

Social Media Boost During the Pandemic: A Statistical Approach to the Case of Lithuanian Museums¹

Aya Kimura

Aya Kimura, PhD
Department of Human Sciences
Obihiro University of Agriculture and Veterinary Medicine
Inada-cho, Obihiro, Hokkaido 080-8555
Japan
e-mail: akimura@obihiro.ac.jp
<https://orcid.org/0000-0002-4109-5355>

Muzeológia a kultúrne dedičstvo, 2025,13:2:21–41
doi: 10.46284/mkd.2025.13.2.2

Social Media Boost During the Pandemic: A Statistical Approach to the Case of Lithuanian Museums

As a disease prevention measure during the COVID-19 pandemic, museums worldwide stopped accepting visitors and increased their digital activities as an alternative. This study examines the long-term impact of COVID-19 on social media usage by Lithuanian museums from 2019 to 2021. The research questions were: “Have levels of social media usage by museums increased since the beginning of the COVID-19 pandemic? If so, how has the content changed?” Statistical and content analyses of Facebook use by Lithuanian national and state museums from 2019 to 2021 revealed that social media posts increased. Quantitative analysis showed seasonal variations in activity, with a significant increase in September of each year. Qualitative analysis categorized posts into invitations to visit, publicising activities, interacting with visitors, announcements and statements. It was found that the museums mainly used social media for unidirectional information dissemination rather than interactive communication.

Keywords: museum communication; pandemic; social media; Lithuania

1 Introduction

In 2020, the lockdown caused by the COVID-19 pandemic forced more than 90% of museums worldwide to close and move their activities online.² Numerous studies concerning this global phenomenon have adopted a relatively short-term perspective, focusing on aspects such as sanitary measures during the initial reopening phases and online visitor services implemented in 2020. The medium- to long-term impacts remain under investigation.

This study investigates the medium-term effects of the pandemic on museums by analysing trends in social media usage. Among the various digital activities that museums initiated during lockdowns, social media usage saw the biggest increase, with 47.49% of museums worldwide using social media more after the lockdown.³ The fundamental questions addressed by this study are, “Have levels of social media usage by museums increased since the beginning of the COVID-19 pandemic? If so, how has the content changed?” Facebook, the world’s top social media platform in terms of active users, is the main focus of this study.

¹ References to grant research and foundation projects. This work was supported by JSPS KAKENHI under Grant Number 23K12317. Declaration of interest statement. The author declares no conflicts of interest.

² ICOM, Museums, museum professionals and COVID-19, <https://icom.museum/wp-content/uploads/2020/05/Report-Museums-and-COVID-19.pdf>.

³ ICOM, Museums, museum professionals..., p. 10

This medium-term study covers a three-year period from 2019 to 2021, spanning the initial phases of the pandemic. Due to the prohibition of automated data collection by major social media platforms, primarily Facebook, data acquisition had to be conducted through visual observation and manual recording. Given the nature of data collection and time constraints, the author narrowed down the parameters for selecting target cases. Cases were selected based on two criteria: (i) the ability to specify the duration of lockdowns during which museums ceased operations, and (ii) the capacity to exclude from consideration any pre-planned changes resulting from technological innovation in museums that happened to coincide with the pandemic.

One case that fits both conditions is that of Lithuania. The Republic of Lithuania is a country in northern Europe with a population of approximately 2.8 million and 110 museums. Recognizing that the selection of Lithuania as a case study may not produce globally applicable findings, the author addresses the unique characteristics of the Lithuanian context in the following section and integrates this perspective into the analysis.

2 Prior Research

2.1 Museological context of the COVID-19 pandemic and museums

Since March 2020, museum professionals and scholars have documented the impact of the pandemic and the subsequent lockdowns on museums. This section provides a summary of previous studies from two perspectives: initial restrictions and transition to online activities.

The initial restrictions included temporary closures and reopenings. The first papers published at the beginning of the pandemic show how museum managers let their staff leave their offices.⁴ From a broader perspective, international organisations have conducted extensive surveys and endeavored to ascertain global trends. They mainly regarded restrictions on their activities, including the possibility of not opening up again.⁵ They also conducted follow-up surveys to collect data on how the restrictions were lifted.⁶ These reports documented the implementation of quarantine measures in museums.

The primary concern at reopening after the first lockdown was safety of visitors. Safety measures, including regular sanitisation protocols, were novel for some museums.⁷ As tactile interaction was the least recommended activity, museum experiences for visitors with disabilities

⁴ CHRISTIANSEN, Keith. The Met and the COVID crisis. *Museum Management and Curatorship*, 35(3), 2020, pp. 221–224.; BLÜHM, Andreas. The Groninger Museum Experience. In: *Museum Management and Curatorship*, 35(3), 2020, pp. 225–226; POTTS, Timothy. The J. Paul Getty Museum during the Coronavirus Crisis. In: *Museum Management and Curatorship*, 35(3), 2020, pp. 217–220. doi:10.1080/09647775.2020.1762360.

⁵ ICOM, Museums, museum professionals...; NEMO, Survey on the impact of the COVID-19 situation on museums in Europe Final Report, www.ne-mo.org/fileadmin/Dateien/public/NEMO_documents/NEMO_COVID19_Report_12.05.2020.pdf; UNESCO, *Museums around the world in the face of COVID-19*, <https://unesdoc.unesco.org/ark:/48223/pf0000373530>

⁶ ICOM, Museums, museum Professionals and COVID-19: Follow-up survey, 2021, https://icom.museum/wp-content/uploads/2020/11/FINAL-EN_Follow-up-survey.pdf; NEMO, Follow-up survey on the impact of the COVID-19 pandemic on museums in Europe Final Report, www.ne-mo.org/fileadmin/Dateien/public/NEMO_documents/NEMO_COVID19_FollowUpReport_11.1.2021.pdf; UNESCO, *Museums around the world in the face of COVID-19*, https://unesdoc.unesco.org/ark:/48223/pf0000376729_eng

⁷ SKIPPER, Philip et al. Disinfection of Contaminated Heritage Surfaces from SARS-CoV-2 Virus. In: *Journal of Conservation and Museum Studies* 19 (1), 2021, pp. 1–6.; SMITH, Kate et al. Key Lessons in Adapting Interactive Experiences for a COVID-Safe Museum. In: *Journal of Conservation and Museum Studies*, 19 (1):2, 2021, pp. 1–5.

were limited.⁸ The literature demonstrates how museums successfully resumed operations post-pandemic.

The transition to online activities by museums constituted another area of focus during the pandemic. The first academic studies on museums during the COVID-19 pandemic analysed online activities in the first few months, for example, Agostino et al.'s case study of Italian museums⁹ and Samaroudi et al.'s comparison of American and British cases.¹⁰

Numerous case studies were also developed on this subject. One approach was to provide virtual access to closed exhibition spaces. Various museums created digital copies of their closed exhibition halls and published them as virtual exhibitions.¹¹ In addition, museums' social media accounts showcased cancelled exhibitions.¹²

Exhibitions were not the only function of museums that transitioned to the virtual realm. Some museums shifted their educational activities online.¹³ Museums' outreach activities were also often extended as staff used social media to connect with local communities.¹⁴ Even the collection of objects took place online, with several institutions attempting to curate COVID-19-related exhibitions via the Internet.¹⁵ Tissen depicts the overall situation as occurring across a broad range, "from physical to digital, global to local, and passive to active".¹⁶

Case studies examining these online transitions have focused mainly on the nature of the activities that replaced normal functioning, rather than specific types of online activities. Social media, this study's subject, has been examined as a potential substitute for specific functions.

Some studies on museums and pandemics focus on operational challenges and online engagement strategies during crises. These studies demonstrate an ad hoc collection of responses. The next section examines the literature on social media and museums prior to the pandemic.

⁸ CECILIA, Rafie R. COVID-19 Pandemic: Threat or Opportunity for Blind and Partially Sighted Museum Visitors? In: *Journal of Conservation and Museum Studies*, 19(1):5, 2021, pp. 1–8.

⁹ AGOSTINO, Deborah et al. Italian state museums during the COVID-19 crisis: From onsite closure to online openness. In: *Museum Management and Curatorship*, 35(4), 2020, pp. 362–372.

¹⁰ SAMAROUDI, Myrsini et al., Heritage in lockdown: Digital provision of memory institutions in the UK and US of America during the COVID-19 pandemic. In: *Museum Management and Curatorship*, 35(4), 2020, pp. 337–361.

¹¹ ARAYAPHAN, Watsaporn et al. Digitalization of Ancient Fabric Using Virtual Reality Technology at the Wieng Yong House Museum: The FabricVR Project. In: *Digital Applications in Archaeology and Cultural Heritage*, 26, 2022, e00233.; GUTOWSKI, Piotr, and KŁOS-ADAMKIEWICZ, Zuzanna. Development of E-Service Virtual Museum Tours in Poland during the SARS-CoV-2 Pandemic. In: *Procedia Computer Science* 176, 2020, 2375–2383.

¹² O'HAGAN, Lauren. Instagram as an Exhibition Space: Reflections on Digital Remediation in the Time of COVID-19. In: *Museum Management and Curatorship*, 36 (6), 2021, pp. 610–631.

¹³ NOBLE, Kate. Challenges and Opportunities: Creative Approaches to Museum and Gallery Learning during the Pandemic. In: *International Journal of Art & Design Education*, 40(4), 2021, pp. 676–689; SZALBOT, Magdalena. (2022). "Games" using old photographs in the time of the pandemic: Archival photographs in museum education. In: *Muzeológia a kultúrne dedičstvo*, 10(3), pp. 61–79.

¹⁴ CORONA, Lara. Museums and Communication: The Case of the Louvre Museum at the Covid-19 Age. In: *Humanities and Social Science Research*, 4(1), 2021, pp.15–26.; RYDER, Brittany et al. The Social Media "Magic": Virtually Engaging Visitors during COVID-19 Temporary Closures. In: *Administrative Sciences*, 11(2), 2021, p. 53.

See, for example, LAURENSEN, Sarah et al. Collecting COVID-19 at National Museums Scotland. In: *Museum and Society*, 18(3), 2020, pp. 334–336.; SPENNEMANN, Dirk H.R. Curating the Contemporary: A Case for National and Local COVID-19 Collections. In: *Curator: The Museum Journal*, 65(1), 2022, pp. 27–42.; CHU, Kevin. Collecting and Archiving Asian American Stories during COVID-19. In: *Museum and Society*, 18(3), 2021, pp. 341–344.

¹⁶ TISSEN, Liselore N. M. Culture, Corona, Crisis: Best Practices and the Future of Dutch Museums. In: *Journal of Conservation and Museum Studies*, 19(1), 2021, p. 6.

2.2 Museological context of online activities and social media in museums

Online activities had been an option for museum communication for decades before the COVID-19 pandemic. Information and communication technology (ICT), including social media, was already being utilised to attract potential visitors, interact with visitors and democratise museums. This subsection reviews studies which preceded COVID-19 to contextualise the digital shifts made in response to the pandemic.

The dominant motivation for museums to use online media, particularly websites, is to attract more visitors.¹⁷ The same motivation led museums to use social media platforms, with museum professionals at various levels, from managers to workers using them attract potential visitors.¹⁸

Another incentive for museums to encourage communication through social media platforms is that they enable interactivity. Gronemann et al. proposed an analytical model of social media communications between museums and visitors based on dialogue continuity.¹⁹ However, social media tends to be used as a tool for one-way public relations activities from museums to the public.²⁰

Another expectation of social media is that it supports the democratisation of museums as authoritative institutions. In his 2013 article, Phillips focused on Wikipedia, a social media platform, concerning museum authorities.²¹ In a recent study, Bosello and Van den Haak explored art museums' Instagram posts from a democratic perspective.²² However, these discussions are limited to case studies.

As interactivity and democratisation are core notions, social media usage seems to extend previous museum activities. The museological aspects of social media usage overlook the convenience of web services. The transition of all museum operations to digital platforms through social media during the pandemic represented a novel approach, warranting examination within the context of social media use in museological institutions.

¹⁷ FERNANDEZ-LORES et al. Driving Traffic to the Museum: The Role of the Digital Communication Tools. In: *Technological Forecasting and Social Change* 174, 2022, 121273; PALLUD, Jessie, and STRAUB, Detmar W. Effective Website Design for Experience-Influenced Environments: The Case of High Culture Museums. In: *Information and Management*, 51(3), 2014, pp. 359–373; PIERROUX, Palmyre, and SKJULSTAD, Synne. Composing a Public Image Online: Art Museums and Narratives of Architecture in Web Mediation, A Special Issue from Oslo, Norway. In: *Computers and Composition*, 28(3), 2011, pp. 205–214.

¹⁸ BADELL, Joan-Isidre. Museums and Social Media: Catalonia as a Case Study. In: *Museum Management and Curatorship*, 30(3), 2015, pp. 244–263.; BOOTH, Peter, OGUNDIPE, Anne, and RØYSENG, Sigrid. Museum Leaders' Perspectives on Social Media. In: *Museum Management and Curatorship*, 35(4), 2020, pp. 373–391.; FLETCHER, Adrienne, and LEE, Moon J. Current Social Media Uses and Evaluations in American Museums. In: *Museum Management and Curatorship*, 27(5), 2012, 505–521.

¹⁹ See e.g.: GRONEMANN, Sigurd Trolle, KRISTIANSEN, Erik and DROTNER, Kirsten. Mediated co-construction of museums and audiences on Facebook. In: *Museum Management and Curatorship*, 30(3), 2015, pp. 174–190.

²⁰ MANCA, Stefania, PASSARELLI, Marcello, and REHM, Martin. Exploring Tensions in Holocaust Museums' Modes of Commemoration and Interaction on Social Media. In: *Technology in Society*, 68, 2022, 101889.

²¹ PHILLIPS, Lori Byrd. The Temple and the Bazaar: Wikipedia as a Platform for Open Authority in Museums. In: *Curator: The Museum Journal*, 56(2), 2013, pp. 219–235.

²² BOSELLO, Greta, and HAAK, Marcel van den. #Arttothepeople? An Exploration of Instagram's Unfulfilled Potential for Democratising Museums. In: *Museum Management and Curatorship*, 37(6), 2022, pp. 565–582.

3 Case study: Lithuanian national and state museums and social media

3.1 Basic information on Lithuanian national museums and the Lithuanian museum network

This study examines the use of social media by Lithuanian museums during the pandemic. The activities of Lithuanian museums are governed by the Lithuanian Museum Acts (*Lietuvos Respublikos muziejų įstatymas*). According to this legislation, during the period encompassed by this study (2019–2021) museums were defined as follows.

A museum is a legal entity operating as a budgetary, public institution or any other legal form of legal entity, established in accordance with the procedure established by law, whose main activity is to collect, preserve, restore, study, exhibit and promote material and spiritual cultural values and natural objects.²³

Given that this definition remained constant throughout the period encompassed by this study, the onset of the pandemic did not precipitate an abrupt alteration in the legal status of museums. Furthermore, in accordance with the law, the Ministry of Culture is responsible for overseeing museums in Lithuania. The Ministry of Culture systematically collects and disseminates statistical data pertaining to Lithuanian museums on an annual basis.²⁴

The legislation underwent a comprehensive revision effective from 1 April 2023; however, as it falls outside the purview of this investigation, its contents will not be addressed herein.

From a total of 110 Lithuanian museums, the author narrowed down the target to simplify data collection, focusing on four national museums and 15 state museums. These represent Lithuanian museums in scale. Statistical data from the Ministry of Culture of the Republic of Lithuania show that in 2021 national and state museums owned 63% of all exhibits in the nation, and 54% of annual visits were to national or state museums.²⁵ Table 1 shows the list of museums and their Facebook pages.

Table 1: List of research subjects: names of museums and their Facebook pages.

Museum Name/ Original Name in Lithuanian	Facebook page URL – follows on from www.facebook.com/	Month Facebook page was started	Other social media accounts
Lithuanian National Museum of Art/Lietuvos nacionalinis dailės muziejus	Lnmuziejus/	Feb 2010	Twitter, YouTube, Instagram
National Museum of Lithuania/Lietuvos nacionalinis muziejus	Lietuvosnacionalinisdailesmuziejus/	Feb 2011	YouTube, WhatsApp Instagram

²³ LIETUVOS RESPUBLIKOS SEIMAS. *Lietuvos Respublikos muziejų įstatymas*, 2021 <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.18317/OphvQWrrLV> (author's translation)

²⁴ LIETUVOS RESPUBLIKOS KULTŪROS MINISTERIJA *Muziejai*, n.d., <https://lrkm.lrv.lt/lt/veiklos-sritys/muziejai-1>.

²⁵ Ibidem.

M. K. Čiurlionis National Museum of Art/Nacionalinis M.K. Čiurlionio dailės muziejus	CiurlionioDailesMuziejus/	Sep 2010	Twitter, YouTube, Instagram
National Museum Palace of the Grand Dukes of Lithuania/ Nacionalinis muziejus Lietuvos Didžiosios Kunigaikštystės valdovų rūmai	valdovurumai/	Sep 2009	YouTube, Pinterest, Instagram
Museum of Lithuanian Education History/ Lietuvos švietimo istorijos muziejus	svietimomuziejus/	Feb 2011	Instagram
Vilna Gaon Jewish Museum of History/ Valstybinis Vilniaus Gaono žydų muziejus	tolerance.center.lt/	May 2015	YouTube, Instagram
Kaunas Ninth Fort Museum/Kauno IX forto muziejus	9fortomuziejus/	Jun 2011	YouTube,
Maironis Lithuanian Literature Museum/ Maironio lietuvių literatūros muziejus	maironio.lietuviu.literaturos. muziejus/	Dec 2015	YouTube, Instagram
Vytautas the Great War Museum/Vytauto Didžiojo karo muziejus	vytautodidziojo.karomuziejus/	Jun 2013	YouTube, Pinterest
Lithuanian Aviation Museum/Lietuvos aviacijos muziejus	AviacijosMuziejus/	Feb 2019	YouTube, Instagram
Open-Air Museum of Lithuania/Lietuvos liaudies buities muziejus	openairmuseumoflithuania/	May 2015	YouTube, Instagram
Šiauliai Aušros Museum/ Šiaulių “Aušros” muziejus	Ausrosmuziejus/	Mar 2010	YouTube, Flickr, Instagram
Trakai History Museum/ Trakų istorijos muziejus	Trakuistorijosmuziejus/	Dec 2010	Instagram
Lithuanian Theater, Music and Cinema Museum/Lietuvos teatro, muzikos ir kino muziejus	LTMKmuziejus/	May 2010	YouTube, Instagram

Lithuanian Museum of Ethnocosmology/ Lietuvos etnokosmologijos muziejus	Lietuvos-Etnokosmologijos-Muziejus-115789891805373/	Jun 2015	YouTube
Kaunas Tadas Ivanauskas Museum of Zoology/ Kauno Tado Ivanausko zoologijos muziejus	Kauno-Tado-Ivanausko-zoologijos-muziejus-253417041393611/	Jan 2012	YouTube
Vaclovas Intas National Stone Museum/ Respublikinis Vaclovo Into akmenų muziejus	–	–	–
Lithuanian Sea Museum/ Lietuvos jūrų muziejus	muziejus.lt/	Oct 2009	Twitter, YouTube
Samogitian Museum ‘Alka’/Žemaičių muziejus “Alka”	muziejusalka.lt/	Apr 2011	YouTube, Instagram

* As per data available on 1 February 2022

3.2 Quarantine measures in Lithuania

Lithuanian museums were forced to close during lockdowns due to the COVID-19 pandemic. In total, Lithuanian museums were not allowed to accept visitors for 214 days: from 16 March 2020 to 26 April 2020 and from 7 November 2020 to 6 March 2021.

The first governmental quarantine started on 16 March 2020.²⁶ The quarantine measures prohibited visitation to museums until April 26, forcing museums to close their doors in this period. Even after the strictest restrictions were listed, quarantine continued and visiting museums in large groups was prohibited. On 17 June 2020, the first quarantine was completely lifted.

However, a second quarantine began on 7 November 2020 which again restricted visitation to museums.²⁷ The restrictions on visiting museums continued until 6 March 2021 and the quarantine ended on 1 July 2021. After the second lockdown, Lithuanian government implemented a “Passport of Possibilities (Galimybių pasas)”, an electronic certification showing whether the holder had been vaccinated against COVID-19 or had obtained a negative PCR test result.²⁸ From 5 February 2022, the “Passport of possibilities was suspended.”²⁹

3.3 Digital practices in Lithuanian museums

Lithuania has been attempting to digitise its cultural heritage. The official 2009 Strategy for the Digitisation, Preservation and Access to Lithuanian Cultural Heritage document explicitly states that a LIMIS (Lithuanian Integral Museum Information System) will be developed

²⁶ LIETUVOS RESPUBLIKOS VYRIAUSYBĖ. *Dėl karantino Lietuvos Respublikos teritorijoje paskelbimo*, 2020a, <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/deaf8694663011eaa02cacf2a861120c>.

²⁷ LIETUVOS RESPUBLIKOS VYRIAUSYBĖ. *Dėl karantino Lietuvos Respublikos teritorijoje paskelbimo*, 2020b, <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/a2b5da801f4a11eb9604df942ee8e443>.

²⁸ VALSTYBĖS ĮMONĖ REGISTRŲ CENTRAS. *Instrukcija, kaip gauti Galimybių pasą*, 2021, https://eimin.lrv.lt/uploads/eimin/documents/files/GP_gauti.pdf.

²⁹ VALSTYBĖS ĮMONĖ REGISTRŲ CENTRAS. *Galimybių pasas*, n.d., <https://gp.esveikata.lt>.

with a budget, and that LIMIS now plays a central role.³⁰ The subsequent Programme for the Promotion and Preservation of Digital Cultural Heritage 2015–2020 published in 2015 stipulates that four institutions in the country will become regional centres for digitisation.³¹ In other words, Lithuania was already pushing museum digitisation as a policy in the 2010s. The impetus went beyond institutional development: Kimura notes that in 2017 almost all national and public museums had begun digitisation, including the creation of metadata and digital images.³²

Even if these are not direct indications of online activity, they show that the groundwork for online activity was in place before the pandemic began. Kimura notes that although Lithuanian national and state museums use Facebook, Twitter, YouTube, and other social media services, Facebook is the most popular.³³ Given its popularity, it is reasonable to focus on Facebook when examining social media usage by Lithuanian museums.

4 Method

4.1 Data collection method: recording Facebook posts

The subject of this study is Facebook usage by state-owned Lithuanian museums. The target museums and their Facebook pages are listed in Table 1. The research focused only on the main pages of each institution for practical reasons related to data collection.

Posts were collected based on the date each one was made. The author collected posts uploaded from 1 January 2019 to 31 December 2021, took screenshots of each post on a web browser, and recorded the museum's date and name. The data was collected between October 2021 and January 2022.

The raw data from the investigation were counted to generate numerical data for statistical analysis. Two indicators were introduced: the number of posts on Facebook (NP) and the number of days each museum posted on Facebook (ND). For instance, if a museum made five posts in one day during the survey period, the NP was five and the ND was one. The NP and ND were aggregated for each month. The following subsections present the analysis methods used to study the NP and ND.

4.2 Analysis 1: Quantitative analysis

Analysis 1 examined social media use by Lithuanian museums quantitatively. The author used SPSS version 29 (IBM Corp., Armonk, NY, USA) to calculate basic statistics of monthly NP and ND from January 2019 to December 2021. Line charts based on the monthly mean of NP and ND were generated using Microsoft Excel. To examine statistical significance of increases or decreases, the author adopted the Wilcoxon signed-rank test using SPSS version 29 (IBM Corp., Armonk, NY, USA). This nonparametric test was chosen because NP and

³⁰ LIETUVOS RESPUBLIKOS VYRIAUSYBĖ. *Dėl Lietuvos kultūros paveldo skaitmeninimo, skaitmeninio turinio saugojimo ir prieigos strategijos patvirtinimo*, 2009, <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.345065/asr>

³¹ LIETUVOS RESPUBLIKOS KULTŪROS MINISTERIJA. *Dėl skaitmeninio kultūros paveldo aktualinimo ir išsaugojimo 2015–2020 metų programos patvirtinimo*, 2015, <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/84c5fc-10c90311e498aab3a4ca2b8d40?jfwid=5v2xfe3ci>

³² KIMURA, Aya. Digitization practices at Lithuanian museums after the LIMIS implementation (2008–2017). In: *Museologica Brunensia*, 7(2), 2018, pp. 19–33.

³³ KIMURA, Aya. Short-Term Solution for Museums at the Crisis: Application of ICT in Lithuanian Museums at Quarantine [Japanese]. In: *The journal of the Museological Society of Japan*, 46(1), 2020, pp. 71–90.

ND cannot be assumed to follow a normal distribution. The significance level was set at 5% ($\alpha=0.05$).

4.3 Analysis 2: Content of social media posts

Analysis 2 looked at social media post content. The author captured screenshots of each post during data collection, as previously described, and categorised the content based on textual and visual elements. Drawing on trends in social media use within museums from the literature review, she classified posts into three primary categories: (i) attracting potential visitors, (ii) interacting with visitors and (iii) democratising museums. For posts that did not align with these categories, additional classifications were implemented during analysis.

The investigation aimed to identify potential alterations in social media content use that may have intensified during the pandemic period. Analysis 2 identified which months saw an increase in social media posts by comparing qualitative data (generated in Analysis 1) from 2019 to data from 2020 and 2021.

5 Findings

5.1 Overview of the survey

Data collection of Facebook posts by 18 Lithuanian state-owned museums from 1 January 2019 to 31 December 2021 yielded 15,957 posts. Table 2 presents an overview of each museum's yearly summary of the NP and ND. The percentage of days per year in which the museum posted on Facebook is also given to better understand the ND index. One museum—the Vaclovas Intas National Stone Museum—had no Facebook pages during this period.

Table 2: *Overview of the survey: NP and ND of each museum (2019–2021).*

Museum	Number of posts on Facebook (NP)				Number of days the museum posted on Facebook (ND)		
	2019	2020	2021	TOTAL	2019	2020	2021
Lithuanian National Museum of Art	153	235	336	724	118 (32%)	183 (50%)	229 (63%)
National Museum of Lithuania	379	466	453	1,298	232 (64%)	280 (77%)	274 (75%)
M. K. Čiurlionis National Museum of Art	414	423	414	1,251	245 (67%)	253 (69%)	298 (82%)
National Museum Palace of the Grand Dukes of Lithuania	403	374	420	1,197	213 (58%)	226 (62%)	244 (67%)
Museum of Lithuanian Education History	205	243	178	626	133 (36%)	203 (55%)	135 (37%)
Vilna Gaon Jewish Museum of History	442	377	399	1,218	232 (64%)	251 (69%)	287 (79%)
Kaunas Ninth Fort Museum	146	236	180	562	109 (30%)	141 (39%)	139 (38%)
Maironis Lithuanian Literature Museum	394	525	456	1,375	215 (59%)	244 (67%)	233 (64%)

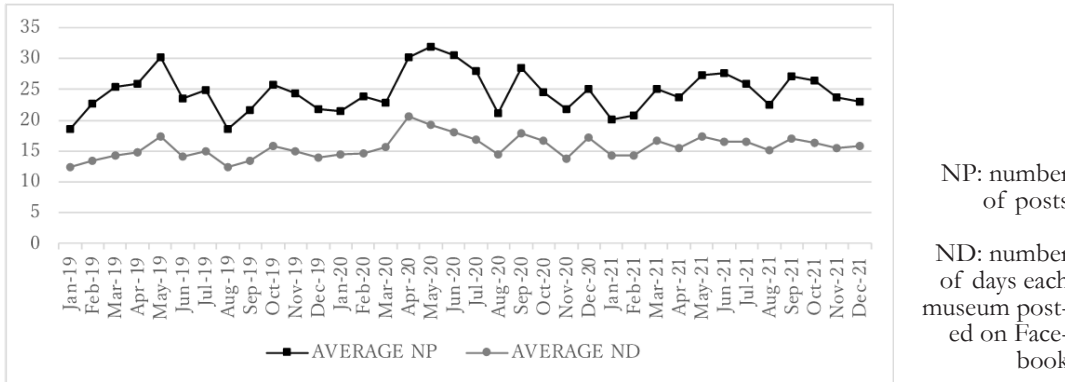
Vytautas the Great War Museum	279	293	217	789	196 (54%)	195 (53%)	156 (43%)
Lithuanian Aviation Museum	183	304	207	694	127 (35%)	216 (59%)	143 (39%)
Open-Air Museum of Lithuania	688	419	377	1,484	305 (84%)	262 (72%)	245 (67%)
Šiauliai Aušros Museum	246	261	226	733	177 (48%)	184 (50%)	177 (48%)
Trakai History Museum	129	213	202	544	111 (30%)	177 (48%)	145 (40%)
Lithuanian Theatre, Music and Cinema Museum	185	216	180	581	131 (36%)	171 (47%)	146 (40%)
Lithuanian Museum of Ethnocosmology	127	150	108	385	90 (25%)	101 (28%)	75 (21%)
Kaunas Tadas Ivanauskas Museum of Zoology	23	57	112	192	19 (5%)	49 (13%)	104 (28%)
Lithuanian Sea Museum	456	526	657	1,639	237 (65%)	250 (68%)	285 (78%)
Samogitian Museum “Alka”	245	268	152	665	203 (56%)	205 (56%)	116 (32%)
TOTAL	5,097	5,586	5,274	15,957	–	–	–

The annual totals for NP show an overall trend in social media usage from 2019 to 2021. In 2019, 18 state-owned Lithuanian museums made 5,097 posts in total. In 2020, this increased by 9.6% to 5,586 posts. The museums made 5,274 posts the next year, a decrease of 5.5%. The annual number of social media posts did not continue to increase.

5.2 Analysis 1: Quantity of social media posts

The purpose of Analysis 1 was to explore the quantitative chronological shift from 2019 to 2021. A line chart of the monthly averages is presented in Figure 1. The graph illustrates the frequent fluctuations in the NP and ND over the three years; it does not indicate any clear trends towards increasing or decreasing activity.

Fig. 1: *Changes in average NP and ND (2019–2021)*



Although the data does depict any straightforward trends, the two lines in Figure 1 do illustrate standard features of the three years: lower NP and ND in the summer and winter seasons and higher figures in spring and autumn.

To verify the seasonal transition, two sequential line charts were generated. In Figures 2 and 3, the horizontal axis was limited to 12 months from January to December. Figure 2 shows average NP and Figure 3 shows average ND. Both graphs visually show that NP and ND followed similar trends in terms of seasonal changes.

Fig. 2: *Average NP from January to December (2019–2021)*

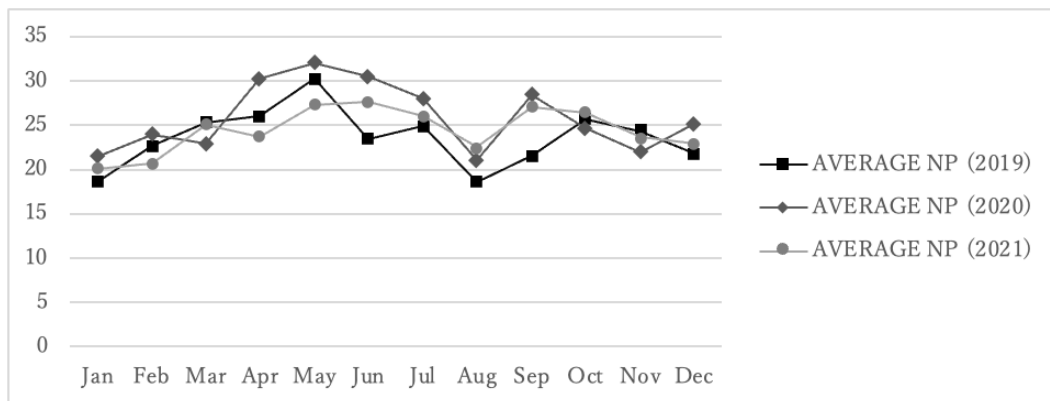
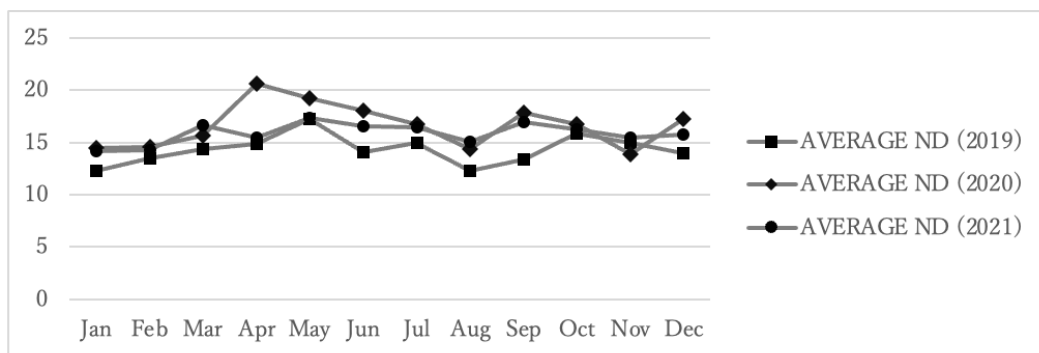


Fig. 3: *Average ND from January to December (2019–2021)*



Given that the changes from month-to-month can be explained by these seasonal trends, to examine the influence of the pandemic it was necessary to eliminate the effect of these seasonal transitions on the data. To do this, the author compared the same month in different years. Since the NP and ND data show similar tendencies, the following analysis focuses only on NP.

Wilcoxon signed-rank tests were conducted to compare the NP of each month in 2020 to the figure of the same month in 2019 ($\alpha=0.05$) (Table 3), and the NP of each month in 2021 to the figure of the same month in 2019 ($\alpha=0.05$) (Table 4).

Table 3: *Related-samples Wilcoxon signed-rank test of NP (2019, 2020).*

	Total (n)	Test statistic	Standard Error	Standard-ized Test Statistic	Asymptotic Sig. (Two-Sided Test)
Jan	18	95	19.326	1.397	0.162
Feb	18	99	21.095	1.067	0.286
Mar	18	87	21.11	0.497	0.619
Apr	18	127	22.943	1.809	0.07
May	18	98.5	22.946	0.567	0.571
Jun	18	122.5	21.113	2.179	*0.029
Jul	18	110.5	22.951	1.089	0.276
Aug	18	97.5	19.307	1.528	0.127
Sep	18	128	21.062	2.445	*0.014
Oct	18	82	22.897	-0.153	0.879
Nov	18	60	22.921	-1.113	0.266
Dec	18	102.5	21.101	1.232	0.218

*5% significance level ($\alpha=0.05$)**Table 4:** *Related-samples Wilcoxon signed-rank test of NP (2019, 2021).*

	Total (n)	Test statistic	Standard error	Standardized test statistic	Asymptotic sig. (two-sided test)
Jan	18	74.5	17.586	0.825	0.41
Feb	18	82.5	22.937	-0.131	0.896
Mar	18	82.5	21.122	0.284	0.776
Apr	18	76	22.935	-0.414	0.679
May	18	68	22.946	-0.763	0.446
Jun	18	126	22.94	1.765	0.077
Jul	18	91	22.924	0.24	0.81
Aug	18	118.5	22.927	1.439	0.15
Sep	18	106.5	19.307	1.994	*0.046
Oct	18	87	22.946	0.065	0.948
Nov	18	63	19.248	-0.26	0.795
Dec	18	86	21.089	0.45	0.652

*5% significance level ($\alpha=0.05$)

Comparative analysis of the NP from 2019 to 2020 revealed that statistically significant increases were observed exclusively in June and September (Table 3). Furthermore, from 2019 to 2021, statistically significant increases in the NP were observed exclusively in September (Table 4). Although September is the least active month for social media engagement (Figures 2 and 3), a statistically significant increase from 2019 to 2021 was observed only in this month.

Quantitative analysis of social media engagement for the three-year periods before and after the pandemic's initial year reveals consistent seasonal variation across the three-year period, with no significant increase following the pandemic's onset. The results demonstrated that September was the only month exhibiting a statistically significant increase over the three-year period.

5.3 Analysis 2: Social media content in September

This section presents an analysis of the content of museums' social media posts. As stated in the methodology section, this analysis encompassed only those months in which there was a statistically significant increase in the quantity of social media posts from 2019 to 2020 and 2021. The only month meeting this criterion was September; 388 posts were identified from September 2019, 512 from September 2020 and 487 from September 2021.

The posts were initially sorted into three categories: attracting potential visitors, interacting with visitors, and democratising museums. Nevertheless, all posts exhibited an exclusively one-way information flow from the museum to the public, rendering the category "democratising museums" inapplicable.

Two approaches to attracting potential visitors were observed: directly inviting visitors to the museum and raising awareness of the museum's activities. Consequently, the strategies were categorised into visitor invitation and activity publicity. Also, two unanticipated elements emerged: announcements, which included information on opening hours and employment opportunities, and statements on matters deemed significant to the museum's mission.

Consequently, the content of social media posts was sorted into five primary categories: visitor invitations, publicising activities, visitor interactions, announcements and statements. Posts that did not align with these categories, such as those pertaining to modifications of profile configurations, were classified as "miscellaneous" due to their lack of explicit informational content. Table 5 presents the results of the classification, including the details of each category.

Table 5: *Number of Facebook posts by type of post (September 2019, September 2020, September 2021)*

		2019	2020	2021
Visitor invitations	Exhibitions	25	37	39
	Events	162	174	206
	Free-of-charge Sunday	11	16	17
	Souvenir	4	1	1
	Total visitor invitations	198	227	262
Publicising activities	Event reports	41	49	40

	Collection reports	1	2	6
	Outreach/Visitor communication	38	56	47
	Research	3	4	4
	Event reports + live stream	6	9	5
	Other activities report	12	20	19
	Introducing exhibits	28	46	26
	Museum self-introduction	6	17	5
	Education programmes	15	10	10
	Introduce online contents	3	10	18
	Total publicising activities	153	223	180
Visitor interaction		2	2	6
Announcements	Opening hours	6	15	6
	Job openings	1	3	5
	COVID-19 related information	0	0	8
	Total Announcement	7	18	19
Statements		6	8	13
Miscellaneous		25	34	6
TOTAL		388	512	487

5.3.1 Visitor invitation

Posts within the Visitor invitation category constituted the highest percentage of the total in any given year, with 198 in 2019, 227 in 2020 and 262 in 2021. It is noteworthy that the number continued to increase throughout the pandemic period. The content in this category related to exhibitions, events, “Free-of-charge Sundays” and souvenirs.

Exhibitions and events are the main opportunities for museums to attract visitors. Most events were linked to exhibitions but some were independent, such as a commemorative event for the artists after whom the museum is named. Events typically occurred at specified times on specific dates, with pre-registration often available online. Exhibitions ran for weeks or months. Posts about exhibitions and events invited visitors to the museum on specific days or periods.

Free-of-charge Sunday, *nemokamas sekmadienis* in Lithuanian, is a unique service in Lithuanian museums. On the final Sunday of each month, museums under the purview of the Ministry of Culture provide complimentary admission to their permanent exhibitions, a practice that commenced on 1 January 2019.³⁴ This practice was initiated irrespective of the pandemic.

³⁴ See <https://lrkm.lrv.lt/lt/veikla/nemokamas-muzieju-lankymas/>.

Certain museums participating in the programme organised events to coincide with this day, while others merely announced the availability of free admission.

Souvenirs functioned as promotional materials for original museum merchandise. Adverts for products exclusively available at the museum were used to incentivise people to visit; however, posts on this topic were limited.

As observed in the preceding analysis, most posts categorised as visitor invitations included specific details, mainly dates, times and the kind of experience visitors could anticipate.

5.3.2 Activity publicity

There were 153 posts associated with publicising activities in September 2019, 223 in 2020 and 180 in 2021. This figure peaked during the pandemic and subsequently declined. The content of such posts encompassed event reports (with or without live stream), collection reports, outreach/visitor communication, research, exhibit introductions, museum self-introductions, education programmes, online content introductions and reports on other types of activity. These posts encompassed all aspects of museum functions: collection, conservation, exhibition, education and research.

Event reports were predominantly associated with ongoing exhibitions, including opening events and lectures, with numerous instances of photographic and video content being disseminated. Although the event in question had concluded, these reports potentially served as promotional material for the exhibition. Outreach and visitor communication, including introductions of notable visitors and media postings, also contributed to informing potential visitors about the museum's offerings. These communications could be interpreted as indirect invitations to prospective visitors.

In addition to event announcements, museums' also posted about educational programmes. Given that September marks the commencement of the academic year, these posts primarily aimed to inform educators about the programmes available at the museum.

Conversely, there were many posts offering up content inaccessible to ordinary visitors attending the museum. These posts included introductions to exhibits that were not available to public view, research conducted within the institution that remained unfamiliar to the general populace, and reports on various internal activities of the museum.

Only two kinds of content increased in frequency through 2019 to 2021, albeit with a small sample size: collection reports, which primarily focus on donated items, and introductions to online content such as virtual exhibitions. Nevertheless, there were fewer of this type of contribution than posts encouraging people to visit the museum.

Posts publicising activities revealed that all the studied museum shared comprehensive information about their activities on social media, aligning with museums' primary function. Posts included content to encourage visits and inform the public about regular operations, potentially contributing to transparency.

However, online content overall did not increase as much as anticipated by previous studies. The peak during the pandemic and subsequent decline is addressed in the discussion section.

5.3.3 Visitor interaction

Social media is an interactive medium. However, as noted earlier, most social media posts examined in this study exhibited one-way communication of information. The limited interactions observed were primarily associated with giveaway campaigns which encouraged

audience participation. Nevertheless, these interactions did not extend to spontaneous communication with potential visitors to the museum.

5.3.4 Announcements

The posts in this category include informational communications aimed at museum visitors and stakeholders. The peak in inquiries about operational hours occurred in September 2020, during the initial year of the pandemic, due to extended closures necessitating active information dissemination. The year-over-year increase in job postings suggests that museums may have recognised social media platforms more broadly as a crucial information channel post-pandemic. Pandemic-related announcements were observed exclusively in September 2021, attributable modifications in the implementation of the “Passport of possibility”.

5.3.5 Statements

Museums made statements on social media platforms commensurate with their significance. These included a congratulatory message on the academic year’s commencement and posts on Holocaust Day, 23 September, regarding the importance of commemoration. Such posts demonstrate the museum fulfilling its social role via social media platforms. As with announcements, the increased frequency of statements suggests social media may have been more widely recognised as a crucial information channel in the post-pandemic era.

6 Discussion

6.1 On-site-focused information and online only information in September

As discussed earlier, quantitative analysis initially demonstrated seasonal variation in the number of social media posts by museums. The analysis further revealed that the early years of the pandemic also followed the pattern of seasonal increase, and the only month that exhibited a statistically significant increase in posts in the pandemic years 2020 and 2021 was September. Subsequently, the second half of the content analysis focused on September to examine what type of post increased due to the pandemic.

First, posts encouraging people to visit exhibitions and participate in events continued to increase from 2019 to 2021. This indicates that the primary objective for the museum was to facilitate visitor attendance. This emphasis on visitor reception aligns with other research conducted since the early stages of the pandemic to ensure the safe reopening of the museum. Attracting visitors to the museum also served as the motivation for the online activities mentioned in previous studies before the pandemic.³⁵

Conversely, posts highlighting the museum’s diverse activities peaked in 2020, with an increase in 2021 compared to 2019. Previous research documented the transition of educational programmes to online platforms³⁶ and the digitisation of collection acquisitions.³⁷

However, for the analysed September periods in 2020 and 2021, which were not subject to prolonged lockdown closures in Lithuania, there was no indication of activities transitioning online. Instead, various activities occurred on-site at the museum, with only virtual exhibits receiving introductory posts. These posts allowed individuals to engage with the museum’s

³⁵ BADELL, Museums and Social....; BOOTH, Museum Leaders’ Perspectives....; FLETCHER, Social Media Uses....

³⁶ NOBLE, Challenges and Opportunities....

³⁷ LAURENSEN, Collecting COVID-19 at ...; SPENNEMANN, Curating the Contemporary....; CHU, Collecting and Archiving....

content without attending physically. While museums maintained active operations, they should have had sufficient material to share; however, this approach reached its culmination during the pandemic year.

6.2 Interactivity

Prior to the pandemic, social media in museums was expected to facilitate bidirectional communication. This bidirectional nature was seen as democratising, prompting a re-evaluation of museums' authoritative position. Indeed, previous studies have already pointed out that museums' social media communications tend to be one-sided.³⁸ Moreover, previous studies about social media usage during the pandemic, such as Samaroudi et al., also observed a similar predominance of unidirectional communication in target museums to that found the present study, despite the different investigation periods.³⁹

Analysis of this study revealed the same tendency for Lithuanian case. Data in Table 5 suggests that few contributions were intended for bidirectional communication. The analysis of museum operations during the pandemic conducted for this study revealed that Lithuanian museums primarily used social media platforms for incremental information dissemination rather than to facilitate bidirectional communication.

6.3 Characteristics of Lithuanian museums and generalisation of results

When confined to posts in September, approximately half were aimed at attracting visitors to museum exhibitions and events, while the remaining half showcased the museum's online activities. In these finding, only two features were specific to the Lithuanian museum system.

The first was a post regarding the Free-of-charge Sunday programme, implemented by museums under the jurisdiction of the Lithuanian Ministry of Culture. Another was a post concerning modifications to how the Passport of possibility operated in September 2021 as prevention measures for infectious diseases and their frequency of implementation varied among countries and regions.

Lithuania-specific posts likely existed. However, as they represent a small percentage of the total, the general trend appears verifiable through comparison with cases in other regions without needing to consider regional differences.

Limitations of this study

This study presents a quantitative and qualitative analysis of the transition over a three-year period encompassing the pandemic by documenting Facebook posts. The focus was on the communication aspects of the museum, with visitor reception outside the scope of this research. The museum posts examined were primarily characterised by unidirectional information dissemination and lacked interactive elements. The visitor perspective remains a subject for future research, including a meta-analysis of previously published studies.

Conclusion

This study aimed to investigate the medium- and long-term effects of the pandemic on social media use by museums, with a specific focus on the Lithuanian context. The primary

³⁸ MANCA, Exploring Tensions....

³⁹ SAMAROUDI, Heritage in lockdown....

research question it addressed in this paper is: “Have levels of social media usage by museums increased since the onset of the COVID-19 pandemic? If so, how has the content changed?”

The studied museums created a total of 15,957 posts over three years (2019–2021). Quantitative analysis of post frequency from 2019 to 2021 revealed seasonal variations in the museum’s social media activity, irrespective of the pandemic; September, typically exhibiting low post levels, was the only month where a statistically significant increase could be seen when comparing 2019 to 2020, and 2019 to 2021. The qualitative analysis categorised social media posts into visitor invitations, publicising activities, visitor interactions, announcements and statements, with fluctuations observed within each category. Despite these variations, the overall framework of content in the posts remained consistent throughout the pandemic period.

In summary, social media posts increased only in September in the years impacted by the pandemic (2020 and 2021). On-site focused information showed a consistent upward trend compared to online-only information. A constant factor was the predominant orientation toward unidirectional information provision rather than interactive communication. The findings demonstrate a discrepancy between anticipated and actual utilisation of social media by museums. This may be attributed to heightened online engagement during the pandemic. The study’s significance lies in its potential to reevaluate the relationship between museums and social media in future contexts, elucidating aspects not previously discerned through individual case studies due to questions based on preconceived expectations. As this research did not analyse museums from the perspective of visitors, this aspect will be addressed in subsequent investigations.

References

- AGOSTINO, Deborah, ARNABOLDI, Michela and LAMPIS, Antonio. (2020). Italian state museums during the COVID-19 crisis: From onsite closure to online openness. In: *Museum Management and Curatorship*, 35(4), pp. 362–372. DOI 10.1080/09647775.2020.1790029.
- ARAYAPHAN, Watsaporn, INTAWONG, Kannikar and PURITAT, Kitti (2022). Digitalization of ancient fabric using virtual reality technology at the Wieng Yong House Museum: The FabricVR project. In: *Digital Applications in Archaeology and Cultural Heritage*, 26, p.e00233. DOI 10.1016/j.daach.2022.e00233.
- BADELL, Joan-Isidre. (2015). Museums and Social Media: Catalonia as a Case Study. In: *Museum Management and Curatorship*, 30 (3), pp. 244–263. doi:10.1080/09647775.2015.1042512.
- BLÜHM, Andreas. (2020). The Groninger Museum Experience. In: *Museum Management and Curatorship*, 35 (3), pp. 225–226; doi:10.1080/09647775.2020.1762363.
- BOOTH, Peter, OGUNDIPE, Anne, and RØYSENG, Sigrid. (2020). Museum Leaders’ Perspectives on Social Media. In: *Museum Management and Curatorship*, 35 (4), pp. 373–391. doi:10.1080/09647775.2019.1638819.
- BOSELLO, Greta, and HAAK, Marcel van den. (2022). #Arttothepeople? An Exploration of Instagram’s Unfulfilled Potential for Democratising Museums. In: *Museum Management and Curatorship*, 37 (6), pp. 565–582. doi:10.1080/09647775.2021.2023905.

- CECILIA, Rafie R. (2021). COVID-19 Pandemic: Threat or Opportunity for Blind and Partially Sighted Museum Visitors? In: *Journal of Conservation and Museum Studies*, 19(1), pp. 1–8. DOI 10.5334/jcms.200.
- CHRISTIANSEN, Keith (2020). The Met and the COVID crisis. In: *Museum Management and Curatorship*, 35(3), p. 221–224. DOI 10.1080/09647775.2020.1762362.
- CORONA, Lara (2021). Museums and Communication: The Case of the Louvre Museum at the Covid-19 Age. In: *Humanities and Social Science Research*, 4(1), pp.15–26. DOI 10.30560/hssr.v4n1p15.
- FERNANDEZ-LORES, Susana, CRESPO-TEJERO, Natividad, and FERNÁNDEZ-HERNÁNDEZ, Ruth. (2022). Driving Traffic to the Museum: The Role of the Digital Communication Tools. In: *Technological Forecasting and Social Change*, 174, 121273. doi:10.1016/j.techfore.2021.121273.
- FLETCHER, Adrienne, and LEE, Moon (2012). J. Current Social Media Uses and Evaluations in American Museums. In: *Museum Management and Curatorship*. 27 (5), 505–521. doi:10.1080/09647775.2012.738136.
- GRONEMANN, Sigurd Trolle, KRISTIANSEN, Erik and DROTNER, Kirsten (2015). Mediated co-construction of museums and audiences on Facebook. In: *Museum Management and Curatorship*, 30(3), pp. 174–190. DOI 10.1080/09647775.2015.1042510.
- GUTOWSKI, Piotr and KŁOS-ADAMKIEWICZ, Zuzanna (2020). Development of e-service virtual museum tours in Poland during the SARS-CoV-2 pandemic. In: *Procedia Computer Science*, 176, pp. 2375–2383. DOI 10.1016/j.procs.2020.09.303.
- INTERNATIONAL COUNCIL OF MUSEUMS (2020). Museums, museum professionals and COVID-19, accessed 21 August 2023, <https://icom.museum/wp-content/uploads/2020/05/Report-Museums-and-COVID-19.pdf>.
- KIMURA, Aya (2018). Digitization practices at Lithuanian museums after the LIMIS implementation (2008–2017). In: *Museologica Brunensia*, 7(2), pp. 19–33.
- KIMURA, Aya (2020). Short-Term Solution for Museums at the Crisis: Application of ICT in Lithuanian Museums at Quarantine [in Japanese]. In: *The journal of the Museological Society of Japan*, 46(1), pp. 71–90.
- LAURENSEN, Sarah, ROBERTSON, Calum and GOGGINS, Sophie (2020). Collecting COVID-19 at National Museums Scotland. In: *Museum and Society*, 18(3), pp. 334–336. DOI 10.29311/mas.v18i3.3519.
- LIETUVOS RESPUBLIKOS KULTŪROS MINISTERIJA n. d. *Muziejai*, accessed 21 August 2023, <https://lrkm.lrv.lt/lt/veiklos-sritys/muziejai-1>.
- LIETUVOS RESPUBLIKOS KULTŪROS MINISTERIJA. 2015. *Dėl skaitmeninio kultūros paveldo aktualinimo ir išsaugojimo 2015-2020 metų programos patvirtinimo*, accessed 1 February 2025, <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/84c5fc10c90311e498aab3a4ca2b8d40?jfwid=5v2xfe3ci>
- LIETUVOS RESPUBLIKOS SEIMAS. 2021. *Lietuvos Respublikos muziejų įstatymas*, accessed 1 February 2025, <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.18317/OphvQWrrLV>
- LIETUVOS RESPUBLIKOS VYRIAUSYBĖ. 2009. *Dėl Lietuvos kultūros paveldo skaitmeninio, skaitmeninio turinio saugojimo ir prieigos strategijos patvirtinimo*. accessed 1 February 2025, <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.345065/asr>

- LIETUVOS RESPUBLIKOS VYRIAUSYBĖ. 2020a. *Dėl karantino Lietuvos Respublikos teritorijoje paskelbimo*, 1 February 2025, <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/deaf8694663011eaa02cacf2a861120c>.
- LIETUVOS RESPUBLIKOS VYRIAUSYBĖ. 2020b. *Dėl karantino Lietuvos Respublikos teritorijoje paskelbimo*, 1 February 2025, <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/a2b5da801f4a11eb9604df942ee8e443>.
- MANCA, Stefania, PASSARELLI, Marcello, and REHM, Martin. (2022). Exploring Tensions in Holocaust Museums' Modes of Commemoration and Interaction on Social Media. In: *Technology in Society*, 68, 101889. doi:10.1016/j.techsoc.2022.101889.
- NEMO (Network of European Museum Organisations). 2020. *Survey on the Impact of the COVID-19 Situation on Museums in Europe Final Report*. https://www.ne-mo.org/fileadmin/Dateien/public/NEMO_documents/NEMO_COVID19_Report_12.05.2020.pdf.
- NEMO (Network of European Museum Organisations). 2021. *Follow-Up Survey on the Impact of the COVID-19 Pandemic on Museums in Europe Final Report*. https://www.ne-mo.org/fileadmin/Dateien/public/NEMO_documents/NEMO_COVID19_FollowUpReport_11.1.2021.pdf.
- NOBLE, Kate (2021). Challenges and Opportunities: Creative Approaches to Museum and Gallery Learning during the Pandemic. In: *International Journal of Art & Design Education*, 40(4), pp. 676–689. DOI 10.1111/jade.12380.
- O'HAGAN, Lauren (2021). Instagram as an exhibition space: reflections on digital remediation in the time of COVID-19. In: *Museum Management and Curatorship*, 36(6), pp. 610–631. DOI 10.1080/09647775.2021.2001362.
- PALLUD, Jessie, and STRAUB, Detmar W. (2014). Effective Website Design for Experience-Influenced Environments: The Case of High Culture Museums. In: *Information and Management*, 51(3), pp. 359–373. doi:10.1016/j.im.2014.02.010.
- PIERROUX, Palmyre, and SKJULSTAD, Synne. (2011) Composing a Public Image Online: Art Museums and Narratives of Architecture in Web Mediation, A Special Issue from Oslo, Norway. In: *Computers and Composition*, 28 (3), 205–214. doi:10.1016/j.compcom.2011.07.005.
- POTTS, Timothy. (2020). The J. Paul Getty Museum during the Coronavirus Crisis. In: *Museum Management and Curatorship*, 35 (3), pp. 217–220. doi:10.1080/09647775.2020.1762360. doi:10.1080/09647775.2020.1762360.
- PHILLIPS, Lori Byrd. (2013). The Temple and the Bazaar: Wikipedia as a Platform for Open Authority in Museums. In: *Curator: The Museum Journal*, 56(2), pp. 219–235. DOI 10.1111/cura.12021.
- RYDER, Brittany, ZHANG, Tingting and HUA, Nan. (2021). The Social Media “Magic”: Virtually Engaging Visitors during COVID-19 Temporary Closures. In: *Administrative Sciences*, 11(2), p. 53. DOI 10.3390/admsci11020053.
- SAMAROUDI, Myrsini, ECHAVARRIA, Karina Rodriguez and PERRY, Lara. (2020). Heritage in lockdown: digital provision of memory institutions in the UK and US of America during the COVID-19 pandemic. In: *Museum Management and Curatorship*, 35(4), pp. 337–361. DOI 10.1080/09647775.2020.1810483.
- SKIPPER, Philip, FRY, Claire and WILLETT, Clara. (2021). Disinfection of Contaminated Heritage Surfaces from SARS-CoV-2 Virus. In: *Journal of Conservation and Museum Studies*, 19(1), p. 3. DOI 10.5334/jcms.209.

- SMITH, Kate, CHAKRABARTI, Claire, SANDERSON, Sunny, COLLINS, Rebekah and BOULDING, Amy. (2021). Key Lessons in Adapting Interactive Experiences for a COVID-Safe Museum. In: *Journal of Conservation and Museum Studies*, 19(1), p. 2. DOI 10.5334/jcms.204.
- SPENNEMANN, Dirk H.R. (2022). Curating the Contemporary: A Case for National and Local COVID-19 Collections. In: *Curator: The Museum Journal*, 2022. 65(1), pp. 27–42. DOI 10.1111/cura.12451.
- SZALBOT, Magdalena. (2022). “Games” using old photographs in the time of the pandemic: Archival photographs in museum education. In: *Muzeológia a kultúrne dedičstvo*. 10(3), pp. 61–79. DOI 10.46284/mkd.2021.10.4.4
- TISSEN, Liselore N. M. (2021). Culture, Corona, Crisis: Best Practices and the Future of Dutch Museums. In: *Journal of Conservation and Museum Studies*, 19(1), p. 4. DOI 10.5334/jcms.207.
- UNESCO (2020). In: *Museums around the world in the face of COVID-19 - UNESCO Digital Library*, accessed 20 May 2023, <https://unesdoc.unesco.org/ark:/48223/pf0000373530>.
- UNESCO (2021). In: *UNESCO report: Museums around the world in the face of COVID-19*. Online. Available from: https://unesdoc.unesco.org/ark:/48223/pf0000376729_eng
- VALSTYBĖS ĮMONĖ REGISTRŲ CENTRAS. n.d. In: *Galimybinių pasas*, accessed 1 February 2025, <https://gp.esveikata.lt>.
- VALSTYBĖS ĮMONĖ REGISTRŲ CENTRAS. 2021. In: *Instrukcija, kaip gauti Galimybinių pasą*, accessed 1 February 2025, https://eimin.lrv.lt/uploads/eimin/documents/files/GP_gauti.pdf.