

Promoting Covid-19 vaccination with Instagram

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ABSTRACT

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The COVID-19 Vaccination Program is essential information during this pandemic. Information about COVID-19 vaccination is disseminated through social media, one of which is Instagram. During the COVID-19 pandemic, the Ministry of Health's Instagram accounts in various countries provided much information about COVID-19, including vaccinations. This research was made to determine the role of Instagram as a media to promote the invitation to vaccinate for COVID-19 by using the calculation of engagement rates in each post category on the Instagram account of the Ministry of Health of Indonesia, Malaysia, the United States, and Australia. The results obtained in this study are that these accounts have implemented the right strategy in COVID-19 vaccination, and several strategic refinements need to be done.

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1. Introduction

At this time, the world is being shocked by the presence of a new virus that massively attacks humans, and the virus is COVID-19 (Coronavirus Disease 2019). COVID-19 is a disease caused by infection with the SARS-CoV-2 virus, which attacks the respiratory system, spreads throughout the body, and can cause death. This virus first appeared in China on December 30, 2019 [1]. The World Health Organization (WHO) is an international organization whose main task is to fight infectious diseases. In mid-February 2020 it finally declared COVID-19 a pandemic because of its high-speed transmission and has spread throughout the world [2]. In Indonesia, a COVID-19 case was first reported on March 2, 2020, which infected an Indonesian citizen who had direct contact with a Japanese citizen who was suspected of being positive for COVID-19 [3]. As of May 5, 2021, the number of confirmed cases has reached 1,686,373, with a total of 46,137 deaths [4]. The number is higher than the case on March 7, 2021, which had 1,373,836 cases with a death toll of 37,154 cases [4]. The increase in the number of COVID-19 is speedy and needs to be reduced.

Vaccination is the process of introducing a weakened virus into the body to produce antibodies [5], [6]. Vaccination is a solution that can reduce the number of positive cases of COVID-19, which is increasing day by day. In Indonesia, vaccination has begun to be carried out by the Ministry of Health of the Republic of Indonesia with the initial target of health workers and public service workers, the elderly, educators. It will be expanded along with the availability of vaccines and permits. Vaccination in Indonesia officially began during the first vaccine injection to the President of Indonesia, Joko Widodo, on January 13, 2021. The vaccination target in Indonesia is 40,349,051 people, but as of March 6, 2021, there were only 2,552,265 people vaccinated in first stage and 1,130,524 people in second stage [7]. This figure is still very far from the target. It is hoped that the Government of the Republic of Indonesia, especially the Ministry of Health, needs to promote an invitation to vaccinate on a large scale so that the desired target can be achieved.

Instagram is an application to take photos, edit, and share these photos with other Instagram user communities because Instagram has many users worldwide, which makes it possible to build new information networks [8]–[10]. As of July 2021, Instagram users in Indonesia reached more than 93,000,000 users [11], while the population in Indonesia as of December 2020 reached more than 270,000,000 inhabitants, so Instagram users in Indonesia reached one-third of the entire population in Indonesia. From this data, Instagram has the potential to become a promotional media related to an invitation to vaccinate against COVID-19 in Indonesia because it can reach most of its population easily.

2. Method

In making this study, researchers used the method of observation to obtain data. Observation is the collection of data directly from the field, which is carried out by identifying objects, classifying objects, and writing down the classification results for further processing [12]. Observations made by researchers were to identify posts about vaccinations that the Indonesian Ministry of Health @kemenkes_ri has uploaded, Malaysian Ministry of Health @kementriankesseemalaysia, Australian Ministry of Health @helat.gov.au, and the United States Ministry of Health @hhs.gov during February 2021 and record the post title, date of upload of the post, the number of likes on the post, and the number of comments on the post. The next step after identifying the posts is grouping the posts into classification. Classification is grouping facts based on specific characteristics or categories [13]. The researchers compiled two classification categories, namely posts that act as media for information on COVID-19 vaccination and media for information on non-vaccination for COVID-19.

The data processing method used in this study is the calculation of the engagement rate in each classification category. Engagement rate is a calculation used to determine the amount of interest other people have on an account or post [14], [15]. By knowing the engagement rate of each classification category, the researcher can find out the role of each of the accounts above. The calculation of the engagement rate is as in formula 1.

$$ER = \frac{[total\ likes + total\ comments]}{number\ of\ followers} \times 100 \quad (1)$$

3. Comparison of Covid-19 Vaccination Promotion from Several Countries

In comparing how the promotion of COVID-19 vaccination is carried out through Instagram, we observe the government accounts of the Republic of Indonesia, Australia, Malaysia, and the United States, which in this case are the accounts of the Ministry of Health of the four countries, namely the Instagram account @kemenkes.ri belonging to the Ministry of Health of the Republic of Indonesia, @kementriankesihatanmalaysia belongs to the Ministry of Health Malaysia, @health.gov.au belongs to the Australian Ministry of Health and @hhs.gov belongs to the US Ministry of Health. We recorded publication data carried out by each account in February 2021, which included the date the post was published, the content of the post, the number of likes and comments, and the number of followers of each account. Then we classify each recorded post into 2 categories: the "Vaccine" category, which means the post contains COVID-19 vaccination information, and the "Non-Vaccine" category indicates that the post does not contain COVID-19 vaccination information.

Table.1 Information on COVID-19 vaccinations in various countries via Instagram for the period 01-02-2021 to 28-02-2021

Country	Followers	Number of Posts	Total Likes	Total Comments	Engagement Rate
Indonesia	2.095.726	15	149.489	2583	7,26
Malaysia	1.304.888	10	29.997	254	2,32
Australia	63.401	21	2469	106	4,06
United States of America	101.117	2	629	39	0,66

Table.2 Information on non-vaccination against COVID-19 in various countries via Instagram for the period 01-02-2021 to 28-02-2021

Country	Followers	Number of Posts	Total Likes	Total Comments	Engagement Rate
Indonesia	2.095.726	17	130.271	3325	6,37
Malaysia	1.304.888	125	855.631	7254	66,13
Australia	63.401	81	6310	127	10,15
United States of America	101.117	23	3759	163	3,88

In February 2021, there were 34 posts published on their Instagram account. Of the 34 posts that 15 of contained information about vaccinations, COVID-19 with a total like and comment number 149.489 like and 2.583 comments. Meanwhile, 17 others were non-vaccine information with a total of likes 130.271 and 3.325 comments. Meanwhile, the followers of the Instagram account @kemenkes.ri during the observation is 2.095.726 followers.

Meanwhile, 135 posts were recorded on the Instagram account @kementeriankesihatanmalaysia during February 2021. Of these 135 posts, only 10 posts can be categorized as "Vaccines," with a total of 29.997 likes and 254 comments. Meanwhile, 125 others were grouped into "Non-Vaccine" posts with more total likes, namely 855.631 and comments that were also more than 7.254 posts in the "Vaccine" category. The total number of followers of this account recorded during the observation was 1.304.888 followers.

As with the Instagram account of the Ministry of Health of Australia, with the number of followers when the observation is only 63.401 followers, we record number of 21 posts in the category "Vaccines" which has a total of 2.469 likes and 106 comments, and 81 posts are categorized as post "non-vaccine" which has several 6.310 likes and 127 comments in total.

The last account we observed belongs to the United States Ministry of Health, with 101.117 followers. Our observations found that only 2 posts contained COVID-19 vaccination information with a total of 629 likes and 39 comments, while 23 posts in the non-vaccine category received 3.759 likes and 163 comments. The total number of posts published by this account is 25 posts for February 2021.

4. Differences in the Promotion of COVID-19 Vaccination in Different Countries

In doing promotions through social media, of course, every person/company/organization has its way. Likewise, in promoting COVID-19 vaccination, the authorities of each country have their way of increasing public interest in vaccinating COVID-19, one of which is the use of public figures. The Indonesian Ministry of Health, in several publications regarding COVID-19 vaccination in February 2021, was recorded as including public figures known to the public in their posts, even though they were only photos or with statements attached. For example, on February 1, 2021, a publication stated that the President of the Republic of Indonesia Joko Widodo, received the second vaccine by including a photo of President Joko Widodo. In several other posts, @kemenkes_ri also included the 2012-2014 Minister of Health, dr. Nafsiah Mboi, SpA, MPH, and several other public figures, such as Minister of Health Budi Gunadi, inviting the public to vaccinate immediately.

Unlike Indonesia, which often uses the presence of public figures to increase the promotion of vaccination programs, the Australian Ministry of Health packages their COVID-19 vaccination promotion on Instagram @health.gov.au with the COVID-19 VACCINATION branding entitled Safe, Effective, Free. The brand itself promises the quality of the product, service, or experience. The presence of a brand will change the way of thinking and behavior patterns because they believe in the brand. So, with the brand's presence, the Australian Ministry of Health strives to provide the best quality and excellent service to Australian citizens so that they are interested in vaccinating. The effort to make this happen is that the Australian Ministry of Health has consistently built this brand by publishing information on the COVID-19 vaccine, one of which is by campaigning that those vaccinations can be obtained free of charge for all Australian citizens. Twice in February 2021, @health.gov.au campaigned for this through their social media in addition to other COVID-19 vaccination information. Not only that but, "Safe" in the Australian COVID-19 vaccination brand has

also been revealed several times through their publications, which states that “the COVID-19 vaccine has passed the test for quality, safety and efficacy”.

Apart from brands and the influence of public figures, promotion of COVID-19 vaccination can also be done through detailed information. Social media as new communication technology is becoming a new source of information [16]. In some cases, social media is used to find information on serious topics such as health, politics, etc. Through the Malaysian Ministry of Health, Malaysia uses social media as a reference for public information about COVID-19 vaccination. Their Instagram account @kementeriankesihatanmalaysia always provides detailed information about COVID-19 vaccinations. For example, in a post entitled “Nationality COVID-19 Immunization Program” on February 5, 2021 @kementeriankesihatanmalaysia provides detailed information about the program starting from its phase, targets to the period the program starts. The United States Ministry of Health did the same thing, their Instagram account was used as a source of information on COVID-19 vaccinations that could be trusted by the wider community. The credibility of information sources is an important variable, especially in crisis or risk, such as COVID-19 vaccination. Even though in February 2021, the @hhs.gov account of the United States Ministry of Health has not been intensively promoting COVID-19 vaccination like the countries previously discussed.

5. Promotion Strategy for COVID-19 Vaccination through Instagram

Information is essential in everything, including vaccination against COVID-19. Moreover, with the increased absorption of communication and information technology in society, the role of social media has become crucial. Even the dissemination of information from social media is faster than conventional mass media such as news [16]. In critical and risky times, social media has an advantage as a source of information. That is why the clarity of published information is essential.

Social media is the right tool in distributing information, especially in emergency cases such as COVID-19 [17]. The speed of information dissemination, the large mass, and the ease of use are the reasons why clear information needs to be disseminated through social media. In addition, the costs involved in disseminating information through social media are lower than for disseminating information through conventional media such as news and newspapers. Infographics, for example, can be used as an appropriate medium to disseminate clear information [18]. Besides being transparent, infographics can be made as attractive and attractive as possible to make viewers easier to remember the information provided

Account owners need to approach viewers by being like someone close to them or presenting information close to them. One way is to increase social influence to attract the attention of viewers, which in turn can change their thoughts and behavior [17]. Increasing social influence can be by spreading information in the form of testimonials from people that the audience knows, can be close people or public figures, causing their curiosity to arise after this curiosity arose the term "word of mouth marketing," which would spread by word of mouth or through social media again massively. In addition to using testimonials, approaching viewers to increase interest can be through virtual interactions with viewers through answering audience comments, which can undoubtedly increase the user's interest and trust in the thing being discussed.

6. Conclusion

In promoting COVID-19 vaccination, each government uses different ways, such as public figures, infographics, or branding. These strategies aim to increase the spread of information through social media. The government should approach the delivered information may gain the public trustworthy. Thus, social media, especially Instagram, is certainly adequate for the COVID-19 promotion.

References

- [1] T. K. Koley and M. Dhole, *The COVID-19 Pandemic*. London: Routledge India, 2020.
- [2] F.-X. Lescure *et al.*, “Clinical and virological data of the first cases of COVID-19 in Europe: a case series,” *Lancet Infect. Dis.*, vol. 20, no. 6, pp. 697–706, Jun. 2020.
- [3] V. Setiawaty *et al.*, “The Identification of First COVID-19 Cluster in Indonesia,” *Am. J. Trop. Med. Hyg.*, vol. 103, no. 6, pp. 2339–2342, Dec. 2020.

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- [4] Satuan Tugas Penanganan COVID-19, "Peta Sebaran COVID-19," 2021. [Online]. Available: <https://covid19.go.id/peta-sebaran-covid19>.
- [5] D. E. Bloom, D. Canning, and M. Weston, "The value of vaccination," in *Fighting the Diseases of Poverty*, Routledge, 2017, pp. 214–238.
- [6] S. Plotkin, "History of vaccination," *Proc. Natl. Acad. Sci.*, vol. 111, no. 34, pp. 12283–12287, Aug. 2014.
- [7] Satuan Tugas Penanganan COVID-19, "Vaksinasi COVID-19," 2021. [Online]. Available: <https://covid19.go.id/vaksin-covid19>.
- [8] A. J. Al-Kandari, A. A. Al-Hunaiyyan, and R. Al-Hajri, "The Influence of Culture on Instagram Use," *J. Adv. Inf. Technol.*, vol. 7, no. 1, pp. 54–57, 2016.
- [9] L. S. Huey and R. Yazdanifard, "How Instagram can be used as a tool in social network marketing," Center for Southern New Hampshire University, 2015.
- [10] Y.-T. Huang and S.-F. Su, "Motives for Instagram Use and Topics of Interest among Young Adults," *Futur. Internet*, vol. 10, no. 8, p. 77, 2018.
- [11] Statista, "Leading countries based on Instagram audience size as of July 2021," 2021. [Online]. Available: <https://www.statista.com/statistics/578364/countries-with-most-instagram-users/>. [Accessed: 14-Jul-2021].
- [12] D. K. Padgett, *Qualitative methods in social work research*, 36th ed. Sage Publications, 2016.
- [13] A. Toloie-Eshlaghy, S. Chitsaz, L. Karimian, and R. Charkhchi, "A classification of qualitative research methods," *Res. J. Int. Stud.*, vol. 20, no. 20, pp. 106–123, 2011.
- [14] K. R. Purba, D. Asirvatham, and R. K. Murugesan, "An analysis and prediction model of outsiders percentage as a new popularity metric on Instagram," *ICT Express*, vol. 6, no. 3, pp. 243–248, Sep. 2020.
- [15] A. A. Arman and A. Pahrul Sidik, "Measurement of Engagement Rate in Instagram (Case Study: Instagram Indonesian Government Ministry and Institutions)," in *2019 International Conference on ICT for Smart Society (ICISS)*, 2019, pp. 1–6.
- [16] D. Westerman, P. R. Spence, and B. Van Der Heide, "Social Media as Information Source: Recency of Updates and Credibility of Information," *J. Comput. Commun.*, vol. 19, no. 2, pp. 171–183, Jan. 2014.
- [17] J. J. Levac and T. O'Sullivan, "Social Media and its Use in Health Promotion," *Rev. Interdiscip. des Sci. la santé - Interdiscip. J. Heal. Sci.*, vol. 1, no. 1, p. 47, Feb. 2010.
- [18] A. K. M. Chan, C. P. Nickson, J. W. Rudolph, A. Lee, and G. M. Joynt, "Social media for rapid knowledge dissemination: early experience from the COVID-19 pandemic," *Anaesthesia*, vol. 75, no. 12, pp. 1579–1582, Dec. 2020.