Analysis of Instagram Use by Libraries in Responding to the COVID-19 Pandemic: A case study of University Libraries in Indonesia

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Abstract

Background of the study: Today the use of social media is so massive that it is not limited to the personal sphere. Business institutions and corporations also utilize social media always to be able to connect with their target users for marketing activities and to communicate their products.

Purpose: It aims to analyze Instagram social media usage patterns by college libraries during the COVID-19 pandemic, especially on their Instagram accounts. In this study, there were four universities, both public and private, which analyzed the usage patterns of their Instagram.

Method: This research analyzes the usage and utilization patterns of Instagram by university libraries in Indonesia during the COVID-19 pandemic in two stages, the content analysis method is employed to identify information on Instagram accounts of universities W, X, Y, and Z.

Findings: There was a significant change in the pattern of using Instagram libraries between before and during the COVID-19 pandemic regarding the number and category of posts used. The number of posts related to COVID-19 is dominated by information about temporary remote services.

Conclusion: The entire library actively socializes while encouraging users to takeadvantage of remote services and their on-site. However, the library is still not optimal

Keywords: Academic Library, COVID-19, Library Services, Media Social, Instagram

Introduction

Today the use of social media is so massive that it is not limited to the personal sphere (Fong et al., 2020). Business institutions and corporations also utilize social media always to be able to connect with their target users for marketing activities and to communicate their products (Chan et al., 2020). The acceleration of social media use is increasing along with the spread of COVID-19 around the world, which causes restrictions on physical contact. Reporting from GoodNews from Indonesia, Napoleon Cat announced a significant rise in social media users (especially Instagram) in Indonesia from January to May 2020. Other reports also point to increased social media use of Twitter and Facebook during social restrictions (Wiederhold, 2020).

Increased use of social media has also occurred in library institutions and (Alajmi andAlbudaiwi's 2020) "Response to COVID-19 Pandemic: where do Public Libraries Stand?" seeks to identify how public libraries in New York took advantage of Twitter at the beginning of the outbreak of the COVID-19 pandemic. The study on the Twitter accounts of 38 Public Libraries shows that librarians not only use social media to promote the library's online services and electronic resources but also provide messages of support and information related to financial, health, and food assistance for their communities (Chiochios, M. 2016). Next, research by Carbery et al. (2020) entitled Announcement Information Provided by the United States Public Libraries during the 2020 COVID-19 Pandemic aims to analyze how public libraries in the United States responded to the pandemic in real-time through the announcement spread to the public from the posting of the Twitter account of ten public libraries. It concluded that social media plays an important role not only as a means of informing various changes to the library system and services but also in educating the community by providing reliable information related to COVID-19 (Hussain 2021; Temiz & Salelkar, 2020; Naeem & Bhatti, 2020).

Finally, a study by Alexander Koulouris, et al. (2020) entitled COVID-19 and Library Social Media Use explores the use of social media by various libraries in Greece during the lockdown of COVID-19 pandemic. Research involving at least 189 libraries of multiple types except school libraries showed that almost half of them did not offer new services through their social media during the lockdown. Only a small percentage of libraries use social media to educate the public about COVID-19.

All three studies show that social media plays an important role for libraries in informing various changes to previously available services and systems as well as promoting new systems and services (Han, 2019; Salomon, 2013; Verishagen, 2018). Social Media can also accommodate the role of libraries in times of disaster, such as community support and government partners (Featherstone et al. as cited in Alajmi & Albudaiwi, 2020) by providing education to raise awareness of Community Health and provide emotional support and well-being. However, this role is not yet fully understood by every library. This study also shows that social media Twitter is more often used as an object of research in the use of social media by libraries.

It aims to analyze Instagram social media usage patterns by college libraries during the COVID-19 pandemic, especially on their Instagram accounts. In this study, there were four universities, both public and private, which analyzed the usage patterns of their Instagram.

Method

Research was using quantitative approach with content analysis method. Researchers analyze libraries' Instagram post content to find out how the pattern of use of Instagram by the

subjects of the study during the covid-19 pandemic. The analysis results will be related to using Instagram to support three library roles during the COVID-19 pandemic. The content analysis method in this study consists of two stages. The first phase of the content analysis of the library's Instagram posts is generally based on the categorization of posts adapted from Al-Daihani and AlAwadhi (2015) and Rachman et al. (2018). The first phase of the post period of the official Instagram site of the X, Y, W, and Z libraries was analyzed from January 2019 to December 2020. The first stage of content analysis was conducted to compare Instagram usage patterns in general between 2019 and 2020. Each post is analyzed to identify whether it falls into one of the following categories: library operations, services, collections, information literacy training and socialization of electronic resources, upcoming agenda information, activity documentation, library visits, introduction to physical facilities, and anniversaries.

The second content analysis stage was conducted to analyze the library's Instagram posts related to COVID-19. The second phase of the Instagram site posting period was examined, namely March — December 2020. The categorization of posts associated with COVID-19 was adapted from Wang and Lund (2020) and Alajmi and Albudaiwi (2020). Each post is analyzed to identify whether it falls into one of the following categories: service adjustment announcements and physical operations of the library, information on remote resources belonging to the library, remote service information, service information on-site, virtual program offerings, information about the COVID-19 virus, information related to health protocols, financial/health/food assistance information, provision of support messages, and information on free access to electronic articles and books.

Result and Discussion
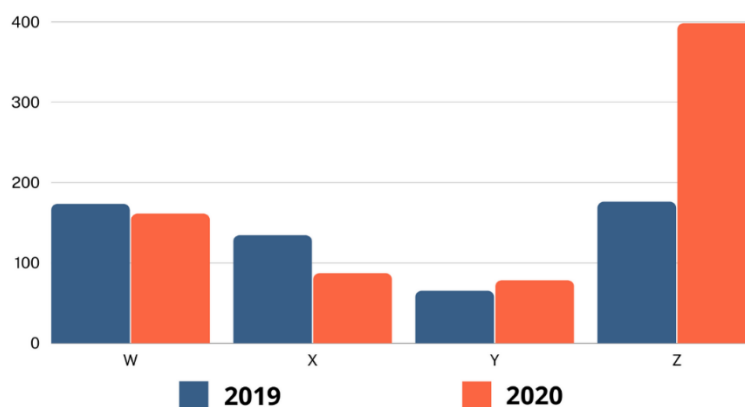## Comparison of the Number of Library Posts between 2019 and 2020

Figure 1. Comparison of the Number of Posts between 2019 and 2020

The total W, X, Y, and Z Library Instagram posts collected from 2019 to 2020 was 1272. Z became the library with the highest number of posts (n = 574), followed by W (n = 334), X (n = 221), and Y which ranks last (n = 143). Based on Figure 1, not all libraries have increased the number of posts observed. Overall, there is an increase in the number of posts in 2020 compared to 2019. The posts collected in 2019 were 548 posts, while, in 2020, there were 724 posts or an increase of 32.1%. These findings confirm the findings of a related study by Alajmi and Albudaiwi (2020), which showed a significant increase in the number of social media posts belonging to public libraries in New York City during the COVID - 19 pandemic in the U.S. It indicates that libraries view social media as the right platform to reach and stay

connected with their users as long as the library is physically restricted and closed.

A significant increase was made by the Z library, where in 2020, the number of posts increased by 222 posts (126.1%). Library Y also experienced an increase in the number of posts by 13 Posts (20%) compared to the previous year. While the W and X libraries show a downward trend in the number of posts compared to 2019. W library has decreased by 12 Posts (6.9%) while X has decreased by 47 Posts (35%) compared to 2019.
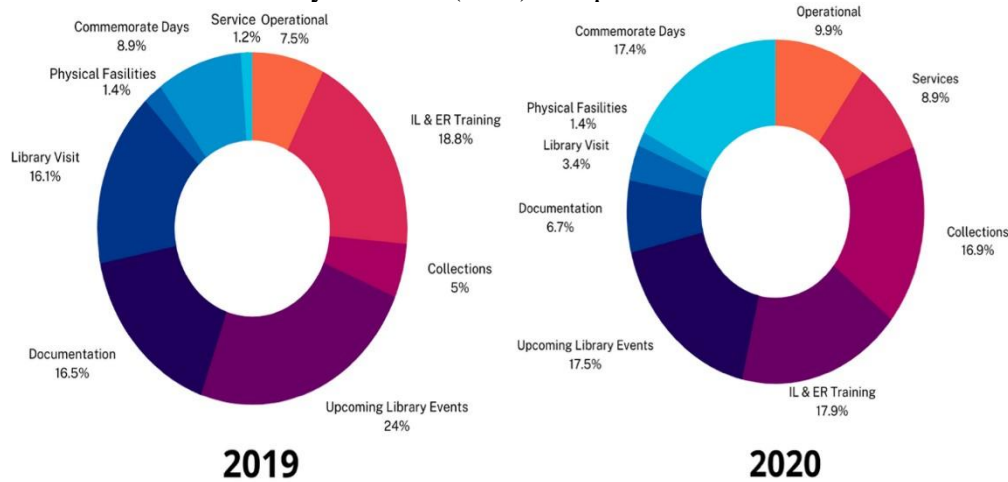

Figure 2. Comparison of Post Types in General between 2019 and 2020

There was a shift in the pattern of social media use by the W, X, Y, and Z libraries between 2019 and 2020. Based on the categorization of Instagram posts adapted from Al-Daihani and AlAwadhi (2015) and Rachman et al. (2018), in 2019, library posts were dominated by information related to the upcoming agenda (n = 121), information literacy training, and electronic resources (n = 95), and activity documentation (n = 83). The categories of services (n = 6), physical facilities (n = 10), and library collections (n = 25) occupy the types of information that the library posts the least. Meanwhile, in 2020, information literacy training and electronic resources dominated library posts (n = 106), upcoming agenda information (n = 104), and anniversaries (n = 103). The categories of physical facilities (N = 8), library visits (n = 20), and activity documentation (N = 40) were the least posted categories in 2020.

Interestingly, although the service and collection categories do not dominate posts in 2020, the number of posts in both categories shows the most significant increase compared to other categories. The service category increased from 6 to 53 Posts (783.3%), while the collection category increased from 25 to 100 posts (300%) in 2020. X became the library with the most significant spike in service post types (1100%), while Z was in the collection category (2166.6%). This finding confirms that social media has a major role in promoting information sources and services during the pandemic to reach users (Mandrekar & Rodrigues, 2020). The number of service and collection category posts was experienced by the W, Y, and Z libraries, while the X library only experienced an increase in the service category.

Inversely proportional to library visits and activity documentation category, which experienced the most significant decline in 2020. The library visit category reduced from 81 to 20 posts (75.3%), while the activity documentation category decreased from 83 to 40 Posts (51.8%) in 2020. The decrease occurred in all libraries except Z, which was only decreased in the library visit category. The decline in both categories was influenced by library policies related to restrictions on library visits and offline, face-to-face activities during the pandemic to minimize the spread of COVID-19 in libraries and universities.

Library Instagram Post Content Related to the COVID-19 Pandemic

A sample of 619 W, X, Y, and Z Library Instagram posts was analyzed using the content analysis method to see how many library posts were related to the COVID-19 pandemic. At this stage, the data taken is limited to posts from March 2020, the month in which COVID-19 cases in Indonesia were first confirmed, until December 2020. The categorization of posts related to COVID-19 was adapted from previous research by Alajmi & Albudaiwi (2020) and Wang & Lund (2020). These categories are an announcement of adjustment of services and physical operations of the library, information on remote resources belonging to the library, remote service information, service information on-site, virtual program offerings, information about the COVID-19 virus, information related to health protocol policies, financial/health/food assistance information, provision of support messages, and information on free access to electronic articles and books.
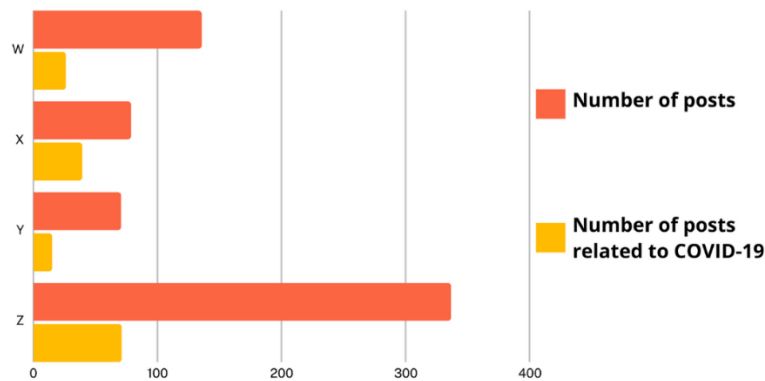

Figure 3. Comparison of the Total Number of Posts with the Number of Posts Related to COVID-19

Of the total 619 Instagram posts, the number of posts related to COVID-19 was 151 Posts or 24.3% of the total posts. The library that posts the most COVID-19 categories is Z (n = 71), followed by X (n = 39), W (n = 26) and the last order is occupied by Y (n = 15). Viewed from the percentage of COVID-19-related posts with the overall number of, library X ranks at the top with 39 of 78 total posts (50%). At the same time, Library W ranks at the bottom of 26 out of 135 total posts (19.2%). Libraries Y (21.4%) and Z (21.1%) ranked second and third after Library X. More can be seen in Figure 3.

Table 1. Distribution of Post Categories Related to COVID-19

Categories	University Libraries				#
	W	X	Y	Z	
Announcement of adjustment of library physical services and operations	4	9		9	22
Library remote resource information	3	1	4	28	36
Remote service information	8	4	9	18	39
Onsite service information		8		1	9
Virtual program offerings	9	16		10	35

COVID-19 information			1	1
Health protocol socialization	1		2	3
Financial/Health/Food aid information		1		1
Supporting message			1	1
Information of free access to articles and e-books	1	2	1	4

Further analysis showed that COVID-19 content was dominated by information related to remote services (n = 39), library remote resources (n = 36), and virtual program offerings (n = 35). As for the category of information about the COVID-19 virus, support messages and financial assistance/health/food information are the least posted categories, with one post each. The provision of information about the COVID-19 virus and the condition of supportive messages is only carried out by the Z library. In contrast, information about assistance is only found in the X library.

The finding that information regarding Remote Services dominates library posts related to COVID-19 can be understood due to physical library restrictions and closure policies during the pandemic that makes most services need to be switched to virtual environments. To promote various changes to the service, the library is actively utilizing social media (Wang & Mehta, 2020). Social media proved a significant role in marketing library-owned services and resources during the COVID-19 pandemic (Mandrekar & Rodrigues, 2020). This finding is in line with the results of a related study by Albudaiwi & Alajmi (2020), where COVID-19 posts on the social media of Public Libraries in New York City are dominated by information about remote access services provided by them.

The library featured a different type of post on Instagram for the first time in response to the COVID-19 pandemic (Doney, 2020). The Z library was the first to issue a post related to COVID-19 on March 12, which contained information on the implementation of health protocols in the Z environment, namely body temperature checks and provision of hand sanitizer. The post was followed by details on restrictions on physical services and operations on March 16, along with library contact information and access to electronic resources. The first post related to COVID-19 on W and X libraries, namely the provision of information, began implementing the library's physical service and operational restriction policy on March 16 and 18. The post was accompanied by information on the postponement of all seminar activities and library visits and information on access to remote resources and services. For Library X, the post was also accompanied by information on eliminating late fines and the socialization of health protocol implementation policies in the library. While Library Y first posted the COVID-19 category on March 20 promoting services book delivery services. Library Y does not issue specific posts informing of restrictions or closures of physical services and operations.
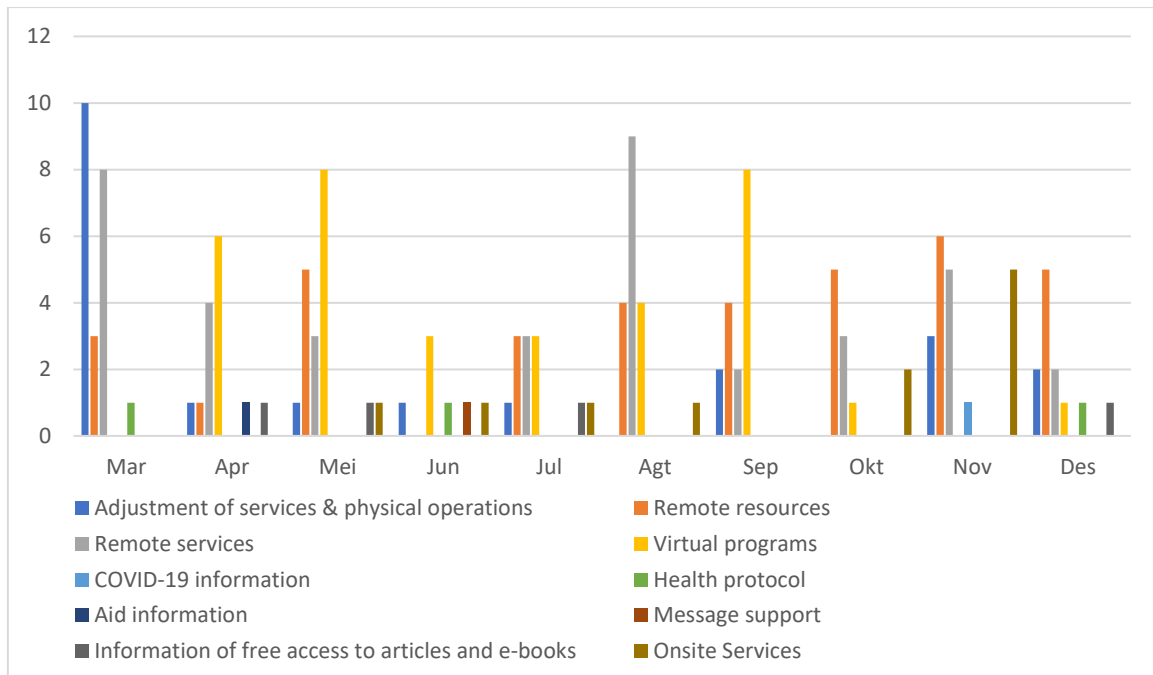
Figure 4. Distributions of Posts Related to COVID-19 Every Month

Figure 4 shows the types of COVID-19-related categories posted by the library every month. The physical services and operations adjustment category dominated the March post because the library socialized the restriction policy before finally doing the temporary suspension of physical services and operations. This category is also found in the following months. Z library has started to open services on-site limited in June and August to library X. Service provision information on-site Limited posted in August by Z and in May to July, October and November by X library. The information provided includes the types of services available and information on health protocol provisions that users must comply with while in the library area.

The category of remote resources and services is found almost every month. It cannot be separated from the Z library, which often reposts information on how to access electronic resources and the procedures of the remote services they provide. In addition, there is also a library Y that regularly disseminates updates to their online service policies. Virtual program offerings held in collaboration with third parties dominated the posts in May by the W and Z libraries and in September by the X and Z libraries. Free access notices of journals and ebooks from overseas publishers such as Sage, Jstor, Emerald, and others are posted in April and May by Y and W libraries. Meanwhile, the promotion of free access to journals and ebooks provided by the National Library was posted in July and December by libraries Y and Z.

Further logistical assistance information for X students in need was posted in April. Z Library posted the provision of supportive messages to students struggling to complete their final project during the pandemic in June. Z library only posted information on the symptoms caused when infected with the COVID-19 virus in November. It is too late, considering that the COVID-19 virus has entered Indonesia since March. At the same time, the socialization of the implementation of health protocol policy was found in March, June, and December by the W and Z libraries, which were dominated by health protocols during a visit the library.

Instagram Utilization during the COVID-19 Pandemic

During the COVID-19 pandemic, libraries have three roles, namely maintaining the sustainability of ensuring library services, building community health awareness related to COVID-19, and providing emotional support and well-being to the community (Ali & Gatiti, 2021; Brar & Deol, 2021; Cox & Bewster, 2020). With Instagram, libraries can use it to accommodate these three roles:

Maintain the continuity of library services

The covid-19 virus outbreak has required library professionals to move quickly to shift their services to digital platforms to provide adequate remote services to users (Dadhe & Dubey, 2020). The library modifies existing services or expands new services to serve users optimally, as before the COVID-19 pandemic (Decker, 2021). Social media is chosen as one in informing changes to services as well as marketing new services (Chizwina, 2017). The W, X, Y, and Z libraries also carry out the adaptation and development of remote services. Libraries actively socialize policies on their remote services by utilizing Instagram. Socialization is not only done through graphic posts but also IGTV media and webinars.
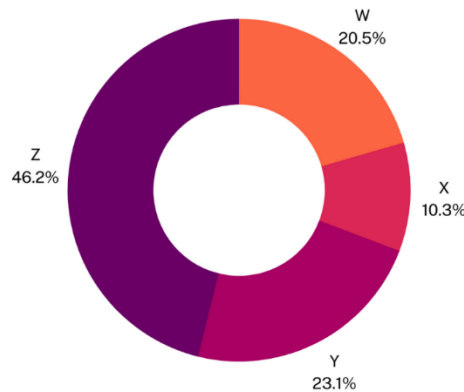

Figure 5. Percentage of Remote Service Category Posts from Each Library

Library Z became the most (18), while Library X became the least (4) informing remote service users. Each library has a different strategy for promoting its remote services. Library Y actively posts infographics containing updated information on their remote services. In addition to using infographics, the W, X, and Z libraries also use IGTV media and serialized webinars to promote their remote services. W library held a question and answer session during the program *KATA PUSTAKA* through IGTV to answer user questions often asked during the physically closed library. Likewise, the Z library opens Q & A sessions in the program *Open Library Q & A* through IGTV to introduce the latest policy of their remote service. In comparison, Library X has a serial webinar program, *The Library Greets,* aimed at promoting their remote services.
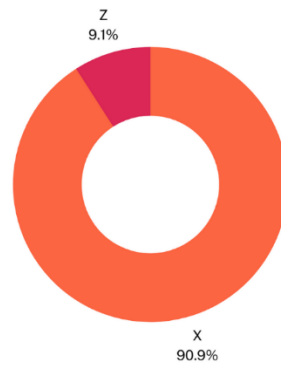
Figure 6. Percentage of Service Category Posts on site X and Z Libraries

As for on-site marketing service is only done by X and Z libraries, considering that they have started to open their physical services and operations with strict health protocols. The webinar program *The Library Greets,* library X promotes service during the new normalcy at each faculty library. The X library also uploads videos of how to use each library on-site service in a new era of normalcy. Unlike the Z library that chose to promote on-site service by including photos of the library's physical facilities.

Building community health awareness related to COVID-19

The library offers different strategies when building community health awareness in the face of COVID-19. The W library documents the health protocols for handling printed book submissions sent from abroad. While they do not have specific posts related to health protocols, the X library always includes their health protocol policies on every video that promotes the on-site service in a new era of normalcy. Library Z disseminates health procedures policies that must be adhered to while in the library area. In addition, the Z library also informs the symptoms of being infected with the COVID-19 virus, which is equipped with reference source information, namely who.int. In contrast, Library Y does not post any information about the COVID-19 virus or health protocols.

The widespread of hoaxes related to COVID-19, especially on social media, causes an explosion of information that has an impact on the inhibition of efforts to prevent the spread of the virus COVID-19. In addition to raising community awareness and providing reliable sources of referral information, College Library librarians also contribute to fighting infodemics by educating the community through information literacy programs or other forums on how to evaluate facts and check the authenticity of information (Bangani, 2021). As is done, the Z library, in response to the COVID-19 infodemic, held a webinar titled "Disinfodemic: Fact-Checking!! Social Media Analytic in Pandemic Issues". This Webinar was held to educate the community to be more selective in distinguishing between hoax information and facts, especially those related to the COVID-19 pandemic.

However, the library has not optimally implemented the role in building community health awareness related to COVID-19. Based on the data in Table 1, the category of information about the COVID-19 virus is only available in one post. This post was released by Z library in November, very late considering that the first COVID-19 cases had already appeared in Indonesia in March. While in the category of health protocols, there are only three posts issued by the Z and W libraries. Information about the health protocols provided was just two, only posted in June and December.

Providing emotional support and well-being to the community

The condition and the uncertain social situation due to the covid-19 pandemic make the community very vulnerable to exposure to stress (Levani et al., 2021). Stress can affect an individual's mental health, reducing their productivity levels. In response to this, some strategies are carried out by the X, Z, and Y libraries in providing emotional support to their communities through their Instagram, such as giving supportive messages and holding webinars related to mental health.

Table 2. Distribution of Post Categories Related to COVID-19 Related to Emotional Support and Well-Being

Categories	University Libraries			
	W	X	Y	Z
Virtual program offerings on finance and entrepreneurship				4
Virtual program offerings on mental health				2
Financial/Health/Food aid information		1		
Supporting message				1
Announcement of the elimination of late fees (in the category of service adjustment and physical operations	1	1	1	1

Although only one post that falls into the category of giving support messages, support messages can also be found in captions or short posts that accompany posts in other categories. For example, when Library X informs the restriction of services and physical operations and informs the reopening of services on-site limited, caption which is included as follows:

"Let's pray together that things will improve quickly so that the library
X can accompany you to learn again with optimal service."

"Hopefully, the reopening of library services will facilitate library buddy
in doing your final project and looking for literature ☺
Let's the excitement coming, library buddy!"

Similarly, in Z library when informing on-site services available, the caption used is:

"Keep the passion for learning and developing the spirit of literacy,
although #telutizen do their learning from home."

Or when promoting the program *Open Library Q & A, caption* included such as:

"Hi # TelUtizen, ☺☺ *We Heard You*"

Besides caption, the form of support can also be seen in the use of hashtags, like library Y, uses hashtags # keepsafe or Z using hashtags # staysafeTelUtizen. To help the community

reduce stress levels caused by the COVID-19 pandemic, library Z held a webinar titled The Healing Power of Journaling, which describes how writing activities can be used as a means of self-healing effectively. In addition, the Z library also promotes bibliotherapy by organizing a webinar entitled Mindfulness Reading which aims to encourage reading activities as an alternative means to train mindfulness.

The form of welfare support can be seen of them in the announcement of the policy of eliminating the penalty for late return of books in all libraries, accompanying the provision of information about the adjustment of services and physical operations of the library. Meanwhile, library X provides X logistic call center contacts for boarding students and students with Bidikmisi and Afirmasi Scholarship. Library Z held entrepreneurship and financial resilience webinars during the COVID-19 pandemic. Topics raised include: Tips on increasing income during a pandemic; Strategies for using social media as a business promotion medium in the pandemic era; Strategies for preparing emergency funds amid a pandemic for millennials.

Conclusion

Based on the results of research on the use of social media Instagram in the W, X, Y, and Z libraries in responding to the COVID-19 pandemic, the authors obtained conclusions, including the following:

There was a significant change in the pattern of using Instagram libraries before and during the COVID-19 pandemic, regarding the number and category of posts used. The number of posts related to COVID-19 is dominated by information about temporary remote services. In contrast, the least posted categories are information about the COVID-19 virus, financial/health/food assistance, and supportive messages. Library Z became the first to respond to the COVID-19 pandemic on Instagram, followed by libraries W, X, and Y.

Each library uses various strategies to utilize Instagram to support its role during the COVID-19 pandemic. The entire library actively socializes while encouraging users to take advantage of remote services and their on-site. But the library is still not optimal to use Instagram in its other roles, namely promoting health awareness and providing welfare and emotional support to its community. The college library should not only take advantage of social media to provide information about itself but also take advantage of opportunities to expand its role by providing useful information to help the community deal with the COVID-19 pandemic. Higher education libraries should more actively utilize their social media for recommending sources of valid information about COVID-19 and promoting information literacy agendas to minimize hoaxes during the pandemic. Moreover, providing information on financial resilience forums or mental health-themed seminars, and finally, delivering messages of support to assure the community that they are not alone in facing the difficult times due to the COVID-19 pandemic.

Instagram content analysis of four college library Instagram accounts with varying liveliness level. Recommendations for future studies are expected to consider the level of activity of Instagram from the library to be the subject of research. Further research can also relate user expectations to the information submitted by the library through their social media and how the library responds to it.

Authors' Contributions

All authors have contributed to the final manuscript. The contribution of all authors: Syadza Millati Azka and Taufik Asmiyanto,: conceptualization, methodology, formal analysis, writing original draft preparation, writing review and editing. Parveen Babbar: writing review and editing. All authors have read and agreed to the published version of the manuscript.

Conflict of Interest

All authors have no conflict of interest related to this study.

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