innovation | 592 | 2.1 |
| Ministry of International Trade and Industry | 499 | 1.8 |
| Ministry of Transports | 341 | 1.2 |
| Ministry of Environment and Water | 445 | 1.6 |
| Ministry of Tourism, Arts and Culture | 106 | 0.4 |
| Ministry of Women, Family and Community Development | 549 | 2 |
| Ministry of Agriculture and Food Industries | 331 | 1.2 |
| Ministry of Energy and Resources | 239 | 0.9 |
| Ministry of Entrepreneur and Cooperative Development | 364 | 1.3 |
| Ministry of Plantation Industries and Commodities | 360 | 1.3 |
| Ministry of Works | 172 | 0.6 |
| Ministry of National Unity | 135 | 0.5 |
| Ministry of Human Resources | 0 | 0 |
| TOTAL | 27641 | 100 |



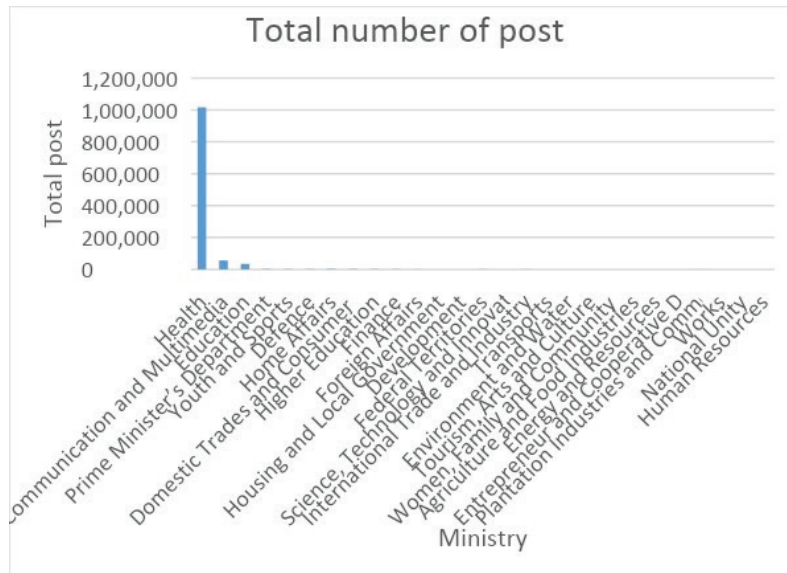
Graph 1: Total number of post

The table and the bar chart above shows the posts and the percentages of 27 Instagram of Malaysia ministries. It shows that Ministry of Communication and Multimedia has highest frequency in posting the Instagram posts which was 6552 and the percentages is 23.7%. Meanwhile, Ministry of Human Resources was the lowest in frequency by 0 that is equivalent to 0%. The ministry of Communication and Multimedia include IT and digital information for people’s reference. Information

Technology (Information Technology) or IT and Information and Digital Technology are technologies needed for data processing and assist in all aspects of information management and processing (official portal Ministry of Communication and Multimedia, 2021).

Table 3: Total number of comments

| Ministry | Comments | Percentage (%) |
|--|------------------|----------------|
| Ministry of Health | 1,016,873 | 90.1 |
| Ministry of Communication and Multimedia | 56,410 | 5 |
| Ministry of Education | 34,441 | 3.1 |
| Prime Minister's Department | 2,610 | 0.2 |
| Ministry of Youth and Sports | 1,822 | 0.2 |
| Ministry of Defence | 2,153 | 0.2 |
| Ministry of Home Affairs | 3,270 | 0.3 |
| Ministry of Domestic Trades and Consumer Affairs | 2,502 | 0.2 |
| Ministry of Higher Education | 2,090 | 0.2 |
| Ministry of Finance | 1,954 | 0.2 |
| Ministry of Foreign Affairs | 833 | 0.1 |
| Ministry of Housing and Local Government | 17 | 0.002 |
| Ministry of Development | 210 | 0.02 |
| Ministry of Federal Territories | 1,218 | 0.1 |
| Ministry of Science, Technology and Innovation | 250 | 0.02 |
| Ministry of International Trade and Industry | 770 | 0.07 |
| Ministry of Transport | 71 | 0.006 |
| Ministry of Environment and Water | 118 | 0.01 |
| Ministry of Tourism, Arts and Culture | 197 | 0.02 |
| Ministry of Women, Family and Community Development | 251 | 0.02 |
| Ministry of Agriculture and Food Industries | 95 | 0.008 |
| Ministry of Energy and Resources | 53 | 0.005 |
| Ministry of Entrepreneur and Cooperative Development | 92 | 0.008 |
| Ministry of Plantation Industries and Commodities | 406 | 0.04 |
| Ministry of Works | 61 | 0.005 |
| Ministry of National Unity | 34 | 0.003 |
| Ministry of Human Resources | 0 | 0 |
| TOTAL | 1,128,801 | 100 |



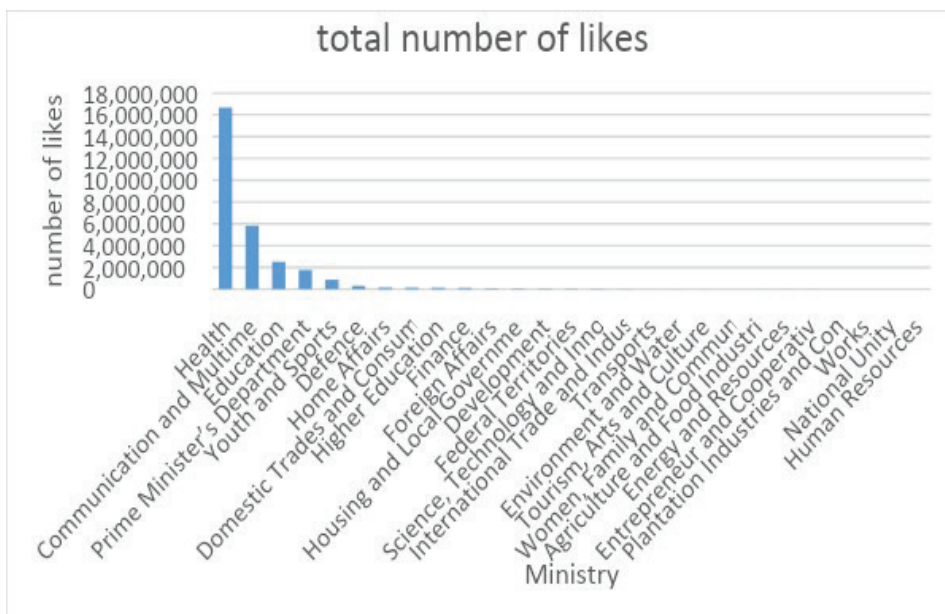
Graph 2: Total number of posts

Table 3 and graph 2 illustrates the total number of comments and percentages 27 Instagram ministries in Malaysia during the period of the study. All of the data in this study have been collected for a week starting from 1st January until 31st December 2020. The tables show that the Ministry of Health is the highest number of comments by 1,016,873 and the frequency is 90.1% compared to Ministry of Human Resources with the percentage of 0%. The Ministry of Health is using Instagram to keep the mass audiences well informed during the crisis of Covid-19. The spread of COVID-19 is unprecedented in almost every aspect for the public sector, including communications. Public information professionals, are being asked to provide regular updates in uncertain times to an anxious public.

Table 4: Total number of likes

| Ministry | Likes | Percentage (%) |
|--|------------|----------------|
| Ministry of Health | 16,669,317 | 57.7 |
| Ministry of Communication and Multimedia | 5,823,141 | 20.2 |
| Ministry of Education | 2,515,763 | 8.7 |
| Prime Minister's Department | 1,766,188 | 6.1 |
| Ministry of Youth and Sports | 868,270 | 3 |
| Ministry of Defence | 307,323 | 1.1 |
| Ministry of Home Affairs | 162,927 | 0.6 |
| Ministry of Domestic Trades and Consumer Affairs | 155,400 | 0.5 |
| Ministry of Higher Education | 144,395 | 0.5 |
| Ministry of Finance | 130,882 | 0.5 |
| Ministry of Foreign Affairs | 66,299 | 0.2 |
| Ministry of Housing and Local Government | 55,038 | 0.2 |
| Ministry of Development | 49,355 | 0.2 |
| Ministry of Federal Territories | 42,931 | 0.1 |
| Ministry of Science, Technology and Innovation | 33,435 | 0.1 |

| | | |
|--|------------|------|
| Ministry of International Trade and Industry | 20,662 | 0.07 |
| Ministry of Transports | 12,427 | 0.04 |
| Ministry of Environment and Water | 12,303 | 0.04 |
| Ministry of Tourism, Arts and Culture | 10,676 | 0.04 |
| Ministry of Women, Family and Community Development | 9,975 | 0.03 |
| Ministry of Agriculture and Food Industries | 10,202 | 0.04 |
| Ministry of Energy and Resources | 8,797 | 0.03 |
| Ministry of Entrepreneur and Cooperative Development | 7,945 | 0.03 |
| Ministry of Plantation Industries and Commodities | 4,371 | 0.02 |
| Ministry of Works | 3,445 | 0.01 |
| Ministry of National Unity | 1,819 | 0.01 |
| Ministry of Human Resources | 0 | 0 |
| TOTAL | 28,893,286 | 100 |



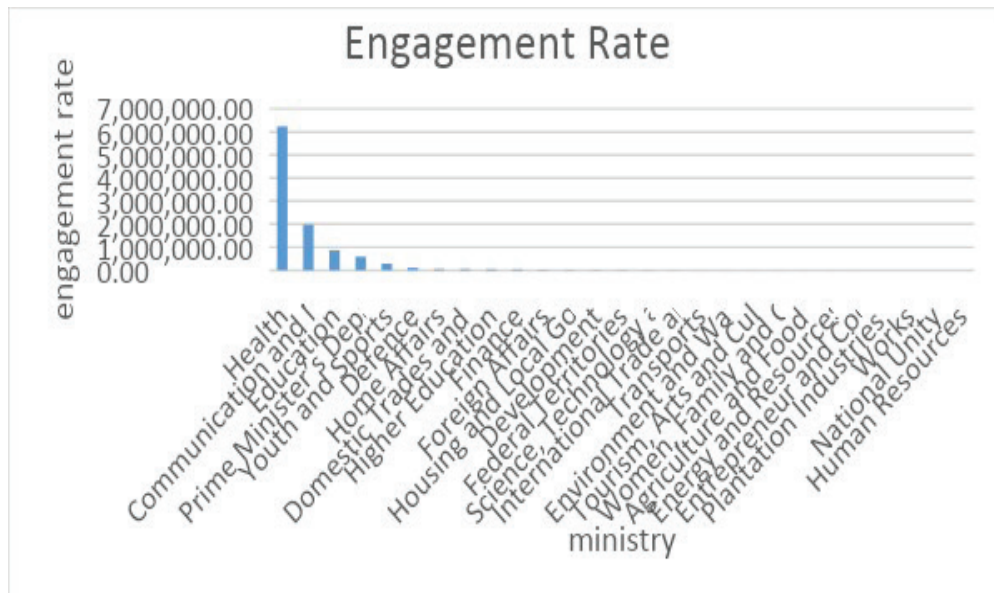
Graph 3: Total number of likes

The tables and graph above show the total number of comments and percentages 27 Instagram ministries in Malaysia. The result from the study shows that in Ministry of Health is the highest total likes by 16,669,317 and also the highest in percentages whereby 57.7% compared to other Instagram ministries. Whereas the lowest total number of likes is Ministry of Human Resources whereby the total likes is 0 and the percentages is also by 0%. The Ministry of Health commonly use Instagram as one of the platform that can provide health information to the mass audience and the community.

During the pandemic, the community keep aware about their health. So, through Instagram, it potentially can improve the community's health outcome, can develop a professional network between government and community and it can raise a personal awareness about recent health news or discoveries.

Table 5: Engagement rate

| Ministry | Engagement rate | Percentage (%) |
|--|---------------------|----------------|
| Ministry of Health | 6,234,354.3 | 60.0 |
| Ministry of Communication and Multimedia | 1,978,653.7 | 19.1 |
| Ministry of Education | 861,548.3 | 8.3 |
| Prime Minister's Department | 590,469.3 | 5.7 |
| Ministry of Youth and Sports | 290,638.0 | 2.8 |
| Ministry of Defence | 103,876.3 | 1.0 |
| Ministry of Home Affairs | 56,489.0 | 0.5 |
| Ministry of Domestic Trades and Consumer Affairs | 53,468.0 | 0.5 |
| Ministry of Higher Education | 49,525.0 | 0.5 |
| Ministry of Finance | 44,930.0 | 0.4 |
| Ministry of Foreign Affairs | 22,655.0 | 0.2 |
| Ministry of Housing and Local Government | 18,357.3 | 0.2 |
| Ministry of Development | 16,591.7 | 0.2 |
| Ministry of Federal Territories | 15,122.3 | 0.1 |
| Ministry of Science, Technology and Innovation | 11,311.7 | 0.1 |
| Ministry of International Trade and Industry | 7,400.7 | 0.1 |
| Ministry of Transport | 4,189.7 | 0.04 |
| Ministry of Environment and Water | 4,179.7 | 0.04 |
| Ministry of Tourism, Arts and Culture | 3,690.0 | 0.04 |
| Ministry of Women, Family and Community Development | 3,492.3 | 0.03 |
| Ministry of Agriculture and Food Industries | 3,464.0 | 0.03 |
| Ministry of Energy and Resources | 2,967.7 | 0.03 |
| Ministry of Entrepreneur and Cooperative Development | 2,709.7 | 0.03 |
| Ministry of Plantation Industries and Commodities | 1,727.7 | 0.02 |
| Ministry of Works | 1,189.0 | 0.01 |
| Ministry of National Unity | 629.0 | 0.006 |
| Ministry of Human Resources | 0.0 | 0 |
| TOTAL | 10,383,629.4 | 100 |



Graph 4: engagement rate

The table 5 and the bar chart 4 above shows the engagement rate and the percentages of 27 Instagram of Malaysia ministries. It shows that Ministry of Health has highest engagement in engaging with the Instagram posts which was 6,234,354.3 and the percentages is 60.0%. Meanwhile, Ministry of Human Resources was the lowest in engagement by 0 that is equivalent to 0%.

CONCLUSION

Based on the finding in this study, the conclusions are obtained as follow. The researcher proposed a new formula to measure the Engagement Rate on Instagram Malaysian government ministries and institutions based on previous studies or theories about measuring the Engagement Rate (ER). There are huge differences among all 27 Instagram Malaysia ministries in term of likes, posts and comments.

Most of the analysis made in this study indicate that Ministry of Health has the highest of likes and comments meanwhile Ministry of Communication and Multimedia has the highest number of post compared to other 26 Instagram ministries. During a year of study of analysing the Instagram account of Ministries in Malaysia from 31st January to 31st December 2020, the pandemic of Covid-19 is one of the factors the public seems to engage more on Instagram of Health. Through the new formula of the Engagement Rate measurement results showed 21 accounts from 27 ministry Instagram accounts received a low Engagement Rate quality, which means 77.78% of ministry Instagram accounts had not been able to optimize their Instagram accounts to get engagement from their followers.

Engagement Rate is a very important measure for knowing Instagram optimization. By knowing the Engagement Rate, we will find out how much influence the account has on followers. The point is to know and learn the flaws in order to improve engagement because the higher the value of engagement rate means the better the performance and quality of the Instagram account (Arman and Sidik,2018).

RECOMMENDATION

This research had been conducted for period of one year which from 1st January until 31st December 2020. Because of the period of study quite long, the researcher suggested for the future research to apply RESTful Application Programming Interface (API). The Instagram API is completed according to a specific time period of day, week and month until the specified time period, so we will obtain data about increasing followers from time to time. It could be much useful in order to track the flow of Post, Likes, Comments and Followers as well in exact time and in the period of study.

LIMITATION

During the study, the researcher has some constraints due to the way of collecting the data. The researcher cannot use the right platform to collect the data of post, likes and comment from Instagram because of limitation to access to the certain software such as RESTful Application Programming Interface (API). As the researcher collecting the data manually by checking directly to Instagram user, so there might be some error while collecting the data. It can be solved, but it's only real time followers.

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