Original article

The Correlation of Social Media Activity and Engagement of a Health NGO with the Outcome of Fundraising Efforts During the COVID-19 Pandemic
Aneesa Abdul Rashid1, Mohamad Imran Idris2, Nurul Syeefa‘ Zulkiflee3, Ahmad Yusuf Yahaya4 Prishalini Ramesh5

Abstract

Objective: The COVID-19 pandemic saw the involvement of many health non-governmental organisations (NGO) with volunteering work to help reduce the burden of healthcare workers (HCW). IMAM Response and Relief Team (IMARET) is one which is a chapter under the Islamic Medical Association of Malaysia (IMAM); which is also under the umbrella of the Federations of Islamic Medical Associations (FIMA). IMARET often aids HCWs during natural and manmade disasters to help reduce their burden during challenging times by providing manpower, equipment, and logistical assistance. IMARET utilizes social media (SM) for spreading information on their activities to the public, like the COVID-19 fundraising efforts. The objective of this research is to determine the correlation between their Facebook activities and fundraising outcome. Materials and Methods: This is a cross sectional study of Facebook posts and its engagement with Billplz, an online payment platform focused during the initial COVID-19 fundraising effort. Results and Discussion: During the study period, we report 346 Facebook posts with a median (IQR) of 8.00 (6.00,9.00) posts per day. As many as 4,823 donations, median (IQR) at RM34.50(18.75,86.00) was received per day. RM3425.50 (USD 830.52) (1369.00, 8376.25) was collected per day. ‘Organic Likes’ correlated significantly with the number of donations (r=0.419, p=0.006) and amount received (r=0.355,p=0.021). Both ‘Post Reach’ and ‘Shares’ significantly correlated with the number of donations (r=0.405,p=0.008) (r=0.515,p<0.01) and amount received (r=0.373,p=0.015) (r=0.453,p=0.003) respectively. Conclusion: The number of likes, reach and shares significantly correlated with the number and amount of donations received during the initial phase of the IMARET COVID-19 fundraising effort.

Keywords: social media, COVID-19, NGO, non-profit, fundraising

Introduction

Social media (SM) is now recognised as one of the ways to engage a large audience with various topics, including matters related to health 1. It is estimated that there are four billion internet users worldwide, with three billion of those active on SM 2. In Malaysia, WhatsApp and Facebook are the most popular, followed by Instagram, Telegram, Twitter and Linked-in 3. SM is used on a daily basis to access information through personal posts, links to news portals and also websites pertaining to specific information such as current news, gossip and health

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information updates ⁴. SM disseminates up-to-date information not only within a very small amount of time, but within a large radius ⁵. The impact can range from small numbers of information within family and friends to big numbers in critical situations such as natural disasters, civil and political unrests such as the Arab spring. It is still controversial as to whether this type of information brings more good than harm as some of the information relayed via SM can bring to catastrophic results such as rioting and xenophobia ⁶. However, studies have demonstrated SM’s usefulness which include, advocacy work, community building, and to also send and receive information besides connecting with and mobilizing the public for certain efforts ⁸. Furthermore, cyber-volunteering, an act of volunteer work for an organization completely via online means, through SM is becoming popular among non-governmental organization (NGO) members due to NGO work qualities that encourage such behaviors⁹. A study by Di Lauro et al looking specifically into fundraising and nonprofit organizations suggest that the benefits of using SM for fundraising efforts are due to transparency and accountability, operational involvement and engagement, and improved organizational image ⁹. In terms of types of donations that are popular, a study of online fundraising revealed that online donors are also prone to contribute to certain types of causes more than others, especially those related to health ¹⁰.

In Malaysia, among some steps taken to reduce the spread of the COVID-19 pandemic is the movement control order (MCO). It was effective as of 18 March 2020 to 31 March 2020. After two weeks of enforcement, new cases continued to increase, hence the MCO was continued from the 1st until 28th April 2020 ¹¹-¹³. At this time, there was quite a burden on the healthcare system whereby there was a lack of manpower due to the heavy burden on the healthcare system, lack of much needed medical equipment, and its impact on the economy especially those in the lower income who could not work during the MCO, including those in quarantine ¹¹. During this time, there has been an increase in the use of online activity such as working from home, online learning shopping and acquiring new hobbies ¹⁴,¹⁵. Social media particularly has been said to be a potentially good medium for dissemination of important information during the pandemic ¹⁶. Therefore, many health organizations, including Malaysian NGOs, have used SM to raise awareness and promote fundraising on health-related emergencies.

IMAM Response and Relief Team (IMARET) is a relief chapter of the Islamic Medical Association of Malaysia. It was established in 2014 and has been responding to natural and man-made disasters with its relief efforts ¹⁷. Ever since its conception, IMARET has used SM as a tool to communicate information to the public regarding their efforts and educating on health issues at the same time. In March of 2020, IMARET launched its COVID-19 fundraising efforts on SM: one of the social media platforms being Facebook. The objective of this campaign was to raise funds to i) mobilize volunteers in areas in need to assist our dedicated front liners, ii) providing much-needed medical supplies and equipment, and iii) reaching out to the community, especially families affected by quarantine. To date, IMARET has raised more than RM 3 million for this effort ¹⁸. This is a huge achievement since it is run mainly by volunteers who are mostly healthcare professionals ¹⁷. IMARET used many fundraising platforms during the COVID-19 fundraising efforts. This included IMARET’s official bank accounts via direct transfer, other collaborators using their own digital platforms and later transferring to IMARET’s account.

This study aims to analyze the correlation between IMARET Facebook’s posts activities and fundraising efforts on an online fundraising platform focusing on the COVID-19 fundraising effort.

**Materials and Methods**

**Research design**

This is a cross sectional study of secondary data analysis of Facebook posts and its engagement, along with the fundraising effort from the platform called Billplz from March 18th till 28th April 2020 focusing on the period of COVID-19 fundraising effort. The inclusion criteria include all Facebook posts in the form of a photo, video, links shared, or text on the IMARET Facebook page during the study period. We excluded any events and polls posts.

**Tools**

**The online fundraising platform; Billplz**

The online fundraising platform; Billplz, is an online payment platform that allows users to keep track of payments in real time ¹⁹. Billplz was used even before the COVID-19 fundraising efforts and keeps track of all incoming of fundraising. It also has a tracking system to identify which fundraising efforts are more preferred by donors. Other fundraising platforms were started during the pandemic specifically for
COVID-19 efforts. Apart from that, other platforms were managed via separate parties that had discussed prior agreements with IMARET which usually involved transfer on funds after a certain decided time, therefore restricting some details of the fundraising trend. IMARET’s official accounts had a separate monitoring system and were a mix of other events along with IMARET logistics and administrative transactions. Due to these reasons, we chose Billplz platform to analyse fundraising trends.

Facebook Insights

The use of Facebook to engage with the community is a well-known method of dissemination of information. Its impact has also been studied. In addition, Facebook has a feature for pages called “insights” which among other things, measures engagement of the page audience with content 20. This tool analyses many aspects of the Facebook page and posts by the users and their followers. This includes the number of followers (total and organic), unfollows, likes (total and organic), and unlikes. Apart from that, it describes the types of post (photos, videos, sharing of links), post reach, post reactions, post comments, and post shares.

“Reach” is the estimated number of people who access content from the Facebook page or about the Facebook page. “Impressions”, on the other hand, are the number of times any content in the page or about the page has entered a person’s screen or Facebook wall 20. “Post reactions” are the likes and several other reactions left by the followers. The “insights’ feature hence enables the administrators of this SM platform to analyse its posts and its engagement.

Ethical considerations

Permission for analysis was obtained from IMARET Executive committee members. Ethical approval was obtained from Ethics Committee for Research Involving Human Subjects Universiti Putra Malaysia (JKEUPM-2020-356). All data obtained will be kept confidentially and used for research purposes only. No personal data can be obtained from Facebook insights, and data from Billplz are only on amount and the frequency of donations involved. No data of the donors is revealed.

Data management and statistical analysis

Data entry and analysis was done using the ‘Statistical Package for Social Sciences’ (SPSS) programme, version 24.0. Statistical significance is decided at p<0.05 with 95% confidence interval (CI). The post and insights were reported using descriptive statistics. Spearman correlations were used to analyse continuous data between post with, engagement and the total number and amount of donations.

Results

Social Media Engagement & Donations

During the period studied, the administrators of the IMARET Facebook page published a total of 346 Facebook posts, a median (IQR) of 8.00 (6.00,9.00) posts per day, with a minimum of 4 and maximum

<table>
<thead>
<tr>
<th>Types of Posts</th>
<th>min</th>
<th>max</th>
<th>median</th>
<th>IQR</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>photos</td>
<td>2</td>
<td>15</td>
<td>7.00</td>
<td>5.00, 9.00</td>
<td>326</td>
<td>85.79</td>
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<tr>
<td>Links</td>
<td>0</td>
<td>3</td>
<td>0.00</td>
<td>0.00, 0.00</td>
<td>15</td>
<td>3.95</td>
</tr>
<tr>
<td>videos</td>
<td>0</td>
<td>3</td>
<td>1.00</td>
<td>0.00, 1.00</td>
<td>42</td>
<td>11.05</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>16</td>
<td>8.00</td>
<td>6.00, 9.00</td>
<td>380</td>
<td>100</td>
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<table>
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<tr>
<th>Followers on FB</th>
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<tr>
<td>Total Followers</td>
<td>10289.00</td>
<td>11658.00</td>
<td>11068.50</td>
<td>10754.25, 11529.75</td>
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<td></td>
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<tr>
<td>Organic Followers</td>
<td>8</td>
<td>87</td>
<td>28.50</td>
<td>15.75, 53.75</td>
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<tr>
<td>Unfollows</td>
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<td>4.00</td>
<td>1.00</td>
<td>0.00, 2.00</td>
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<td></td>
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Engagement

<table>
<thead>
<tr>
<th>Likes</th>
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<tr>
<td>Total Likes</td>
<td>9996</td>
<td>11272</td>
<td>10720.50</td>
<td>10430.00, 11152.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organic Likes</td>
<td>7</td>
<td>80</td>
<td>25.50</td>
<td>14.50, 50.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unlikes</td>
<td>3</td>
<td>3</td>
<td>1.00</td>
<td>0.00, 2.00</td>
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<td></td>
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<table>
<thead>
<tr>
<th>Reactions</th>
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<th></th>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Post Reach</td>
<td>2424</td>
<td>19652</td>
<td>5270.50</td>
<td>3467.50, 8442.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments</td>
<td>0</td>
<td>224</td>
<td>12.50</td>
<td>5.75, 35.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>shares</td>
<td>4</td>
<td>147</td>
<td>35.00</td>
<td>18.00, 68.00</td>
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<td></td>
</tr>
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<table>
<thead>
<tr>
<th>Fundraising Efforts</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Donations</td>
<td>3</td>
<td>1207</td>
<td>34.50</td>
<td>18.75, 86.00</td>
<td>4823</td>
<td></td>
</tr>
<tr>
<td>Amount Received (RM)</td>
<td>50</td>
<td>64137.75</td>
<td>3425.50</td>
<td>1369.00,8376.25</td>
<td>347,921.79</td>
<td></td>
</tr>
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</table>
of 16 posts. Out of these posts, 298 (86.13%) were photos, 13 (3.76%) links, and 35 (10.12%) were videos. IMARET received a total of 4,823 donations, median (IQR) at RM 34.50 (18.75, 86.00) per day (range RM 3 – 1,207). The median (IQR) amount collected per day is RM 342.50 (USD 83.02) (1369.00, 8376.25). Details can be seen in Table 1.

The total number of followers for the IMARET Facebook page increased from 10,289 to 11,658 while total ‘Likes’ went up from 9,996 to 11,272 (figure 1& 2).

Impact of Social Media Activity on Donations

Table 2 shows the correlations between insights and the fundraising efforts. There was no significant correlation between the total number of posts published each day, and either the number of donations \(r = 0.255, p = 0.103\), or the amount received that day \(r = 0.259, p = 0.097\).

In terms of engagement, ‘organic Likes’ correlated significantly with the number of donations \(r = 0.419, p = 0.006\) and amount received \(r = 0.355, p = 0.021\). Similarly, ‘Post Reach’ was also significantly correlated with number of donations \(r = 0.405, p = 0.008\) and amount received \(r = 0.373, p = 0.015\). The number of ‘Shares’ was also significantly correlated with the number of donations \(r = 0.515, p < 0.01\) and amount received \(r = 0.453, p = 0.003\). No significant correlations were observed between ‘Comments’ and the financial outcomes.

**Discussion**

To our knowledge, this is a unique study looking into the correlation between social media (SM) posts and fundraising activity in a health non-government organization (NGO) during the COVID-19 pandemic. We found significant factors that correlated with the number and types of donations received. The information obtained can help administrators of health NGOs with SM platforms to improve their strategy in raising much needed funds.

In terms of popular types of posts on social media, our study reports an affinity towards posting photos by the administrator. This may be due to the popularity of photos as a SM content for attracting the audience. In a study done in a British museum’s social media site to analyse the number of clicks on posts, it was reported that clicks on photos were higher than those of videos and links. This was also reflected in a German study, where it was reported that in a

### Table 2: Correlations between social media activity and engagement with number of donations and amount received

<table>
<thead>
<tr>
<th></th>
<th>Spearman’s rho</th>
<th>P value</th>
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<tbody>
<tr>
<td><strong>Organic Likes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of donations</td>
<td>0.419</td>
<td>0.006 **</td>
</tr>
<tr>
<td>Amount received</td>
<td>0.355</td>
<td>0.021 **</td>
</tr>
<tr>
<td><strong>Total Posts</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of donations</td>
<td>0.255</td>
<td>0.103</td>
</tr>
<tr>
<td>Amount received</td>
<td>0.259</td>
<td>0.097</td>
</tr>
<tr>
<td><strong>Shares</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of donations</td>
<td>0.515</td>
<td>&lt;0.01 **</td>
</tr>
<tr>
<td>Amount received</td>
<td>0.453</td>
<td>0.003 **</td>
</tr>
<tr>
<td><strong>Comments</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of donations</td>
<td>0.405</td>
<td>0.008 **</td>
</tr>
<tr>
<td>Amount received</td>
<td>0.373</td>
<td>0.015 *</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.05 level
**Correlation is significant at the 0.01 level
government official FB page, posts for photos and videos increased their citizen’s reaction and was noted to be an element of successful communication. Apart from that, they also reported that posts with images, links and contents that are up-to-date, garners popularity. However, in a study to investigate the factors associated with good engagement rates among internet users on the FB page of Ministry of Health Malaysia, where 2123 posts were selected, and data was gathered from FB insights, significant positive engagement was observed with video posts, afternoon posts and posts made after office hours. Another study by a health academic science library in the US found that the number of posts per day affected the number of engagements from its Facebook followers.

Our study found the number of ‘likes’, ‘reach’ and ‘shares’ on our Facebook page were significantly related to the frequency and amount donated to our cause in fundraising during the COVID-19 pandemic. There are many factors that affect donations to an organization apart from engagement of a social media platform including sociodemographic factors, attitude and involvement in charity or a nonprofit organization. Specifically, for disaster situations (i.e. recovery situation), factors reported to have no influence on a donor’s decision were individual’s attitudes on the government’s role. Another study report that expressed positive emotions are associated with donations and volunteering particularly those that focus on social problems, specifically social bonding. In terms of volunteering, a Malaysian study suggests the volunteering platform is a method for one to express their altruism and humanitarian values which can arguably be closely linked to feeling. Therefore, we hypothesize that emotions play an integral role in donations, the act of volunteering, as well as engagement on social media. During the initial phase of COVID 19, many felt strong emotions about the unprecedented situation and reacted strongly, including by way of donations via SM. On this note, it is very difficult to predict emotions, however data suggests that personalization of a content may gauge more reactions. Hence, the COVID 19 pandemic had seriously impacted everyone on a personal level, making them more responsive towards the situation. Another integral part of this campaign, which was not covered by the scope of this study, was the involvement of influencers in the campaign using mass media to promote the campaign. The influencers, however, were mainly active on Instagram and promoted via their own digital fundraising platform.

**Limitations**

The limitation of this study is that we only used a single social media platform and donation platform. We propose a larger study using other available SM and donation platforms for a more accurate study.

**Conclusion**

We report that the most popular type of posts were photos by the IMARET FB administrators, while the number of followers increased during the period of study. We also found that the number of likes, reach and shares significantly correlated with the number and amount of donations received.

We suggest more studies to investigate different social media and donations platforms involving other healthcare NGOs to explore this topic.

**Source of fund (if any)**

None

**Conflict of interest**

None

**Ethical clearance**

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**Authors’ contribution**

AAR, AYY and MII conceived and designed the study and analysis. AAR, NSZ and MII did the data collection. AAR and MII analysed the data. AAR and PR did literature review and write up. All authors agreed on the final manuscript.
References


