GRZEGORZ GMITEREK
Faculty of Journalism, Information and Book Studies
University of Warsaw
e-mail: ggmiterek@uw.edu.pl
ORCID 0000-0002-5692-1824

THE USE OF FACEBOOK FANPAGES BY POLISH UNIVERSITY LIBRARIES BEFORE AND DURING THE COVID-19 PANDEMIC. CONTENT ANALYSIS OF THE POSTS

Dr hab. Grzegorz Gmiterek is an assistant professor at the Faculty of Journalism, Information and Book Studies of the University of Warsaw. His research interests focus on issues related to the use of new technologies in cultural and scientific institutions (especially Web 2.0 tools and services as well as mobile devices and applications). Scholar Of the Historical and Literary Society in Paris in Dr. Maria Zdziarska-Zaleska's name. Participant of the US Department of State's International Visitor Leadership Program "Library & Information Science". Author of several dozen of scientific publications, including the following books: *Library in social network. Library 2.0* (Warsaw 2011), for which he was granted the Scientific Award of SBP in the name of Adam Łysakowski and the CLIO Award Of the Faculty of History of the University of Warsaw, co-author of the book *Mobile applications in libraries and beyond* published in 2017 (distinction of the Rector of the Warsaw Technical University for the publication academic studies in the field of technical sciences and sciences during the Academic and Scientific Book Fair in the ACADEMIA contest) and the author of the book *Mobile applications in information systems. Theory and practice*

(Warsaw 2020), for which he received the 2020 Science Award of SBP in the name of Adam Łysakowski (category: Works of theoretical, methodological, source character).

ABSTRACT: **Thesis/Objective** – The main aim of the article was to present the results of the analysis of the content of posts made available by eighteen Polish university libraries in the period immediately preceding and during the COVID-19 pandemic. **Research methods** – The mixed methods study involved the use of qualitative and quantitative approaches, with a commercial online tool the Karma Fanpage service for social media analytics monitoring being used to collect data from individual fanpages. In order to determine the subject matter of the posts, the author of the article used ten codes, to which he assigned each post. **Results/ Conclusions** – The study showed that all Polish university libraries (part of public universities) used Facebook as part of their daily activities, both before and during the pandemic. This included using if for marketing purposes, such as, promoting events they organized, and library offerings. In the period before the pandemic, the most frequent posts were related to various scientific, educational, and popularizing events. Most of events took place at the library building. The pandemic and the necessary precautions it provoked, made the remote services of libraries one of the key elements in their daily functioning. The greatest number of posts in the analyzed periods concerned library collections and services, mainly those available online.

The changing information reality of library users and the constantly emerging information technologies pose new challenges for libraries. The evolution of the World Wide Web into a social media communication network has made librarians adapt the use of modern digital tools for communicating and interacting with their users. Researchers have commented on the emergence of the culture of participation or the „RW" ("Read/ Write") culture where the role of the recipient of communication has changed significantly (Jenkins, 2007; Lessig, 2009). The ability of recipients to actively participate and collaborate has been made possible due to the interactive capabilities of the Web as evidenced in the fields of science, education, and culture. As a consequence, information and communication technologies have been used to effectively change the operation of Polish libraries over the years. Therefore, it is not surprising that this should also affected the delivery of academic library services (Kołodziejczyk, & Rożniakowska- -Kłosińska, 2015).

LITERATURE REWIEV

The use of social media, such as Facebook, Instagram, and YouTube, has become an integral and permanent feature in academic libraries worldwide. This is mainly because social media is a key component of how students communicate with classmates, families, friends, and other external entities (Howard, Huber, Carter, & Moore, 2018). Therefore, it is logical that academic libraries have increasingly chosen to maintain their fan pages on these types of sites. Indubitably, social media has become an indispensable communication platform for libraries of all types all over the world (Kamińska, Książczak-Gronowska, & Wiorogórska, 2020; Wójcik, 2013). Previous research findings show that the sites most commonly used by librarians are Facebook, Twitter, YouTube, Instagram, LinkedIn, Tumblr, Pinterest, Flickr, and Vine (Magoi, Aspura, & Abrizah, 2017). However, Facebook is the predominant one used academic libraries, although the use of social media by these libraries was not always the case (Joo, Choi, & Baek, 2018; Vozana, & Alvanoudi, 2019; Harrison A, Burress R, Velasquez S and Schreiner, 2017). In Poland, in 2010 many of the university libraries did not see the need to use social networking sites (Lamberti, & Theus, 2016). All this has changed and it is now commonplace for them to, at the minimum, have a fanpage on Facebook.

Modern information and communication technologies, especially social media, offer libraries many opportunities to reach their present and potential users. This adoption of the use of social media presents a variety of opportunities for librarians and their users to communicate, as well as to easily create, organize, and share multimedia content. This becomes possible due to the diversity of modern tools, technologies, media, and ways of accessing information, producing content, and communicating (Koszowska, 2013). The use of social networking in academic libraries is an issue that has been extensively reported in the literature. As early as 2015, McCallum wrote that this trend was evident in the library and information profession as shown by the more than 70% of libraries around the world that were already using such tools, and the 60% which had been operating their fan pages for three or more years. He further stated that 30% of the librarians also used social media daily to publish new content (McCallum, 2015). As other research shows, these information professionals have and continue to actively participate in creating and developing online communities, and to interact with their users in designing and developing library resources and services (Koszowska, 2013; McCallum, 2015). However, it is important to keep in mind that effective use of social networking sites brings with it the need for librarians to develop new information skills and competencies (Vanwynsberghe, Vanderlinde, Georges, & Verdegem, 2015).

The use of social networking sites in academic libraries also provides an opportunity for effective promotion of library services and for an immediate response to the users' information needs (Tella, & Akinboro, 2015). Social networking sites are also identified as effective promotion and marketing tools for informing users about current library offerings as well as for creating an attractive image of the institution, and obtaining user feedback (Jaskowska, 2008). However, this is not the case everywhere as Sekyere (2009) reported that in in some developing countries, the use of social media sites by academic librarians was sometimes reported as unproductive and inefficient. The reasons for this might be related to different social and economic factors from what obtains in the more developed countries. Another factor that might discourage some libraries could rest with the users who themselves, who, according to Jones and Harvey (2016), might simply not be interested in interacting with the library in this way. The researchers claim that not enough studies have been done on this aspect of user needs. The comment by Swanson (2012) would seem to confirm this, to some extent, when he says that even if librarians began to actively use social media and improve their social media skills, there was no assurance that the messages they publish would receive an adequate response from users. While social media is much more likely to engage users in conversation than traditional forms of marketing (Potter, 2012) there is no assurance that they will always actively participate in that dialogue. Therefore, it is crucial to study and understand the behavior, culture and etiquette of the user community (Luo, Wang, & Han, 2013). *Academic libraries have been slow to accept social media as a venue for either promoting their services or academic purposes* (Howard, Huber, Carter & Moore, 2018). It is also important to recognize that effective social media use is a skill that should be expected of university library staff today (Chawner, & Oliver, 2013).

There have been a lot of scholarly publications on the use of Facebook and other social media by libraries. These publications have addressed both the marketing aspects (AlAwadhi, & Al-Daihani, 2019; Jones, & Harvey, 2019; Trucks, 2019) and the communication and collaboration between librarians and users (Cheng, Lam, & Chiu, 2020; Hicks, 2012). Generally, the literature addresses five research areas: "how-to" studies, library-centered case studies, student-based research, service-provided analysis, and perceived-use study (Jacobson, 2011). Significantly, Facebook is cited as the social network most frequently used for marketing and promotional activities (Akporhonor, 2015; Ayu, & Abrizah, 2011). No single method was identified for assessing the effectiveness of the marketing strategy adopted by the libraries, thus, indicating each library might approach things differently based on which are it deems as the best for its operation. However, the literature suggests some of the following:

the number of fans for your page and the direction that number is going; how often fans "like" items posted, and how often they post comments; anecdotes that illustrate your page is having an impact, and the size of the "impressions" of many of the items posted on your page (Glazer, 2012).

During the COVID-19 pandemic, Facebook was used in public and university libraries (Alvim, Dias da Silva, & Borges, 2020; Koulouris, Vraimakiand. & Koloniari, 2020; Peachey, 2020). Also, in Polish university libraries (Gmiterek, 2021a; Gmiterek, 2021b; Kamińska, Książczak-Gronowska & Wiorogórska, 2020). Moreover, Facebook's role in terms of user communication has proven invaluable, including in terms of providing reliable information about the pandemic (Ladan, Haruna, & Madu, 2020).

OBJECTIVES AND METHODS

The primary purpose of this paper is to present the results of a comparative analysis of the activity of 18 Polish public university libraries (MNiSW, 2021) on the social networking site Facebook in the period immediately before and during the COVID-19 pandemic. The study used thematic analysis of posts shared by these institutions. In addition, the aim was to answer the research questions:

RQ1: Which hashtags were most often associated with Polish public university libraries Facebook posts immediately before and during the pandemic?

RQ2: In what ways did the pandemic affect Polish public university libraries' Facebook post content?

RQ3: What was the level of interest by users of Polish public university library Facebook thematic posts immediately before and during the pandemic?

The findings of the research should be of interest primarily to the employees of academic libraries who use Facebook in their daily work and are interested in the issues pertaining to the use of social media in libraries, especially in the context of library marketing. The results should also be of interest to professionals who recognize the important role of social media in cultural, educational and scientific institutions dealing with the implementation of information management processes, such as, the generating, processing, sharing and distributing information. Although the approach to the study was from the point of view of university libraries, information professionals from other types of libraries should also find this article useful in several ways relative to the facilitation of the publication of library posts on Facebook and the management of the institution's fanpage. For example, the findings should be of value for those interested in using

Facebook for presenting library and information services, especially during the COVID-19 pandemic. In addition, the results could guide librarians in developing effective strategies for their Facebook activities, including the marketing of their services. Finally, the information could be of further use when they consider making changes to their library's fanpage aimed at effectively communicating with users and establishing their interest in the content published by the librarians. The paper concludes with some recommendations on the future applications of Facebook within the context of the university library.

The mixed methods study involved the use of qualitative and quantitative approaches, with a commercial online tool the Karma Fanpage service for social media analytics monitoring being used to collect data from individual fanpages (Fanpage Karma, 2018). This service enabled the data collected to be processed for statistical purposes. The data collected were then analyzed using a spreadsheet.

The purpose of the analyses was the analyze thematically the content of posts published by the libraries. The research used thematic codes which were assigned to individual posts. Pay close attention to what constituted the most popular content and the number of posts associated with each subject code. This procedure, among other things, was intended to determine what impact the pandemic had on the subject matter of library posts made available from March 11, 2020[1].

Post topics were indicated by ten codes to which each post was manually assigned. The coding method created by Amanda Harrison, Rene Burress, Sarah Velasquez, and Lynnette Schreiner was helpful in this regard (Harrison, Burress, Velasquez & Schreiner, 2017). This method was adapted to illustrate the activity of Polish public university libraries both in the period before and during the pandemic. The modified list of codes has been used before when referring to two periods of library building closure during the pandemic (Gmiterek, 2021b); that code list was related to library activities as well but mainly those online. The current study, in addition to the longer duration of library operations (two years in total), refers to both traditional and online activities. Due to this fact, it was necessary to establish codes that referred to both activities in the library building and on the Internet. During the pandemic until March 2021, Polish public university libraries were online-only for an extensive period. Therefore, the content they provided often did not concern traditional library activities. Nevertheless, there were situations where users were informed of traditional activities that had taken place in the past or were planned within the library. During coding, no major problems were observed in assigning the posts to specific codes. The content of the post provided the basis for

---

[1] Data for post content analysis was collected via Fanpage Karma on March 16, 2021.

indicating the appropriate code. In individual cases, if a post contained information on different topics, an attempt was made to identify the most important topic for the user. It also happened that the decision to assign a particular code to a specific post was based on the situational context relating to the content of the published post.

Data collection was done separately for the pre-pandemic and pandemic periods. The use of Fanpage Karma facilitated the identification of the relevant indicators to answer the research questions posed by the study. The chronological scope included two time periods of similar length. The first, pre-pandemic, was established as being from February 17, 2019 (the conventional start of the second semester of the 2018–2019 academic year) to March 10, 2020 (the last day of standard operation for some Polish university libraries in the 2019–2020 academic year). The second period, during the pandemic, was marked as being from March 11, 2020, when the first instances of closing library buildings to patrons began to March 15, 2021 (Gmiterek, 2021a).

For the thematic organization of Facebook fanpage posts, the following ten codes were used:

1. **Archives** refers to posts including historical photographs, documents, and other artifacts. Historical resources in libraries, repositories, and digital archives.

2. **Library collections and services** documented posts using databases, books, journals, and multimedia. Information about digital offerings, borrowing, scanning services, facilities for using library services.

3. **Events** are posts with information about academic and professional conferences, guest speakers, book fairs, and library competitions. Posts about lectures, training, and workshops at the library (conducted by library staff). Information about exhibitions (in the library building or online), anniversaries, and holidays.

4. **Library building, website, and fanpage** refers to information about the library's physical location, building equipment, upgrades. Information about the area next to the building, closing, and opening of the library. Photos of the library building and the area adjacent to it. Information about changes made to the website and changes made to the Facebook fanpage (such as status changes) and other social media.

5. **Library community** codes posts with information about activities related to library staff, their jobs, the organizational structure of the library. Information relating to library associations and organizations, activities for the library community.

6. **Other institutions** refer to posts that present resources and services of other institutions and undertakings related to broadly understood culture, education, and science.

7. **Sentiments** are posts including words of appreciation, congratulations, thanks, greetings, goodbyes, wishes, salutations, jokes.

8. **Users** is used to code posts with photos and other content from users or posts about users (including photos of users).

9. **University community** refers to posts about non-library organized activities that relate directly to the operation or support of the university.

10. **Other** indicates posts including news that did not relate to the operation of the library or university.

RESULTS AND DATA ANALYSES

In pre-pandemic period (February 17, 2019 – March 10, 2020) the libraries published a total of 3,333 posts which generated 49,400 user reactions. Most posts were published by the Library of the University of Lodz (376), the University of Warsaw Library (369), and the University Library in Poznan (341) (Gmiterek, in press).

In general, the following hashtags appeared most frequently in posts published by the libraries during the study pre-pandemic period: #ciniba (279 times), #bibliotekaotwarta (eng.#openlibrary, 270 times), #library (71 times), #books (67 times), #student (51 times), #biblioteka (eng. #library, 37 times), #masztowcinibie (eng. #youhaveitinthceciniba, 36 times), #książki (eng. #books, 31 times), #czytelnik (eng. #reader, 28 times).

In the period during the pandemic (March 11, 2020–March 15, 2021), the libraries published a total of 3,662 posts which generated 53,552 user reactions[2]. Most posts were published by the University Library in Bialystok (608), the Library of the University of Lodz (463), and the University Library in Poznan (358) (Gmiterek, in press).

In the pandemic period, the following hashtags appeared most frequently in posts published by libraries: #ciniba (205 times), #bibliotekaotwarta (eng.#openlibrary, 178 times), #zostańwdomu (eng. #stayathome, 136 times), #library (89 times), #books (83 times) oraz #książki (eng. #books, 81 times).

CONTENT ANALYSIS OF THE POSTS

To analyze the content of library Facebook fanpage posts ten codes were assigned. The total number of posts for each of the codes used and the total number of all reactions to the information assigned to each code are presented in the Table 1. A separate category was also created for deleted posts, which the Fanpage Karma tool considered, but there was no way to display these contents.

---

[2] Compiled from data collected via Fanpage Karma on June 29, 2021.

Table 1. Number of Postings and Reactions for Each Code (in the Period Before
and During the Pandemic)

Code	Number of posts in pre-pandemic period	Total number of all user responses	Number of posts in pandemic period	Total number of all user responses
Events	853	10,785	208	2,603
Library collections and services	715	6,143	1,077	13,334
Library building, website, and fanpage	495	7,941	455	11,009
Sentiments	319	9,941	336	7,482
Archives	273	4,678	309	5,082
Other institutions	201	1,665	536	3,420
Other	135	2,498	219	3,233
University community	130	1,672	177	1,353
Users	124	2,441	60	1,401
Library community	83	1,602	212	4,635
Posts not available (deleted)	5	–	73	–

Period analyzed: February 17, 2019 – March 10, 2020, and March 11, 2020 – March 15, 2021. Compiled from data collected using Fanpage Karma on March 16, 2021.

Detailed conclusions from the research on the content of the posts are presented below, broken down into the period before and during the pandemic. Attention was also paid to the number of users' reactions to posts assigned to individual subject codes. Detailed data relating to this research area are presented in Appendix.

PRE-PANDEMIC PERIOD (FEBRUARY 17, 2019 – MARCH 10, 2020)

During the period analyzed, the largest number of posts were related to information about scientific, educational, and popularization events (code: Events, 853 posts). Those posts also gathered the highest number of user reactions (10,785 reactions). The events were usually held in the university library building. Webinars did occur, but they were few. They happened more as a supplement to traditional training and workshops. Posts about events mostly discussed exhibitions, but also about other events taking place in the library building (e.g., training sessions organized by librarians, book fairs, library competitions, and meetings with authors). In this category, there were also posts containing information about anniversaries (e.g. birth or death of book authors) or holidays; not only official holidays but also atypical ones (e.g. the Day of Sleeping in Public; the World Bicycle Day; and the National Day of Writing with a Pen). A large number of posts related to Olga Tokarczuk receiving the Nobel Prize for Literature. These were posts about receiving the award, an exhibition devoted to the Polish Nobel Prize winner, and an archival meeting with the author in the library building in Poznan. Posts also referred to the annual All--Poland Library Week organized by the Polish Librarians Association and its accompanying events.

Posts related to the code "events" were often published by libraries, although not in case of all the institutions those were the most dominant. The University Library in Poznan was the absolute favorite with 145 posts of this type. However, they did not collect the largest number of user responses. There were 1,593 of them, which is almost 1,000 less than the responses to the posts by the staff of the Library of the University of Lodz. It should be noted, however, that this library has published far fewer posts on the events (92 posts). It is clear that there is no direct correlation between the number of messages posted and the number of user reactions. This thesis is also confirmed by the case of the Jagiellonian Library, which published "only" 47 posts, which collected quite a lot, as many as 1017 reactions. The activity of four libraries, which published a similar number of posts, is also noteworthy: the Main Library of Maria Curie-Sklodowska University in Lublin (69 posts); the University of Warsaw Library (67 posts); the Scientific Information Center and the Academic Library CI-NiBA[3] (67 posts); the University Library in Bialystok (63 posts). Despite the fact that the number of messages is similar, there are significant differences in the number of user reactions. The largest number of them was

---

[3] Information about individual profiles and fan pages is available via the website of the Center for Scientific Information and Academic Library (CINiBA), which is a joint library of two universities in Katowice - University of Economics and University of Silesia.

CINiBA (916 reactions), and the least – the University Library in Bialystok (423 reactions). The difference in this case is therefore considerable, although it should be noted that CINiBA is associated with the activity of a much larger university than the library in Białystok. On the other hand, the University of Warsaw Library is associated with the largest university in Poland, its fanpage also has the largest number of followers. Nevertheless, users reacted 692 times to posts published by this library, which is definitely less than in the case of the CINiBA fan page.

The second most frequent posts, in terms of the number of published posts, were those assigned to the "library collections and services" code. There were 715 such posts and 6,143 users reactions (far fewer than during the pandemic). These included posts about the launch of new services for users (e.g. library book drop or the possibility to order digital copies of documents) and information about library resources including new books recently made available by the library. A lot of posts were about bibliographic databases that users had access to through the libraries. Many such posts were intended to generate interest in utilizing a trial use of full-text and bibliographic databases. There was also information about assistance offered by librarians in using library services and collections (e.g. in the form of courses and training prepared by them) as well as information concerning making computer software available to users (e.g. the bibliography manager). Among the news related to collections and services, there was also information about extending the library's opening hours during exam sessions and offering users facilities to prepare for upcoming exams. Among this type of information, there was also news about IT system failures, the inability to use the computer catalog, and other digital library services.

Most of the posts related to this code (133) were published by the Scientific Information Center and the Academic Library (CINiBA). Other libraries have released far fewer messages of this type. Among them, only three institutions published more than 60 posts (the Library of the University of Gdansk; the Main Library of Maria Curie-Sklodowska University in Lublin; the University of Warsaw Library). Nevertheless, the greatest number of reactions was collected by the posts of the library in Łódź (1,018 reactions), which published "only" 43 posts of this type. CINiBA came second (1,005 reactions), and the Library of the University of Gdansk came third (991 reactions). The lowest number of reactions, only 6, was collected by 5 posts from the library in Opole.

The next most common topic code that was assigned to posts shared by libraries was "library building, website, and fanpage". In this case, 495 posts were identified. Posts elicited 7,941 reactions. They were predominantly about the hours of operation for the institution or changes in its capabilities. Information about modifications to the library's website or

changes in Facebook status also appeared here. Several posts presented pictures of the library building and its interiors. Only three libraries published posts about changes in the functioning of their buildings due to COVID-19. The post appeared on Facebook fanpages on March 10, 2020, and referred to the closure of these institutions from the following day.

In the case of this code, the number of posts published by individual libraries was not large. The Library of the University of Lodz (59 posts) published the largest number of such messages. The posts from this library also collected the largest number of reactions (2,597 reactions). In general, the posts related to this code were very popular among users. This is confirmed by the number of users' reactions to the posts published by other libraries. Examples include: the Library of the University of Gdansk (50 posts and 1,130 reactions); the University of Warsaw Library (42 posts and 1,107 reactions); the Main Library of Maria Curie-Sklodowska University in Lublin (42 posts and 741 reactions). It is worth adding that in terms of the number of posts, the Main Library of Cardinal Stefan Wyszynski University in Warsaw was third, with 46 published. However, they only collected 30 user reactions. One library (the Library of the University of Zielona Gora) did not publish any posts related to this subject code.

For the "sentiments" code, 319 posts were identified. For the most part, these were well-wishing and greetings to users. Many posts were about congratulating the Nobel Prize winner Olga Tokarczuk. There were also jokes in the form of Internet memes or graphics (e.g., by Jarek Kozłowski). It's worth noting that these posts generated 9,941 user reactions, most after news about the events. The leader was the Library of the University of Lodz, which published 72 posts. They produced 4,026 reactions, which is the largest number for all the subject codes and posts assigned to them published by individual libraries. Second in line was the Library of the University of Gdansk (55 posts and 1,993 reactions). The remaining libraries published a much lower number of messages. They also caught the attention of a smaller number of users (e.g. the next in order: CINiBA – 36 posts and 649 reactions; the Main Library of Maria Curie-Sklodowska University in Lublin – 35 posts and 658 reactions).

The code "archives" was assigned to 273 posts. These posts primarily related to special collections of libraries (especially archives) as well as information about libraries, repositories, and digital archives created or co-created by these institutions. Many posts were used to showcase archival photographs. It is worth noting that the University of Warsaw Library published by far the most posts in this case. There were as many as 124 of them, while the second largest institution (the University Library in Poznan) provided "only" 30 news on this subject. Other libraries published far fewer posts related to the archives. The posts of the above-mentioned library in Warsaw also collected the largest number of user reactions

(2,226 reactions). Posts from the library in Poznań generated 470 reactions. It should be noticed that from the perspective of the number of reactions, the second largest institution (the Library of the University of Lodz), provided 29 news about archives, which caused a relatively high number of user reactions (808 reactions). The University Library in Rzeszow has not published a single post related to the code "archives".

In the pre-pandemic period, use of the "other institutions" code was far less frequent, 201 posts were identified. The posts elicited 1,665 reactions. A large proportion of these posts related to training provided by employees of companies marketing bibliographic and full-text databases. There was also information about lectures, conferences, and workshops organized by scientific institutions and other libraries. These events were often organized in a traditional form, meaning in-person and in the buildings of individual institutions. However, there were also events organized in an online form. A lot posts referred to the activities of various cultural, scientific, and educational institutions and their collections, especially those made available online. The relatively large number of posts referring to "Open Science" is noteworthy. There were also posts identified by this code about exhibitions organized by other institutions as well as the ministerial list of scientific journal scores. Posts on this topic were not often published by libraries. Most of such messages were published by: the Library of the University of Gdansk (28 posts); the University Library in Poznan (25 posts); the University Library in Bialystok (20 posts) and the Main Library - University of Szczecin (20 posts). The largest number of reactions was produced by the posts published by the Library of the University of Gdansk (511 reactions) and the University Library in Poznan (459 reactions). The third place is taken by the Library of the University of Lodz, which has made very little, only 8 posts, but collected 119 reactions. The posts of the above-mentioned libraries in Białystok and Szczecin caused much less reactions. It was 53 and 41 reactions, respectively.

The "other" code collected 135 posts and 2,498 reactions. These were neither about the activities of libraries nor the universities within which they operate. In this case, there was news related to events taking place in the cities where the libraries function, national news (e.g., concerning European Parliament elections), scientific curiosities, information about famous authors, etc. Generally, the posts related to this code were not published very often by libraries. An exception was the Main Library of Maria Curie-Sklodowska University in Lublin, which published 48 posts on this topic. They collected 777 reactions. It was the highest number of user responses to messages of this type among all libraries. Second in terms of the number of posts was the University Library in Poznan (21 posts and 381 reactions), and the third – the Library of the University of Gdansk (20 posts and 519 reactions). The rest of the libraries have published far

below 20 posts related to this subject code. Among them, the Library of the University of Lodz deserves attention, which, despite the publication of a small number, i.e. 10 posts, gathered 502 user reactions. It is worth noting that as many as three institutions did not publish any news related to this code. Among them was the Jagiellonian Library, i.e. a library operating within one of the largest universities in Poland.

The last three codes that were associated with the least number of posts were "university community" (130 posts; 1,672 reactions), "users" (124 posts; 2,441 reactions), and "library community" (83 posts; 1,602 reactions). In the case of the university community, these posts were related to the functioning of the universities, scientific activities and projects of their employees, and announcements by the authorities of the respective universities, etc. There were also posts related to anniversaries and holidays but associated with universities rather than libraries. Libraries rarely published news on this topic. Most posts were published by the Main Library of Maria Curie-Sklodowska University in Lublin (18 posts), the University Library in Poznan (16 posts), the Library of the University of Lodz (16 posts) and the University of Warsaw Library (16 posts) . Most institutions shared less than 10 posts related to this code. However, the most popular were the posts of the University Library in Poznan (340 reactions), the Library of the University of Lodz (292 reactions) and the University of Warsaw Library (289 reactions). The UMCS library in Lublin, which published the largest number of posts, caused 138 users' reactions. Two libraries have not published a single post related to the code "University community".

The "users" code was intended to be a grouping of posts featuring information submitted by users. However, due to the paucity of such information, this group was expanded to include posts featuring users (e.g., photos provided by the library), posts about users' activities (e.g., users collecting flyers related to the European Parliament elections and donating them to the University of Warsaw Library), reading surveys, proposals to purchase documents for the library collection, books donated by users to the library, volunteer work, information about trips made by various groups of users to the library, etc. Most posts related to this code were published by the Library of the University of Lodz (34 posts). They also caused the highest number of user reactions (1,139 reactions). This situation depicts that even in the case of a small number of published messages, libraries are able to attract users' attention and provoke them to respond to the shared posts in any way. Second in terms of the number of posts was the University Library in Kielce (26 posts and 205 reactions), and the third - the University of Warsaw Library (16 posts and 390 reactions). Three institutions did not publish any post related to the code "users".

Among the posts assigned to the code "library community" were those related to the activities of librarians, their travels, hobbies, and jobs, but also the organizational structure of the library. There were also posts with photos of library employees as well as information about awards and honors they have received. There were the least of these posts. They also gathered the lowest number of user reactions (1,602). The University of Warsaw Library published the most (15 posts), but these messages did not gather the largest number of user reactions (there were 179 of them). The leader here was definitely the Library of the University of Lodz, which published 11 posts, but caused 436 reactions. The posts from the Scientific Information Center and the Academic Library (CINiBA) were relatively popular. This institution only published 7 posts, but they collected 264 responses. Most libraries have less than 10 posts related to this code. Four libraries have not published a single one. Among them was the Jagiellonian Library.

PERIOD DURING THE PANDEMIC (MARCH 11, 2020 – MARCH 15, 2021)

In the case of pandemic period, the highest number of posts concerned the code "library collections and services" (1,077 posts). These posts gathered the largest number of user reactions (13,334 reactions). This situation is not surprising. For a long time, library buildings were closed to users or operated to a limited extent[4]. At that time, these institutions informed on their fanpage about the possibility of using library services via the Internet. Anyway, this situation also applies to the services and offers of other institutions that also operated online. Libraries published a lot of posts related to the activities of other institutions. During the study, 536 posts of this type were identified. They produced 3,420 reactions. Information about the library building, website, and fanpage (455 posts) were also popular among users. They collected 11.009 user reactions. The fewest posts were related to the code "users" (60 posts), which gathered 1,401 reactions. On the other hand, the posts about the code "university community" generated the lowest number of reactions. 177 such posts were published.

Posts relating to the "library collections and services" code, focused largely on informing users about the availability of online collections and services, especially during the first spring lockdown. There were also posts about changes to their available services and library use policies during the

---

[4] There were two lockdowns relating to the closure of Polish university library buildings during the pandemic. The first, from March 11 to the end of May (when all institutions were already open to users). The second, pertaining to the fall lockdown, covered the period beginning from November 7 to 30, 2020.

pandemic. The most popular posts referred to the first pandemic period, which came as a surprise to both patrons and librarians. Library staff tried to assist users in getting used to the new reality, which was most closely related to online library offerings. The number of posts shared during the first lockdown the number of posts was 1,171 posts. In later months, including during the fall lockdown, libraries no longer shared as many posts (Gmiterek, 2021b). For the library collections and services code, there were posts relating to, among other things: making the contents of bibliographic and full-text databases available to users; the gradual launch of traditional document lending and reading room services after periods of closure of library buildings; new library services (e.g., bibliography preparation by library staff or the "Book on the Phone" service offered by the Library of the University of Lodz); the service of free scanning of library materials; activation of books drops; the suspension of fines for exceeding the time limit for borrowing documents by users; and the offer of electronic documents offered by libraries in remote mode. The Library of Kazimierz Wielki University in Bydgoszcz informed patrons about the launch of the library assistant service from June 2020, whose task is to assist disabled staff and students in using library collections. Some libraries have chosen to publish a series of posts on a variety of topics. For example, the Library of the University of Lodz presented news characterizing the works of avant-garde painting (description of wall paintings) and sculpture housed with its building. The Main Library of Maria Curie-Sklodowska University in Lublin published a series of posts characterizing online resources and tools facilitating the use of these options. Among posts published by libraries, there was a series of news about new books, films, audiobooks. There was also information about training materials prepared by librarians and made available online (e.g., University of Warsaw Library prepared a guide on research data management) and even about the creation of a training platform by librarians with courses concerning subscribed databases (Library of the University of Lodz) or open science and open knowledge resources and educational tools (Nicolaus Copernicus University Library in Torun). The University of Warsaw Library prepared short training courses offered via Facebook "5 minutes with BUW" for new users of the institution and the CINiBA prepared videos available on YouTube with instructions on how to use electronic sources offered by the institution. Popular news items also included posts about the implementation of the new integrated library system called Alma at the Nicolaus Copernicus University Library in Torun; library and information services offered by individual library branches (e.g., information about NOVA--Comics and the Newspapers Reading Room at the University Library in Poznan); remote sign-up options; posts published on library blogs; and the possibility for users to borrow book readers (e.g., the University Li-

brary University of Warmia and Mazury in Olsztyn). Fanpages are frequently updated with information about opportunities for remote contact with librarians, including the popular "Ask a Librarian" service in Polish libraries, as well as through electronic platforms for teleconferencing and user collaboration (e.g., Microsoft Teams at the Library of the University of Gdansk) and instant messaging (e.g., Messenger at the University Library in Poznan).

As previously mentioned, the most posts were those regarding the code "Library collection, and services" – as many as 1,077. Most often, posts of this type were published by CINiBA (139 posts), the Library of the University of Lodz (127 posts) and the University Library in Bialystok (111 posts). The rest of the libraries have shared below a hundred posts related to this code. The fewest posts (20 posts each) were published by the Main Library of the University of Opole and the University Library in Rzeszow. Users most often responded to the posts of the Library of the University of Lodz (2,938 reactions), the University of Warsaw Library (2,623 reactions), the Scientific Information Center and the Academic Library CINiBA (1,273 reactions) and the Main Library – University of Szczecin (1,051 reaction). It is worth noting that staff from the latter two mentioned institutions published significantly fewer posts than the most active libraries. The library in Warsaw made available 67 and in Szczecin 91 posts.

In the second place of popularity in terms of posts published, were contents assigned to the code "other institutions" (536 posts). This is not unsurprising especially during the first lockdown where libraries informed users not only about their services and collections available online but also about the resources of other institutions such as museums, archives, theaters, and cultural centers. Several posts related to concerts in opera houses were published by the University Library in Poznan. Sometimes libraries provided information about, for example, the broadcasting of concerts or plays. For the "other institutions" code, libraries also published several posts related to training and workshops conducted by employees of various institutions. Most of this type of information referred to online training offered by providers of bibliographic and full-text databases (e.g., EBSCO, Elsevier).

Posts on this subject were most often published by the University Library in Bialystok (122 posts), the University Library in Poznan (79 posts) and the Wrocław University Library (76 posts). The least posts related to this code, solely one, was provided by the Scientific Information Center and the Academic Library (CINiBA). In general, users were not as responsive to these posts as they were to the code of "Library collection, and services". The most reactions were produced by the posts shared by the following libraries: the Library of the University of Lodz (677 reactions), the University Library in Poznan (604 reactions) and the University Libra-

ry in Bialystok (544 reactions). The rest of the institutions obtained a much lower numerical values relating to user responses. The Main Library of the University of Opole gathered the fewest reactions (3 reactions). The library has published 4 posts related to the code "Other institutions".

The next most common topic code was "library building, website, and fanpage." In this case, 455 posts were identified that were largely about the closing or opening (including partial) of buildings to patrons, the hours, and the system of libraries during the pandemic. A sizable portion of the posts also related to librarians sharing photos of libraries and the areas surrounding them. There were also posts related to the change of status on Facebook fanpage settings, posts informing about changes in library premises (e.g., opening of a coworking area in the Library of the University of Lodz or individual work cubicles in the Wrocław University Library), or moving the library to a new building (University Library in Bialystok). The Library of the University of Lodz published a series of posts referring to films and TV series produced in its building.

Due to the important content of the posts related to the closing or opening of library buildings, all institutions published posts on this topic. To a large extent, users reacted to news regarding the partial or full opening of the building of this institution. In most cases, the number of shared messages is also similar (from a dozen to twenty-odd posts). Most posts were published by the Library of the University of Lodz (65 posts), the University Library in Bialystok (59 posts) and the University of Warsaw Library (34 posts). The least were shared by the University Library in Rzeszow (10 posts) and the Library of the University of Zielona Gora (4 posts). It is worth noting that the posts of the University of Warsaw Library collected the largest number of user reactions (3,273 reactions). It was the highest value during the pandemic, relating to user responses to messages from individual libraries publishing posts related to different subject codes. The Library of the University of Lodz (2,769 reactions) came second in terms of the number of reactions to posts related to this code, and the Jagiellonian Library (1,313 reactions) came third. Posts by the rest of the libraries triggered well under 1,000 reactions. The least reactions occurred in the case of the Main Library of Cardinal Stefan Wyszynski University in Warsaw (57 reactions) and the Library of the University of Zielona Gora (13 reactions). It is clear that also in the case of this subject code, the differences in the number of posts published and the number of users' reactions to these messages in individual libraries were sometimes vast.

For the "sentiments" code, 336 posts were identified. For the most part, they were associated with various types of content relating to greetings, thanks, jokes, words of appreciation, congratulations, and farewells (including that of the prominent Polish author Jerzy Pilch, who died on May 29, 2020). During lockdown periods particularly, there were greetings sent

to patrons wishing them a quick meeting in the library building. The most active in this case were the Library of the University of Lodz (75 posts), the Main Library - University of Szczecin (40 posts) and the Scientific Information Center and the Academic Library CINiBA (39 posts). Posts by the University of Lodz (2,468) generated the most reactions. Messages from other libraries did not collect such a large number of user responses. Next was the University of Warsaw Library (651 reactions) and the Library of the University of Gdansk (636 reactions). The fewest posts related to this code were published by the Library of the University of Zielona Gora (5 posts), the University Library of the University of Warmia and Mazury in Olsztyn (3 posts) and the University Library in Rzeszow (1 post). The lowest number of reactions was produced by the Main Library of the University of Opole (14 reactions), the University Library in Rzeszow (8 reactions) and the Main Library of Cardinal Stefan Wyszynski University in Warsaw (3 reactions).

Next in line was the "archives" code, which was associated with 309 posts. This included information about the historical holdings of libraries, including in the context of digital libraries and repositories created or co-created by these institutions. The content of the posts included articles from old newspapers, information about valuable documents available in the libraries' special collections, historical photographs (including library buildings), archival satirical drawings. There was also news about projects aiming at the digitalization of library collections (e.g., the project Manuscript Cultural Heritage from the XV-XVIII Century in the Collection the Library of the University of Lodz). Most posts of this type were published by the Library of the University of Lodz (74 posts), the University of Warsaw Library (60 posts) and the University Library in Bialystok (38 posts). The Main Library of Maria Curie-Sklodowska University in Lublin has published only one post on this topic. However, as many as four libraries did not provide a single post related to this subject code. Those include: the Library of the University of Gdansk, the Main Library of the University of Opole, the Main Library of Cardinal Stefan Wyszynski University in Warsaw, the University Library in Rzeszow. The University of Warsaw Library (1,569 reactions) and the Library of the University of Lodz (1,313 reactions) gathered the largest number of users' reactions to their posts. Posts from the rest of the libraries resulted in significantly fewer user responses, from 513 reactions in the case of the Jagiellonian Library to 3 reactions to posts published by the Library of the University of Zielona Gora.

There were 221 posts assigned to the "other" code. These included posts directly unrelated to the library and the university with which it functions. These included advice on how to set up a remote workstation at home, quotes from famous people, information about interesting online

resources (unrelated to the activities of cultural, educational, and scientific institutions), fundraising, news about important events in Poland and the city in which the library operates. Single news items appeared related to events associated with the All-Poland Women's Strike social movement and mass protests against the tightening of the anti-abortion law in Poland. Most posts were published by the University Library in Bialystok (101 posts). Other libraries have shared far fewer posts of this type. Suffice it to say that next in line was the Main Library of the University of Szczecin (20 posts). Furthermore, in case of this code, as many as four libraries did not publish any post (the Nicolaus Copernicus University Library in Torun, the Main Library of the University of Opole, the Main Library of Cardinal Stefan Wyszynski University in Warsaw, the University Library in Rzeszow). Posts published by the University of Warsaw Library (7 posts and 1,210 reactions) generated the most reactions. It is worth noting that among the news published by this library was a post about the All-Poland Women's Strike (with a total of 1,174 reactions). Posts from other libraries definitely produced less reactions (from 562 for the University Library in Bialystok to 3 reactions for posts published by the University Library in Kielce).

The next most popular posts in the analyzed period were those assigned to the "library community" code. In this case, there were 212 posts relating to the activities of library employees, their workstations, showing the library "from behind the scenes" (e.g., describing the path of a book from collection to the lending library), and events related to cultural, social, and economic matters. (e.g., description of a book's path from collection to the lending library), events connected with cultural, educational, or scientific activities of librarians. There were also posts with photos of staff pets as well as recipes. Libraries also published posts with information about staff members' reading or travel experiences. There was news about the organizational structure of the library and characteristics of individual departments as well as information related to the activities of library organizations and associations. The Jagiellonian Library staff prepared a series of video posts in which they read excerpts from the book "The Library in a City Under Siege" by Mike Thomson. There were not many posts related to this code, but they caused, in case of particular libraries, a relatively large number of users' reactions. The largest number of posts of this type was published by the University Library in Bialystok (85 posts), the University of Warsaw Library (27 posts) and the University Library in Poznan (24 posts). In terms of the number of reactions, the University of Warsaw Library (1,085 reactions), the Library of the University of Lodz (1,041 reactions) and the University Library in Bialystok (1,032 reactions) posts received the greatest number of them. The posts from the rest of the libraries gathered significantly fewer user reactions. An important fact is

that as many as five institutions did not publish a single message related to this subject code.

In the pandemic period, the "events" code accumulated 208 posts which was far fewer than before the pandemic. It is worth recalling that in the period analyzed before the pandemic, such posts were the most numerous. During the pandemic, however, libraries did not hold many traditional or in-person events. They happened, but sporadically. The 100 most popular posts featured specific information about such events, including archived events. In general, libraries did not stop organizing exhibitions, lecture meetings with authors, etc. However, most such events were held through electronic media, including social media. There was also training for organizing various types of virtual events. This was the purpose of training conducted by Dr. Mirosław Piotrowski from the Nicolaus Copernicus University Library in Torun on the open-source Omeka system, useful in creating digital exhibitions. The training was conducted as part of the XII National Library Week May 8–15, 2020. The events organized within the framework of this holiday were held online without the possibility for patrons to visit the buildings of particular libraries. This was the case with most exhibitions, but also lectures, scientific conferences, and meetings with authors. Of course, there were posts about exhibitions (e.g. Jagiellonian Library's post of 28 November 2020 about the exhibition "Illumination – imaging in books", which was organized as a virtual vernissage in the form of a film, (https://www.facebook.com/343233225697002/posts/3745467278806896). There were also initiatives to create websites dedicated to exhibitions like the Jagiellonian Library's project titled "Virtual Exhibitions. Jagiellonian Library" (Wirtualne wystawy…, 2020). Information about each event was published on the library's Facebook fanpage. A similar situation occurred at the University Library University of Warmia and Mazury in Olsztyn, which developed a service called "Scientific Exhibitions of UWM University Library in Olsztyn" (Wystawy naukowe…, 2020). Exhibitions also occurred within the library building such as the event experiences by patrons in September of 2020 at the Jagiellonian Library. In the main lobby of this institution, the exhibition "Kraków and Jagiellonian University on postcards from 100 years ago" was presented. As previously noted, there were not many posts related to this code. Most of them were published by the University Library in Poznan (29 posts), the Nicolaus Copernicus University Library in Torun (25 posts) and the Jagiellonian Library (24 posts), and the least - by the Main Library of Maria Curie-Sklodowska University in Lublin (1 post). The University Library in Rzeszow has not published a single post related to this code. Most reactions were gathered by the posts published by the Nicolaus Copernicus University Library in Torun (460 reactions), the Jagiellonian Library (433 reactions) and the University Library in Poznan (317 reactions). The re-

maining libraries collected much fewer user reactions to the content they published.

The penultimate code in the order of popularity during the pandemic "university community" was assigned to 177 news items related to the functioning of the library's University. Several posts were also related to the scientific activities of the university staff, announcements of the authorities on the functioning of the university during the pandemic, elections of new rectors, university scientific awards, workshops, and training addressed to the university staff. The University of Warsaw Library initiated the "Read with UW" series of posts, in which once a month librarians, lecturers, and researchers from the UW discuss interesting books in a recorded video clip. As for the posts published by the University Library in Poznan, there were also a few with information about library studies conducted at the Adam Mickiewicz University in Poznan. The most posts were published by: the University Library in Poznan (38 posts), the Library of the University of Lodz (33 posts) and the University Library in Bialystok (26 posts). The University Library in Rzeszow has not published a single post related to this subject code. Most of the reactions were produced by the posts from the staff of the Library of the University of Lodz (399 reactions), the University Library in Poznan (239 reactions) and the University of Warsaw Library (135 reactions).

Within the "users" thematic category, 60 posts were identified. These related to the activities of the Facebook fanpage users themselves, as well as documents that they had donated to the library and that were published on the institution's fanpage. Graphic posts featuring user photos and posts related to their library activities (e.g., filling out library questionnaires; users choosing books to purchase; users bringing documents they would like to share with librarians or other users – e.g., books for the bookcrossing action and election leaflets from the European Parliament elections for the Social Life Documents Cabinet of the University of Warsaw Library) were also taken into account. Most posts of this type were published by the Library of the University of Lodz (13 posts), the University Library in Bialystok (10 posts) and the University of Warsaw Library (8 posts). As many as five institutions have not published a single post regarding this code. Those include: the Library of the University of Gdansk, the Main Library of the University of Opole, the Library of the University of Zielona Gora, the University Library University of Warmia and Mazury in Olsztyn, the University Library in Rzeszow. The most reactions were produced by the posts from the University of Warsaw Library (627 reactions) and the Library of the University of Lodz (386 reactions). Posts from other libraries collected significantly fewer user responses (from one response in case of the Main Library of Cardinal Stefan Wyszynski University in Warsaw, to 73 responses to posts published on the University Library in Poznan fan page).

CONCLUSION

To sum up and answer the questions posed in the introduction, it should be noted that the study showed that all Polish university libraries (part of public universities) used Facebook as part of their daily activities, both before and during the pandemic. This included using if for marketing purposes, such as, promoting events they organized, and library offerings.

In the period before the pandemic, the most frequent posts were related to various scientific, educational, and popularizing events. Most of events took place at the library building. Many posts focused on providing information about exhibitions, training organized by librarians, meetings with authors, etc. The pre-pandemic findings were consistent with those of other researchers who suggested that Facebook was a marketing tool and libraries used it to promote their events (Garoufallou & Vassilakaki, 2014; Lam, Au, & Chiu, 2020). However, not always did the individual libraries publish the most of such posts. For example, the Scientific Information Center and the Academic Library (CINiBA) most often shared posts on library collection and services, and posts from the University of Warsaw Library related to archives. It should be noted, however, that these are libraries that generally shared many posts in the analyzed periods. Nonetheless, information about the library's collections and information services was also popular as well as information posted about the library's building, website, and fanpage. The pandemic period in Poland was a time when Polish public university libraries functioned exclusively remotely for an extended period. It was also a time when these institutions, due to social distancing recommendations, stringently limited the offering of traditional or in-person information and library services.

The pandemic and the necessary precautions it provoked, made the remote services of libraries one of the key elements in their daily functioning. Also, online solutions enabled the availability of collections or information assistance provided to users by librarians virtually. Unsurprisingly, the greatest number of posts in the analyzed periods concerned library collections and services, mainly those available online. This was followed by information about the activities of other institutions, including the training courses they organized. As for event information, there was far less than before the pandemic, for obvious reasons. However, it is important to acknowledge that libraries found ways to organize various online events such as exhibitions or meetings with book authors. These events were of considerable interest to Facebook fanpage users. Undoubtedly, in the analyzed periods, library Facebook fanpages were used by these institutions as one of elements of their functioning, as a platform for the promotion of events, collections, and library services, often also serve as a tool of communication with the community.

RECOMMENDATIONS ON FACEBOOK APPLICATION FOR ACADEMIC LIBRARIES

Based on the findings from the study, the following recommendations are being made with the view that they can also be of value to other university libraries, not only in Poland. It is being recommended that:

1. More research be conducted on the interests of users, the main recipients of the published posts, in order to identify the value of engagement and post interaction. This is of utmost importance for the researchers to address the issues that matter to the users.

2. Mechanisms or guidelines should be implemented to monitor the quality and performance of posts published by libraries (Chan, Cheng, & Chiu, 2015; Lam, Au, & Chiu, 2020).

3. Consideration be given by librarians to the use of more graphic posts and those with video content as they are definitely more popular and appealing to users.

4. Posts containing original and unconventional photos taken by library staff should be published on the sites because they are very popular among users.

5. Additional software or web services, such as Canva, worth be used to prepare graphic posts because they allow for the creation of graphically attractive content especially designed on social networks.

6. Posts be prepared in a loose content convention, without formal language.

7. Facebook worth be used for live streaming of events that take place in libraries. During the pandemic, and especially during the lockdown period, such solutions as well as the video recording of events were effectively used in Poland and were shared on the libraries' fanpages.

8. Library staff responsible should be formally and regularly trained for fanpage maintenance and the use of Facebook for information and library services (Friday, Chidozie, & Chukwuma, 2020). In addition, they should be educated in the analysis of the quality and efficiency of published content. The libraries should also provide staff with the appropriate tools to conduct these analyses.

APPENDIX

The number of posts (assigned to particular subject codes) and the number of users' reactions to the content published by individual libraries in the two analyzed time periods.

No.	Name of the library		Events	Library collection, and services	Library building, website, and fanpage	Sentiments	Archives	Other institutions	Other	University community	Users	Library community
1	University Library in Białystok	Pre-pandemic period	63 posts / 423 reactions	36 posts / 140 reactions	39 posts / 358 reactions	23 posts / 210 reactions	16 posts / 94 reactions	20 posts / 53 reactions	17 posts / 98 reactions	9 posts / 70 reactions	8 posts / 98 reactions	13 posts / 140 reactions
		Period During the Pandemic	20 posts / 155 reactions	111 posts / 756 reactions	59 posts / 794 reactions	30 posts / 287 reactions	38 posts / 268 reactions	122 posts / 544 reactions	101 posts / 562 reactions	26 posts / 122 reactions	10 posts / 67 reactions	85 posts / 1032 reactions
2	Library of the University of Lodz	Pre-pandemic period	92 posts / 2560 reactions	43 posts / 1018 reactions	59 posts / 2597 reactions	72 posts / 4026 reactions	29 posts / 808 reactions	8 posts / 119 reactions	10 posts / 502 reactions	16 posts / 292 reactions	34 posts / 1139 reactions	11 posts / 436 reactions
		Period During the Pandemic	16 posts / 193 reactions	127 posts / 2938 reactions	65 posts / 2769 reactions	75 posts / 2468 reactions	74 posts / 1313 reactions	30 posts / 677 reactions	8 posts / 150 reactions	33 posts / 399 reactions	13 posts / 386 reactions	21 posts / 1041 reactions

#	Library	Period	1	2	3	4	5	6	7	8	9	10
3	University Library in Poznan	Pre-pandemic period	145 posts / 1593 reactions	51 posts / 576 reactions	24 posts / 171 reactions	16 posts / 487 reactions	30 posts / 470 reactions	25 posts / 459 reactions	21 posts / 381 reactions	16 posts / 340 reactions	6 posts / 62 reactions	7 posts / 37 reactions
		Period During the Pandemic	29 posts / 317 reactions	70 posts / 815 reactions	26 posts / 455 reactions	34 posts / 566 reactions	24 posts / 268 reactions	79 posts / 604 reactions	13 posts / 415 reactions	38 posts / 239 reactions	7 posts / 73 reactions	24 posts / 371 reactions
4	Main Library – University of Szczecin	Pre-pandemic period	21 posts / 80 reactions	38 posts / 137 reactions	10 posts / 11 reactions	18 posts / 95 reactions	2 posts / 16 reactions	20 posts / 41 reactions	none / none	3 posts / 6 reactions	none / none	5 posts / 25 reactions
		Period During the Pandemic	11 posts / 125 reactions	91 posts / 1051 reactions	29 posts / 129 reactions	40 posts / 445 reactions	6 posts / 102 reactions	50 posts / 252 reactions	20 posts / 176 reactions	16 posts / 118 reactions	3 posts / 49 reactions	4 posts / 33 reactions
5	Scientific Information Centre and the Academic Library (CINiBA)	Pre-pandemic period	67 posts / 916 reactions	133 posts / 1005 reactions	41 posts / 697 reactions	36 posts / 649 reactions	13 posts / 171 reactions	9 posts / 65 reactions	2 posts / 12 reactions	9 posts / 154 reactions	8 posts / 122 reactions	7 posts / 264 reactions
		Period During the Pandemic	15 posts / 197 reactions	139 posts / 1273 reactions	19 posts / 212 reactions	39 posts / 528 reactions	5 posts / 49 reactions	1 posts / 6 reactions	16 posts / 143 reactions	5 posts / 39 reactions	2 posts / 21 reactions	4 posts / 88 reactions
6	University Library of Warsaw	Pre-pandemic period	67 posts / 692 reactions	61 posts / 855 reactions	42 posts / 1107 reactions	17 posts / 767 reactions	124 posts / 2226 reactions	9 posts / 85 reactions	2 posts / 117 reactions	16 posts / 289 reactions	16 posts / 390 reactions	15 posts / 179 reactions
		Period During the Pandemic	6 posts / 120 reactions	67 posts / 2623 reactions	34 posts / 3273 reactions	9 posts / 651 reactions	60 posts / 1569 reactions	11 posts / 186 reactions	7 posts / 1210 reactions	7 posts / 135 reactions	8 posts / 627 reactions	27 posts / 1085 reactions

No.	Library	Period	1	2	3	4	5	6	7	8	9	10
7	Wrocław University Library	Pre-pandemic period	17 posts / 99 reactions	42 posts / 63 reactions	35 posts / 148 reactions	3 posts / 43 reactions	8 posts / 97 reactions	13 posts / 22 reactions	1 posts / 1 reactions	10 posts / 26 reactions	1 posts / 3 reactions	1 posts / 18 reactions
		During the Pandemic Period	2 posts / 7 reactions	66 posts / 385 reactions	28 posts / 198 reactions	8 posts / 41 reactions	20 posts / 310 reactions	76 posts / 129 reactions	7 posts / 26 reactions	10 posts / 41 reactions	4 posts / 27 reactions	8 posts / 159 reactions
8	Jagiellonian Library	Pre-pandemic period	47 posts / 1017 reactions	24 posts / 286 reactions	6 posts / 365 reactions	8 posts / 310 reactions	2 posts / 75 reactions	3 posts / 5 reactions	none / none	none / none	1 posts / 50 reactions	none / none
		During the Pandemic Period	24 posts / 433 reactions	63 posts / 742 reactions	22 posts / 1313 reactions	14 posts / 605 reactions	29 posts / 513 reactions	20 posts / 253 reactions	19 posts / 291 reactions	4 posts / 28 reactions	1 post / 17 reactions	16 posts / 557 reactions
9	Nicolaus Copernicus University Library in Toruń	Pre-pandemic period	56 posts / 619 reactions	54 posts / 390 reactions	28 posts / 127 reactions	6 posts / 312 reactions	17 posts / 240 reactions	13 posts / 62 reactions	2 posts / 10 reactions	4 posts / 84 reactions	1 posts / 4 reactions	3 posts / 157 reactions
		During the Pandemic Period	25 posts / 460 reactions	62 posts / 514 reactions	18 posts / 523 reactions	7 posts / 363 reactions	26 posts / 472 reactions	24 posts / 95 reactions	none / none	2 posts / 3 reactions	4 posts / 43 reactions	6 posts / 94 reactions
10	Library of the University of Gdansk	Pre-pandemic period	39 posts / 662 reactions	66 posts / 991 reactions	50 posts / 1130 reactions	55 posts / 1993 reactions	7 posts / 168 reactions	28 posts / 511 reactions	20 posts / 519 reactions	11 posts / 147 reactions	6 posts / 167 reactions	1 post / 1 reaction
		During the Pandemic Period	4 posts / 119 reactions	54 posts / 691 reactions	17 posts / 148 reactions	21 posts / 636 reactions	none / none	29 posts / 308 reactions	7 posts / 102 reactions	8 posts / 97 reactions	none / none	none / none

#	Library	Period										
11	University Library in Kielce	Pre-pandemic period	54 posts / 358 reactions	22 posts / 84 reactions	15 posts / 65 reactions	4 posts / 28 reactions	2 posts / 7 reactions	3 posts / 8 reactions	1 posts / 8 reactions	2 posts / 20 reactions	26 posts / 205 reactions	3 posts / 39 reactions
		Period During the Pandemic	22 posts / 117 reactions	37 posts / 144 reactions	18 posts / 81 reactions	6 posts / 82 reactions	4 posts / 5 reactions	16 posts / 16 reactions	2 posts / 3 reactions	8 posts / 34 reactions	2 posts / 26 reactions	5 posts / 31 reactions
12	Library of Kazimierz Wielki University in Bydgoszcz	Pre-pandemic period	34 posts / 325 reactions	2 posts / 21 reactions	11 posts / 82 reactions	7 posts / 108 reactions	1 posts / 13 reactions	5 posts / 59 reactions	4 posts / 43 reactions	7 posts / 59 reactions	3 posts / 41 reactions	3 posts / 86 reactions
		Period During the Pandemic	15 posts / 152 reactions	21 posts / 307 reactions	18 posts / 236 reactions	14 posts / 357 reactions	8 posts / 113 reactions	14 posts / 144 reactions	12 posts / 117 reactions	7 posts / 75 reactions	1 post / 8 reactions	3 posts / 52 reactions
13	Main Library of Maria Curie-Skłodowska University in Lublin	Pre-pandemic period	69 posts / 627 reactions	65 posts / 346 reactions	42 posts / 741 reactions	35 posts / 658 reactions	18 posts / 238 reactions	17 posts / 112 reactions	48 posts / 777 reactions	18 posts / 138 reactions	10 posts / 124 reactions	10 posts / 188 reactions
		Period During the Pandemic	1 post / 6 reactions	39 posts / 308 reactions	25 posts / 489 reactions	18 posts / 321 reactions	2 posts / 20 reactions	8 posts / 50 reactions	3 posts / 28 reactions	3 posts / 3 reactions	4 posts / 56 reactions	2 posts / 33 reactions
14	Main Library of Cardinal Stefan Wyszynski University in Warsaw	Pre-pandemic period	8 posts / 30 reactions	44 posts / 38 reactions	46 posts / 30 reactions	5 posts / 11 reactions	1 posts / 9 reactions	17 posts / 4 reactions	3 posts / 3 reactions	2 posts / 4 reactions	1 posts / 2 reactions	1 posts / 3 reactions
		Period During the Pandemic	2 posts / 2 reactions	35 posts / 114 reactions	18 posts / 57 reactions	6 posts / 3 reactions	none / none	12 posts / 6 reactions	none / none	4 posts / 4 reactions	1 post / 1 reaction	none / none

#	Library	Period										
15	University Library of Warmia and Mazury in Olsztyn	Pre-pandemic period	54 posts / 601 reactions	19 posts / 143 reactions	20 posts / 282 reactions	7 posts / 207 reactions	2 posts / 42 reactions	3 posts / 23 reactions	1 posts / 6 reactions	6 posts / 42 reactions	2 posts / 17 reactions	3 posts / 29 reactions
		Period During the Pandemic	7 posts / 161 reactions	31 posts / 330 reactions	18 posts / 184 reactions	3 posts / 47 reactions	12 posts / 77 reactions	3 posts / 6 reactions	3 posts / 5 reactions	1 post / 4 reactions	none	7 posts / 59 reactions
16	Library of the University of Zielona Gora	Pre-pandemic period	9 posts / 131 reactions	4 posts / 26 reactions	none	1 posts / 6 reactions	1 posts / 4 reactions	5 posts / 35 reactions	2 posts / 20 reactions	none	none	none
		Period During the Pandemic	6 posts / 37 reactions	24 posts / 135 reactions	4 posts / 13 reactions	5 posts / 60 reactions	1 post / 3 reactions	26 posts / 129 reactions	1 post / 5 reactions	2 posts / 7 reactions	none	none
17	Main Library of the University of Opole	Pre-pandemic period	8 posts / 36 reactions	5 posts / 6 reactions	18 posts / 10 reactions	3 posts / 15 reactions	none	2 posts / 2 reactions	1 posts / 1 reaction	1 posts / 1 reaction	none	none
		Period During the Pandemic	3 posts / 2 reactions	20 posts / 82 reactions	27 posts / 69 reactions	6 posts / 14 reactions	none	4 posts / 3 reactions	none	3 posts / 5 reactions	none	none
18	University Library in Rzeszow	Pre-pandemic period	3 posts / 16 reactions	6 posts / 18 reactions	9 posts / 20 reactions	3 posts / 16 reactions	none	1 posts / none	none	none	1 posts / 17 reactions	none
		Period During the Pandemic	none	20 posts / 126 reactions	10 posts / 66 reactions	1 post / 8 reactions	none	11 posts / 12 reactions	none	none	none	none

REFERENCES

Akporhonor, Blessing A.; Olise, Florence N. (2015). Librarians' use of social media for promoting library and information resources and services in university libraries in South-South Nigeria. *Information and Knowledge Management* 5(6).

AlAwadhi, Suha; Al-Daihani, Sultan M. (2019). Marketing academic library information services using social media. *Library Management*, 40(3/4), pp. 228-239. https://doi.org/10.1108/LM-12-2017-0132.

Alvanoudi, Noula; Vozana, Paraskevi (2019). Social media usage and assessment for Greek Academic Libraries. In: *IFLA WLIC 2019 – Libraries: Dialogue for Change in Session S16 – Statistics and Evaluation: More than Numbers: Implementing New Assessment Methods for Libraries*. University of Piraeus, Greece, 22 August 2019. Retrieved from https://www.academia.edu/40462105/Social_media_usage_and_assessment_for_Greek_Academic_Libraries. (Accessed on 14 May 2021).

Alvim, Luísa, Dias da Silva; Ana Margarida; Borges Leonor Calvão (2020). How are Portuguese Public Libraries "facing" Covid-19.Qualitative and Quantitative Methods in Libraries (QQML). *Special Issue Libraries in the age of COVID-19*, 9, pp. 117-131.

Ayu, A.R. Riza; Abrizah, Abdullah (2011). Do you Facebook? Usage and applications of Facebook page among academic libraries in Malaysia. *International and Library Review* 43: pp. 239-249. DOI: 10.1016/j.iilr.2011.10.005.

Chawner, Brenda; Oliver, Gillian (2013). A survey of New Zealand academic reference librarians: Current and future skills and competencies. Australian *Academic & Research Libraries*, 44, pp. 29-39. DOI:10. 1080/00048623.2013.773865.

Cheng, Wesley Wing Hong; Lam, Ernest Tak Hei; Chiu, Dickson K.W. (2020). Social media as a platform in academic library marketing: A comparative study. *The Journal of Academic Librarianship*, 46(5), Article 102188. https://doi.org/10.1016/j.acalib.2020.102188

Fanpage Karma. (2018). Fanpage Karma. Retrieved from, https://www.fanpage-karma.com/dashboard?h=TpiSIZ9Hu. Accessed May 14, 2021.

Friday, James; Oluchi, Chidozie; Chukwuma, Lauretta Ngozi (2020). Social Media and Library Services: A Case of COVID-19 Pandemic Era. *International Journal of Research and Review*, 7(10), pp. 230-237.

Glazer, Harry (2012). "Likes" are Lovely, but do they Lead to More Logins? Developing Metrics for Academic Libraries' Facebook Pages.College & *Research Library News*, 73(1), pp. 18-21. DOI: 10.5860/crln.73.1.8688.

Gmiterek, Grzegorz (2021a). Polish University libraries social networking services during the Covid-19 pandemic spring term lockdown. *The Journal of Academic Librarianship*, 47(3), Article 102331. https://doi.org/10.1016/j.acalib.2021.102331.

Gmiterek, Grzegorz (2021b). Wykorzystanie serwisu Facebook przez polskie biblioteki uniwersyteckie w czasie ich zamknięcia spowodowanego pandemią Covid-19. Analiza porównawcza udostępnianych postów. *Przegląd Biblioteczny*, 1, pp. 41-61.

Gmiterek, Grzegorz (in press). Polish University Libraries and Their Facebook Activity Before and During the COVID-19 Pandemic.

Garoufallou, Evgenia; Vassilakaki, Emmanouel (2015). Library Facebook prac-

tices for creating and promoting a professional profile. Program, 49(3), pp. 343–359. DOI:10.1108/ PROG-10-2014-0073.

Harrison, Amanda, Burress; Rene, Velasquez, Sarah; Schreiner, Lynnette (2017). Social Media Use in Academic Libraries: A Phenomenological Study. *The Journal of Academic Librarianship*, 43(3), pp. 248-256, DOI:10.1016/j.acalib.2017.02.014

Hicks, Alison (2012). Review of "social networking tools for academic libraries". *Collaborative Librarianship*, 4(4), pp. 190-191.

Howard, Heather A.; Huber, Sarah, Carter Lisa V.; Moore, Elizabeth Anne (2018). Academic Libraries on Social Media: Finding the Students and the Information They Want. Information Technology and Libraries, 37(1), pp. 8-18. DOI:10.6017/ital.v37i1.10160.

Jacobson, Terra B. (2011), Facebook as a library tool: Perceived vs. actual use, *College & Research Libraries*, 72 (1): pp. 79-90.

Jaskowska, Bożena (2008). *Jak łapać użytkownika w sieć? Elementy marketingu 2.0 w bibliotece*. W: M. Pigla (Ed.), *Zarządzanie marketingowe biblioteką* (pp. 81-93). Poznań: Wydaw. Wyższej Szkoły Bankowej w Poznaniu.

Jenkins, Henry (2007). *Kultura konwergencji. Zderzenie starych i nowych mediów*. Warszawa: Wydaw. Akademickie i Profesjonalne.

Jones, Michael J.; Harvey, Morgan (2019). Library 2.0: The effectiveness of social media as a marketing tool for libraries in educational institutions. *Journal of Librarianship and Information Science*, 51(1), pp. 3-19. DOI:10.1177/0961000616668959.

Joo, Soohyung; Choi, Namjoo; Baek, Tae Hyun (2018). Library marketing via social media: The relationships between Facebook content and user engagement in public libraries, *Online Information Review*, 42(6), pp. 940-955. DOI:10.1108/ OIR-10-2017-0288.

Kamińska, Anna; Książczak-Gronowska, Anna; Wiorogórska, Zuzanna (2020). The Use of Information and Communication Technologies in Academic Libraries in a Crisis Situation. Experiences of the University of Warsaw Library. *Issues in Information Science-Information Studies*, 58, 2a, pp. 44-60.

Kołodziejczyk, Edyta; Rożniakowska-Kłosińska, Małgorzata (2015). Technologie informacyjno-komunikacyjne a oczekiwania i umiejętności użytkowników bibliotek akademickich – na przykładzie Biblioteki Politechniki Łódzkiej. In: Halina Brzezińska-Stec; Jolanta Żochowska (Eds.), *Biblioteki bez użytkowników...? Diagnoza problemu*, V Ogólnopolska Konferencja Naukowa, Supraśl, 14-16 września 2015 (pp. 243-256). Białystok: Wydaw. Uniwersytetu w Białymstoku.

Koszowska, Agnieszka (2013). Nowe media w bibliotece. In: A. Tokarska (Ed.), *Bibliotekarstwo* (pp. 417-433). Warszawa: Wydaw. SBP.

Koulouris, Alexandros; Vraimaki, Eftichia; Koloniari, Maria (2020). COVID-19 and library social media use. *Reference Services Review*, 49(1), pp. 19-38. DOI:10.1108/rsr-06-2020-0044.

Ladan, Abubakar; Haruna, Bala; Madu, Augustine Uzoma (2020). COVID-19 Pandemic and Social Media News in Nigeria: The Role of Libraries and Library Associations in Information Dissemination. *International Journal of Innovation and Research in Educational Sciences*, 7, 2, pp. 125-133.

Lam, Ernest Tak Hei; Au, Cheuk Hang; Chiu, Dickson K.W., Analyzing the use of Facebook among university libraries in Hong Kong. *The Journal of Academic Librarianship*, 45(3), pp. 175-183. DOI: 10.1016/j.acalib.2019.02.007.

Lamberti, Maria; Theus, Monika (2016). Media społecznościowe w polskich bibliotekach, archiwach i muzeach. *Biblioteka*, 20(29), pp. 183-206. https://doi.org/10.14746/b.2016.20.11.

Lessig, Lawrence (2009). *Remiks. Aby sztuka i biznes rozkwitały w hybrydowej gospodarce*. Warszawa: Wydawnictwa Akademickie i Profesjonalne, (Chapter 4).

Luo, Lili, Wang, Yuan; Han, Lifeng (2013). Marketing via social media: A case study. *Library Hi Tech* 31(3): pp. 455-466. DOI:10.1108/LHT-12-2012-0141.

Magoi, Joshua Sani; Aspura, MK Yanti Idaya; Abrizah, A (2017). Social media engagement in developing countries: Boon or bane for academic libraries? *Information Development*. DOI:10.1177/2F0266666917748985.

McCallum, Ian (2015). Use of social media by the library: Current practices and future opportunities. A White Paper from Taylor & Francis. Australian *Library Journal* 64(2): pp. 161-162.

MNiSW. (2021). *Wykaz uczelni publicznych nadzorowanych przez ministra właściwego ds. szkolnictwa wyższego – publiczne uczelnie akademickie* – Portal Gov.pl. Retrieved from https://www.gov.pl/web/nauka/wykaz-uczelni-publicznych-nadzorowanych-przez-ministra. (Accessed 12 May 2021).

Peachey, Jenny (2020). *Making a Difference Libraries, Lockdown and Looking Ahead*. https://d1ssu070pg2v9i.cloudfront.net/pex/carnegie_uk_trust/2020/10/13090335/Overarching-report-Making-a-Difference-1.pdf/Accessed 21 July 2021.

Potter, Ned (2012). *The Library Marketing Toolkit*. London: Facet.

Sekyere, Kwabena (2009). Too much hullabaloo about Facebook in libraries! Is it really helping libraries? *Nebraska Library Association Quarterly* 40(2), pp. 22-27.

Swanson, Troy A. (2012) *Managing Social Media in Libraries: Finding Collaboration, Coordination, and Focus*. Amsterdam: Elsevier.

Tella, Adeyinka; Akinboro, Evelyn O. (2014). The Impact of Social Media to Library Services in Digital Environment In: Adeyinka Tella (ed.) *Social Media Strategies for Dynamic Library Service Development* (pp. 279-295). Hershey: Information Science Reference.

Trucks, Elia (2019). Making Social Media More Social: A Literature Review of Academic Libraries' Engagement and Connections Through Social Media Platforms. In Jennifer Joe; Elisabeth Knight (Eds.), *Social Media for Communication and Instruction in Academic Libraries*. Hershey, PA: Information Science Reference. https://digitalcommons.du.edu/libraries_facpub/25.

Vanwynsberghe, Hadewijch; Vanderlinde, Ruben; Georges, Annabel; Verdegem, Pieter (2015). The librarian 2.0: Identifying a typology of librarians' social media literacy. *Journal of Librarianship and Information* Science 47(4): 283-293. DOI:10.1177/0961000613520027.

Wirtualne wystawy. Biblioteka Jagiellońska. (2020). Retrieved from https://wystawy.bj.uj.edu.pl/-start. (Accessed 12 May 2021).

Wójcik, Magdalena (2013). *Web 2.0 w działalności usługowej instytucji książki*. Kraków: Wydaw. Uniwersytetu Jagiellońskiego.

Wystawy naukowe Biblioteki Uniwersyteckiej UWM w Olsztynie. (2020). Retrieved from https://bu.uwm.edu.pl/wystawy/. (Accessed 12 May 2021).

GRZEGORZ GMITEREK
Wydział Dziennikarstwa, Informacji i Bibliologii
Uniwersytet Warszawski
e-mail: ggmiterek@uw.edu.pl
ORCID 0000-0002-5692-1824

WYKORZYSTANIE FANPAGE'Y W SERWISIE FACEBOOK PRZEZ POLSKIE BIBLIOTEKI UNIWERSYTECKIE PRZED I W TRAKCIE PANDEMII COVID-19. ANALIZA TREŚCI POSTÓW

ABSTRACT: **Cel artykułu** – Głównym celem artykułu było przedstawienie wyników analizy zawartości postów, udostępnianych w serwisie Facebook przez osiemnaście polskich bibliotek uniwersyteckich w okresie bezpośrednio poprzedzającym pandemię COVID-19 oraz w czasie jej trwania. **Metody badawcze** – W badaniu zastosowano metody jakościowe i ilościowe. Do zbierania danych wykorzystano komercyjne narzędzie internetowe Fanpage Karma, służące analizie fanpage'y w mediach społecznościowych. W celu określenia tematyki postów autor artykułu posłużył się dziesięcioma kodami tematycznymi, do których przyporządkował każdy post. **Wyniki/Wnioski** – Badanie wykazało, że wszystkie polskie biblioteki uniwersyteckie (wchodzące w skład uczelni publicznych) korzystały z Facebooka w ramach swojej codziennej działalności, zarówno przed, jak i w trakcie pandemii. Wykorzystywały go w celach marketingowych, m.in. do promocji organizowanych przez siebie imprez, zaprezentowania oferty biblioteki. W okresie przed pandemią najczęściej pojawiały się wpisy związane z różnego rodzaju wydarzeniami naukowymi, edukacyjnymi i popularyzatorskimi. Większość z nich odbywała się w budynku biblioteki. Pandemia i wywołane przez nią konieczne środki ostrożności sprawiły, że zdalne usługi bibliotek stały się jednym z kluczowych elementów ich codziennego funkcjonowania. Najwięcej postów w analizowanych okresach dotyczyło zbiorów i usług bibliotecznych, głównie tych dostępnych on-line.