

Dagmara Chylińska^{1a}, Łukasz Musiaka^{2b}

¹ Institute of Geography and Regional Development, University of Wrocław, Poland

² Department of Political and Historical Geography and Regional Studies, Faculty of Geographical Sciences, University of Łódź, Poland

ORCID: ^a <https://orcid.org/0000-0003-2517-2856>, ^b <https://orcid.org/0000-0002-6845-7280>

Corresponding author: Dagmara Chylińska, e-mail: dagmara.chylinska@uwr.edu.pl

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Museums in a time of plague. The case of military museums in Poland

Abstract: Military museums in Poland, like the entire museum world, were affected by the COVID-19 pandemic. Forced to close, these establishments were confronted with a new reality, challenging the previous rules of contact with visitors. The article presents an assessment of the consequences of the pandemic, the countermeasures taken, and the forms of assistance offered to the museum sector in Poland. The special focus was put on the financial and visitor impacts on Polish military museums as a result of the COVID-19 pandemic. The material subjected to analysis was obtained by means of a survey addressed to military museums in Poland. The results confirmed the deep crisis in which museums, especially small or privately owned ones, find themselves, revealing at the same time the lack and need for a clear vision of how museums should operate in the face of the global sanitary and environmental threats of the 21st century.

Keywords: military museums, museum management, COVID-19 pandemic, coronavirus, Poland

1. Introduction

The COVID-19 pandemic affected all spheres of social, economic, and cultural life of people around the world in 2020. Bringing a huge number of victims, it has forced communities to limit social and family contacts, and to revise forms of organisation and norms of social life. One of the spheres affected by the pandemic was culture. As reported in May 2020 by the International Council of Museums (ICOM), based on a questionnaire survey of 1,600 museums and museum professionals from 107 countries (ICOM, 2020), the pandemic restrictions resulted in nearly 94.7% of museums being completely closed at the end of April 2020. The consequence of this has been a shift of most of their activities to the Internet, as well as a shift of full-time employees to remote working. The pandemic reality has affected part-time staff working with museums the hardest. The ICOM report (2020) showed that 16.1% of respondents in this group reported that they had been

temporarily laid off and as many as 22.6% had not had their contracts renewed. The museum freelance sector proved to be very unstable: 56.4% of respondents in 2020 said they would have to suspend their own salary as a result of the crisis, and for 39.4% a reduction in staff numbers could become an unpleasant necessity. Similarly, UNESCO assessed the situation in museums by publishing two reports on it in May 2020 (UNESCO, 2020) and April 2021 (UNESCO, 2021). According to this international organisation, reporting on the basis of surveys obtained from some 83% of member states, 84% of museum facilities were closed in 2020 for an average of 155 days of the year (UNESCO, 2021, 14–15), resulting in a 70% drop in visitor numbers, and a 40–60% drop in revenues compared to 2019. These values illustrate vividly the scale of the problem that museums around the world have had to face and continue to face.

Museums have been forced to modify their normal mode of operation and function in a limited, pandemic reality. The majority of them boosted their presence online (e.g. in the UK 86% of the museums surveyed in 2020 by the Art Fund, Samaroudi et al., 2020, 340). The COVID-19 was the key driver for digital transformation in museums in terms of the implementation of new technologies such as AR (augmented reality), VR (virtual reality), hybrid approaches like MR (mixed reality), and these technologies are have to stay (Giannini and Bowen, 2022, based on The Museum Innovation Barometer 2021). Tully (2020) noted that urgent and unprecedented demand for virtual access to museum exhibitions during the crisis proofed the social value of museums and encouraged institutions to rapidly improve their virtual offer.

However, according to museum professionals, the pandemic has exposed the weaknesses of the contemporary museum model in many areas: funding, employment, making collections accessible, as well as the ability to perform social and cultural functions in times of global crises (ICOM, 2020; UNESCO, 2021). The research conducted by Finnis and Kennedy (2020), Meritt (2021), Newman et al. (2020), and The Knight Foundation (2020, the study based on 480 museum surveys across the US) reported the substantial gap in advanced digital skills that might enable a quick shift from a traditional museum to a digital one. Moreover, even the big and modern UK and US museums experienced some operational problems with online working on digital content while lockdowns due to the inability to provide access to essential materials and tools from home (Noehrer et al., 2020).

The problems created or exacerbated by the pandemic are also closely related to the contemporary paradigm of museology, which assumes that museums are interactive, multimedia and culturally creative, and that they are places of intense interaction both between people themselves and between people and their cultural products. These functions have been significantly reduced in times of COVID-related restrictions. Some researchers pointed that the rapid shift from a traditional museum supported by modern digital facilities into a museum entirely incorporated into

digital world means also a change in nature of the museum audience and its digital practices (Noehrer et al., 2021; Bąk and Wiśniewski, 2021). This might be seen as a prospective challenge and as a threat, regarding existing visitors' segmentation and museum attitudes towards specific groups of visitors.

Among the questions to be answered, there were also those about the role of virtual museums, especially in relation to their real-world counterparts, as well as the digitisation and increasingly widespread introduction of technology in museology, whose usefulness in modern exhibition tools (e.g. touch panels) in times of plague is far inferior to the functionality provided by the Internet. Moreover, the post-COVID future of museology and the entire cultural sphere on both global and local scales remains unknown, as for many countries, economic recovery or job protection will become the priority, rather than investment in cultural development

The authors of this article examined a fragment of Polish museology, namely military museums and non-museum tourist routes, in order to describe them against the background of global phenomena affecting museums during the COVID-19 pandemic. The achievement of this objective is largely comparative. We want to answer questions about the extent to which Polish military museums and, to a lesser extent, historic post-military objects without a formal legal status of 'museum' but being available to visitors as tourist routes (in the paper named also 'non-museum tourist routes'), have been affected by the pandemic. In addition, the authors were interested in what countermeasures were taken to fulfil socio-cultural functions during the closure to visitors, as well as how museums ensured their economic survival in the face of declining income from ticket sales or other alternative activities. According to 'Act of 21 November 1996 on Museums' (Art. 5. 1. Chap. 2) 'museums may be created by ministers and heads of central offices, local government entities, natural persons, legal persons and entities without legal personality (Journal of Laws, No. 5, Item 24, 1997). The entities that undertake to create museums shall provide funds necessary for the museum's maintenance and development, ensure security of museum collections, and supervise the museum. (In

the article, as a ‘private museum’ the authors consider a site established and run by a natural person, legal entity, or organizational unit without legal personality). These obligations, for small or private museums hard to bear even in ordinary times (see Szostak, 2021, p. 47, p. 57), have become a real challenge in ‘the time of plague’. “Military” museums, are those, whose collected exhibits are directly military (weapons, warfare equipment, military equipment and technology) or presenting the relationship between their exhibits and the history of armed conflict, the development of warfare, defensive architecture, the biographies of people affected by or involved in wars or, more generally, the theory of warfare. These museums also include those, whose collections or narrations focus on the semantic category of “war”, show its material and spiritual consequences (including war cemeteries or *in situ* preserved places

most affected or completely destroyed by war), its commemorative, affirmative, cautionary or pacifist meaning (Chylińska and Musiaka, 2020). The choice of the type of museums included in the study was not accidental. At least some of the museums presenting military collections, due to the open-air nature of their exhibitions, naturally seem to be more resistant to the restrictions arising from the need to keep a distance between visitors and to maintain adequate sanitary conditions of visiting. This raises the question to what extent military museums in a pandemic crisis are unique and whether they have developed their own model for dealing with the crisis of a global epidemic. The study on military museums in times of pandemics is also a natural consequence and deepening of previous analyses undertaken by the authors on the functioning of such institutions in Poland (Chylińska and Musiaka, 2020).

2. Literature review

The rapid and devastating influence of the pandemic on the whole museum sector launched immediately the professional and scientific interest in the short- and long-term effects of COVID-19 on museums. Table 1 shows selected works in the field of museum-COVID-19 studies that focused mainly on five topics: the current situation of museums worldwide under the COVID-19 restrictions; museum rescue activities and audience practices during the

pandemic; digitalization issues and new virtual museum activities; public health and wellness issues related to the pandemic in the museum context; new museum strategies and responses on possible forgoing crises and challenges. As shown, the matter of virtual museum activities dominated notably the pandemic-related scientific discourse. Only few works focused on searching financial supportive solutions applicable for museums in crisis.

Table 1. Selected museum pandemic-related scientific literature, own study

Key issues	Work
The current situation of museums worldwide under the COVID-19 restrictions (assessing damages)	United Nations Educational, Scientific and Cultural Organization (2020, 2021), Network of European Museum Organizations (NEMO) (2021), International Council of Museums (2020, 2021) Antara and Sen (2020), Arnold (2020), Christiansen (2020), Fitriyani et al. (2020), Gaimster (2020), Potts (2020), Riviero et al. (2020), Travkina and Sacco, (2020), Tully (2020), Zbucnea et al. (2020), King et. al. (2021) Khlystova et al., 2022
Museum rescue activities and audience practices during the pandemic	Burini (2020), Burke et al. (2020), Christiansen (2020), Cobley (2020), Gorbey (2020), Potts (2020), Poulot (2020), Riviero et al. (2020), Samaroudi et al. (2020), Tully (2020) Bąk and Wiśniewski (2021), Ennes et al. (2021), Górajec & Pasternak-Zabielska (2021), King et al. (2021), Noehrer et al. (2021), O’Hagan (2021), Petelska (2021), Pourmoradian et al. (2021), Zollinger and DiCindio (2021), Heras-Pedrosa et al. (2022), Ostrowska-Tryzno and Pawlikowska-Piechotka (2022), Zhao and Cheng (2022) Galí et al. (2023), March (2023)

Digitalization issues and new virtual museum activities as a cure-all for museums closures	American Alliance of Museums (2020), Knight Foundation (2020) Agostino et al. (2020), Baker et al. (2020), Burke et al. (2020), Finnis and Kennedy (2020), Gaimster (2020), Gutowski and Klos-Adamkiewicz (2020), Hoffman (2020), Holmes and Burgess (2020), Kahn (2020), Newman et al. (2020), Orlandi (2020), Ou (2020), Samaroudi et al. (2020), Zuanni (2020), Vayanou et al. (2020) Agostino et al. (2021), Bieczyński (2021), Corona (2021), Ennes et al. (2021), King et al. (2021), O'Hagan (2021), Petelska (2021), Raimo et al. (2021), Resta et al. (2021), Tan and Tan (2021) Gianni and Bowen (2022), Heras-Pedrosa et al. (2022), Manista (2022), Marty and Buchann (2022), Miłosz et al. (2022) Ballatore et al. (2023), Larkin et al. (2023), Lee et. al. (2023), March (2023), Meng et al. (2023)
Public health and wellness issues related to the pandemic in the museum context	Gaimster (2020), Tranta et. al (2020), Tan and Tan (2021) Cannon-Brookes (2023), Kahambing (2023)
New museum strategies and responses on possible forgoing crises and challenges; the world after pandemic	Museum Association (2023) Antara and Sen (2020), Arnold (2020), Burini (2020), Tranta et. al (2020) Choi and Kim (2021), Resta et al. (2021) Magliacani and Sorrentino (2022), Palumbo (2022), Shen et al. (2022) Bursić et al. (2023), Galí et al. (2023), Lee et. al. (2023)
Impact on museum environment (collections, artifacts)	Brimblecombe et al. (2021)

The first “hot” reports by UNESCO (2020, 2021), ICOM (2020, 2021), and NEMO (2021) on the immediate effects of pandemic in the museum world were quickly completed with the COVID-19 based scientific works in regional scales (e.g. Italy, Greece, Croatia, Poland, Great Britain, USA, selected Asian and South American countries). These works shared the conclusion on the universal character of museum survival strategy during the pandemic of being more visible and (inter)active on Internet. Agostino et al. (2020) showed that social media platforms, especially Facebook, Twitter and Instagram, have become the museums’ preferred means to spread culture during the COVID-19 lockdowns (the Italian museums’ online activities doubled). The authors underlined the more comprehensive, substantial, and engaging museum online content, spreading knowledge and supplementing direct social interactions. As a pandemic consequence, the authors predicted the changes in the forthcoming model of cultural appreciation that should be strongly rooted in the use of digital technology. This was in line with the views by Tan and Tan (2021) based on Singapore museums pandemic activities. The authors underlined the museums’ social responsibility for supporting social interaction, engagement, and stimulation. The Greek museum experiences allowed Vayanou et al. (2020) to draw the

conclusion that the pandemic extensively tested and validated the technology in many museum contexts. As a result, new social digital-related challenges revealed.

The work by Meng et al. (2023) stood out among the museum COVID-19 related literature. It focused on the enormous economic impact on Hong Kong private museums, especially in terms of fundraising and ticket revenue. Moreover, the authors damped optimism for imposed museum virtualization by giving the examples of museum sponsors’ objections to converting their collections into electronic resources for exhibitions because of intellectual property issues and problems with collaborative contracts. However, Meng et al. (2023) perceived the COVID-19 pandemic not only as a catalyst for the digitization of museums but also people’s expectations of offline facilities. That might force further changes in modern museum paradigm.

Studying the COVID-19 museum issues, it is noteworthy to appreciate the last project by Ballatore et. al (2023). To improve quality and comparativeness of information on the pandemic effects on museums, the authors proposed a mechanism for gathering comprehensive data on the UK museum sector with usage of multi-disciplinary expertise from museum studies, computer science, data science, and geographical information science.

3. Research methods

3.1. The survey

In the period of March to August 2021 (in the middle of pandemic time), an online questionnaire survey was conducted of military museums in Poland, whose number, according to various sources (and the subjective classification criteria they use), varies between 55 and 67 (circa 8–12% of all museums in Poland, Chylińska and Musiaka 2020, p.17–18). The web search consisted of sending messages requesting the completion of an online survey by e-mail and through Facebook accounts (in the case of facilities without their own website) and contacting the recipients of the survey by telephone to confirm receipt of the questionnaire and to encourage them to take part in the survey. An additional search revealed a dozen or so further facilities, not included in the previous lists, meeting the criteria of military museums. In the end, 22 questionnaires were obtained, filled in by facilities with the status of a museum and having collections of a military nature [about 33% of the list of 67 military museums in Poland (Chylińska and Musiaka,

2020)] and three coming from military establishments open to visitors (non-museum tourist routes), although not formally having the status of museums (Fig. 1). Thus, the authors analysed a total of 25 questionnaires.

The survey questionnaire consisted (depending on the answer) of 25 to 26 questions, mostly closed. It concerned the assessment of the impact of the pandemic on the functioning of museums over a full year, i.e. from March 2020 to March 2021, the time of the greatest restrictions and limitations of the three successive waves of the pandemic in Poland. Respondents also made comparisons between calendar year 2020 and 2019 when describing the current and past situation of their establishments. The questions for assessing the pandemic impact were mainly focused on three fundamental aspects of museum life: visitors' attendance, the museums' financial condition, and the staffs' position. All these issues were also under study by UNESCO and NEMO (Network of European Museum Organizations).

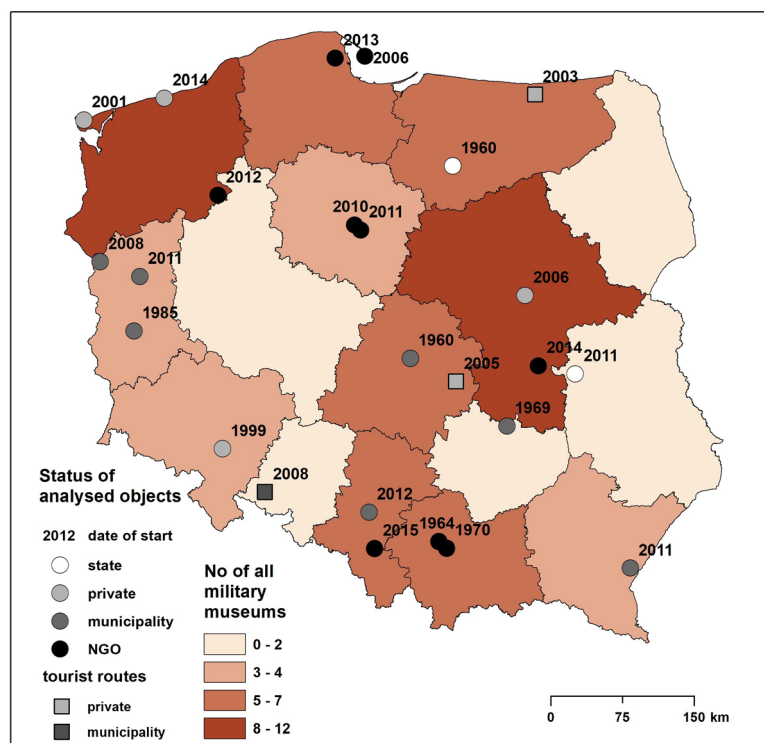


Figure 1. Distribution of surveyed facilities, own study

3.2. Characteristics of the sample group

The surveyed community is characterised by a high proportion of institutions established by associations and foundations (44%), local government of various levels (28%) and private individuals (20%), and to the smallest extent by the government (including the Ministry of Defence 8%). It is worth noting at this point that in the group of all military museums in the country, the founding characteristics are described in the same order of the listed value categories respectively: 50%, 27.3%, 13.6% and 9.1% (unfortunately the authors of the study, despite frequent declarations of cooperation, ultimately failed to obtain the largest Polish museums of a military nature for the study). According to the report: *Museum statistics. Museums in 2018* (Narodowy Instytut Muzealnictwa..., 2019, p. 10), the dominant organisational and ownership form of Polish museums is a local government cultural institution (69.3%). The over-representation of establishments run by associations or foundations among the military museums surveyed may be due to the fact that these were mostly, in terms of employment, relatively small establishments, run by individuals/organisations with a market-oriented attitude, active on the Internet and seek-

ing opportunities for promotion and contact with potential customers. In this group (Fig. 2) the smallest museum establishments, employing one full-time person (36.4%) or quite large establishments, giving permanent jobs to 11 to 20 people (18.2%), were the most numerous. In contrast, the three surveyed non-museum tourist routes in post-military sites belonged to sites employing 2-3 or 4-5 people (which explains their inherently more commercial nature). Three of the museums surveyed do not employ full-time staff, relying entirely on the founder's own work and/or the commitment of passionate volunteers. In museums with fewer than four employees, the vast majority support themselves with volunteer labour [considering two of the three criteria of the American Association for State and Local History AASLH, these are small museums (AASLH, n.d.)], while in the remaining group (four and more employees) there was no such need (7 out of 10 establishments). In the group of non-museum tourist routes in post-military facilities, it is difficult to speak of any clear regularity in the use of volunteers, mainly due to the limited number of facilities of this type among the surveyed collective: two out of three routes use volunteers.

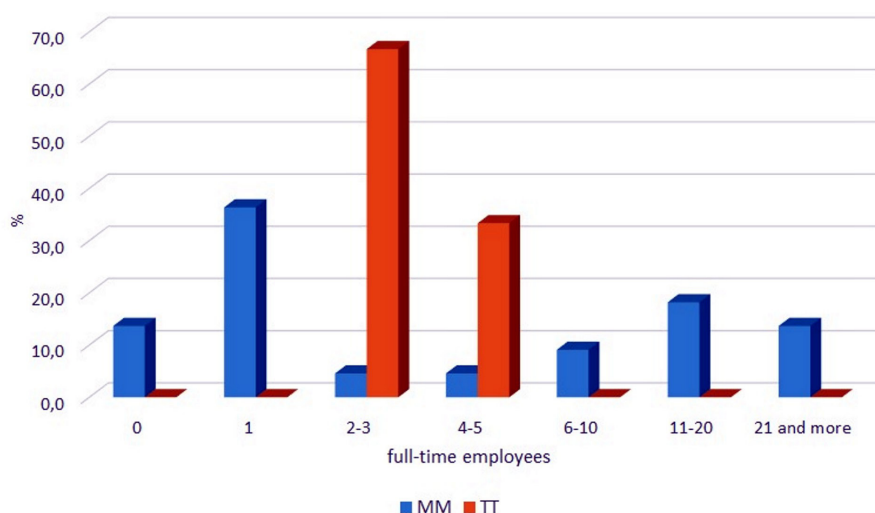


Figure 2. Employed on a full-time basis in military museums (MM) and non-museum tourist routes in museum facilities (TT) at the time of completing the survey, own study

One feature of the studied collective that may have influenced their functioning during the pandemic is the spatial organisation of the exhibition (or the open/closed nature of the space made available to the public as part of the tourist route),

resulting from the military character of the collection. Only six of the 25 surveyed establishments locate their exhibitions in completely enclosed spaces (five of them are museums), the others are partly indoors and partly outdoors (77% of mili-

tary museums). Military museums and post-military tourist routes offer a whole spectrum of historic spaces, often difficult for everyday tourism and certainly more difficult in times of sanitary restrictions (narrow, poorly ventilated rooms, cramped spaces, etc.). The surveyed group included twentieth-century fortifications (such as Międzyrzecz Fortified Region, Pomeranian Wall, shelters of Hel Fortified Region, Mamerki

complex or railway shelter in Konewka), as well as eighteenth- and nineteenth-century fortresses (Nysa, Kostrzyn and Przemyśl fortresses). The nature of the Drzonowo open-air museum exhibitions and the mostly open space of the battlefield at Grunwald is completely different, offering the possibility of using the collections outdoors, i.e. in healthier conditions from the epidemiological point of view.

4. Results

4.1. Visitors' attendance

Of the 25 establishments surveyed, one did not keep statistics for the period studied, 23 recorded a sharp decrease in attendance in 2020 compared to the previous year, while only one saw an increase. All of the military museums that keep attendance statistics recorded such a "quantifiable" decline, which is not surprising given that government-imposed restrictions included, at selected times, the complete closure of such facilities or significant reductions in visitor numbers, depending on the size of the spaces made available to visitors. For 38.1% of military museums (out of 21 keeping statistics), attendance in the pandemic 2020 was between 50 and 83% of 2019 attendance, for a further 42.9% it was between 20 and 50%. The remaining four sites closed in 2020 with only a fraction of the number of visitors from the year before the pandemic (down to as low as 5% of 2019 attendance). The biggest declines were usually recorded by museums with low attendance or peripheral museums. Two tourist routes at post-military sites reached 44%

and 32% respectively of the pre-pandemic year, while one saw an increase in visitors despite pandemic restrictions and closure periods.

Excluding the two establishments that do not collect attendance data or have not recorded a decline in attendance as a result of the pandemic, 52.3% of the establishments surveyed estimate that the decline in visitor numbers is mainly attributable to periods of closure and restrictions due to the need to operate under a sanitary regime, with an unchanged interest in the museum offer during the pandemic. According to 26% of the establishments in this group, in addition to the first two reasons, a general decline in interest in the museum offer during the pandemic is also responsible for the drops in attendance. One museum reported that the pandemic was part of a longer trend of declining attendance that the museum has seen in recent years for various reasons. In the category of other reasons (13%), the inability to organise tours for larger numbers of people or outdoor events due to sanitary restrictions was noted.

4.2. Museum activities – the operational issues

Countermeasures and restrictions that the surveyed facilities had to implement (Fig. 3) were the result of government regulations introduced, hence the most frequently mentioned: the introduction of tours in sanitary regime, limiting the crowding of visitors in the same rooms, the cancellation of outdoor events or the closure of the facility during such a ban. The situation of formal museums and non-museum tourist routes in post-military sites was basically the same. Many establishments also

flexibly shaped their activities according to the pandemic situation, abandoning many complementary services that gathered people (catering or souvenir shops). Few establishments have opted for other solutions, with one of the more interesting being the use of large open spaces held by the museum for a number of dispersed outdoor events. Probably due to cost considerations, it was generally not decided to increase the staff to oversee the organisation of the safe use of the museum.

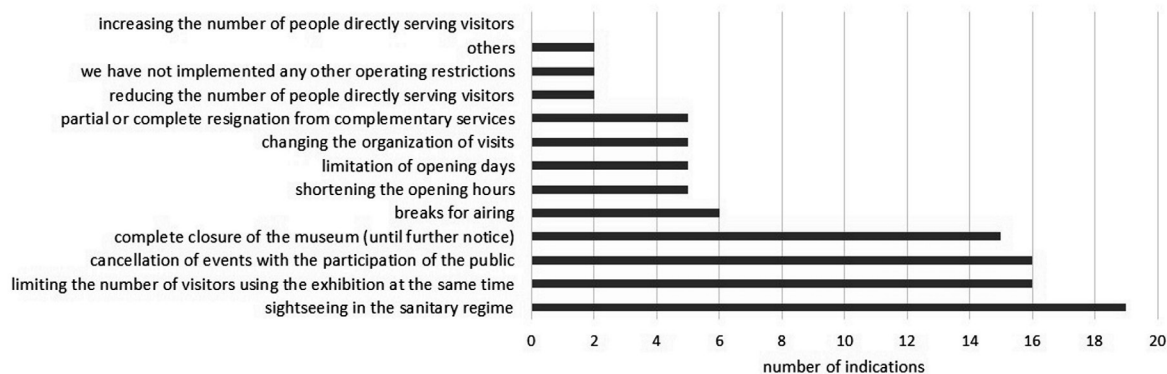


Figure 3. Restrictions and limitations on the activities of the surveyed facilities during a pandemic, own study

4.3. Museum activities – the accessibility of collections and the contact with audience

The pandemic affected not only the organisation of the work of the institutions surveyed, but also the way in which the exhibitions presented in them were used. These mainly consisted in excluding parts of the exhibition (44%) when exhibition spaces did not guarantee social distance, abandoning guide services (36%) or renting audio guides requiring frequent disinfection (20%). Establishments have also reduced the use of multimedia, touch-sensitive display tools (28%). For the duration of the pandemic, many venues abandoned museum lessons (which was the most common limitation, declared by 60% of the analysed venues), as well as participation in annual museum events, such as the popular Museum Night. At the opposite extreme, however, were facilities that, apart from the period of enforced closure, had not implemented any other restrictions on the use of their exhibitions

(16%). This was most likely due to cost calculations of sanitary restrictions or organisational difficulties.

One of the available spaces for communicating with museum audiences in pandemic times was undoubtedly the Internet. Military museums and non-military tourist routes at post-military sites were asked about various forms of replacement, virtual contact with the viewer. However, 11 establishments (10 museums and one tourist route) did not develop online contact under the impact of the pandemic (this does not mean, however, that these establishments are not present in virtual space). Among the remaining 14 institutions (12 are museums), streaming of museum events and a film about the museum published on the Internet received the most indications (Fig. 4).

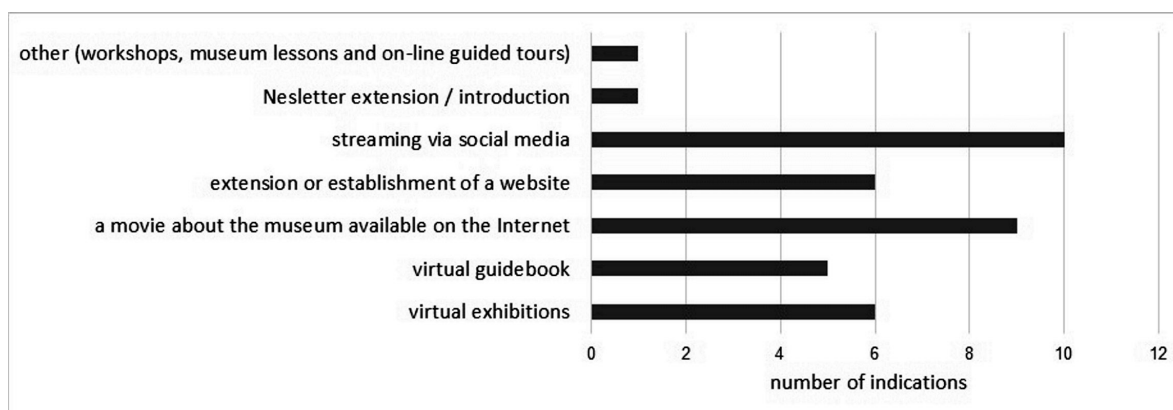


Figure 4. Types of virtual contact with the audience undertaken by the studied institutions in times of pandemic, own study

4.4. Museum finance – the rescue plans and the usage of external aid

The difficult situation of museum facilities and military sites accessible to tourists has forced the majority of establishments (80%) to take various rescue measures. To varying degrees, these affected both the human and infrastructural spheres. Looking for savings, the organisations stopped investments (40%), cancelled planned activities (36%), implemented other measures (36%) or reduced the consumption of fixed assets (32%). Some of the establishments closed until further notice (36%). To a lesser extent, the pandemic has hit the staff themselves, with 16% of establishments taking a pay cut, three making redundancies and a further two changing staff employment form. Some protection of jobs in museums could presumably have been the resignation or problems in the use of volunteers, whose duties were taken over by full-time employees.

In the “times of plague”, due to the imposed restrictions on activities, 52% of the establishments surveyed applied for some form of assistance. However, what is noteworthy (given the declines in attendance) is that of

the 22 museums, almost half (10 venues) did not apply for support during the pandemic crisis. This may have been due to a lack of faith in the effectiveness and availability of state or local government financial assistance, as well as obstacles of a procedural and qualification nature to obtaining and meeting the conditions for assistance. Among the 13 establishments that applied for and received support from external entities, fiscal assistance (payment waivers, deferrals) was the most common (Fig. 4). These establishments most frequently applied for governmental aid (38.5%), joint governmental and self-governmental aid (30.8%), self-governmental aid (15.4%) and equally from other sources (7.7% each, support from friends of museums obtained on the Internet or in cooperation with private companies in addition to central and self-governmental authorities). Two establishments, despite not applying for external assistance, received it in the form of either a direct grant for the organiser or the provision of cleaning products.



Figure 5. Types of support received by the surveyed institutions (the institutions applied for and received such support), own study

In the group of facilities (n=12) which did not apply for support, 2/3, despite the difficult situation, declared there was no such need, the others individually declared lack of knowledge of how and to whom to turn, lack of faith in the possibility of receiving effective assistance and the omission of such entities in subsequent government “shields”. In the group that applied for aid (and although the vast majority received it), some establishments pointed out that the conditions of the aid were too restric-

tive (the threat of compensation repayment if the conditions of the aid were breached), loopholes in the aid regulations (e.g. one of the tourist routes: “in shield 2 and 3 our PKD was not included”; “comparing income in months that do not generate income”), also expressed a lack of faith in receiving effective assistance, a lack of broader understanding of different support systems.

Among all the establishments that received any form of assistance, more than half (53.3%)

considered it insufficient, even with the implementation of certain restrictions and savings. 26.7% stated that it was difficult to clearly assess the effect of this assistance at the moment. Two facilities considered the aid entirely sufficient to ensure the continuity of their activities, provided that certain restrictions and savings were implemented, and one establishment expressed its unconditional satisfaction with the aid granted (together these two groups rep-

resented 20% of the beneficiaries of the various forms of aid).

Military museums and non-museum tourist routes in post-military sites assessed their financial conditions and visitor attendance before the pandemic and now (Table 2). With a few exceptions in relation to the financial situation and attendance, the units surveyed have seen deterioration in both areas, in extreme cases of a polar nature.

Table 2. Assessment of the financial situation and attendance in the surveyed units at the beginning of the pandemic and now (2021), own study

Nature of change	Financial situation		Attendance	
	number of answers	%	number of answers	%
deterioration (one grade difference on a 5-point scale from very good to very bad)	7	28	5	20
severe deterioration (difference of two grades)	6	24	9	36
very strong deterioration (difference of three grades)	4	16	4	16
catastrophe (polar shift)	0	0	2	8
constant	5	20	1	4
no comparison	3	12	4	16
total	25	100	25	100

4.5. Museum paradigm shift? The durability of changes

In assessing the impact of the pandemic on their further functioning, more than one third (36%) of the surveyed institutions are of the opinion that after the pandemic the situation will return to normal and any (organisational) changes introduced as a result of the pandemic will not last longer. The remaining 62%, how-

ever, predict the sustainability of some sanitary restrictions (Fig. 6). (The need to make sanitary products available is almost half of all indications). The impact of the pandemic on employment or the form of funding for museums seems marginal in their view.

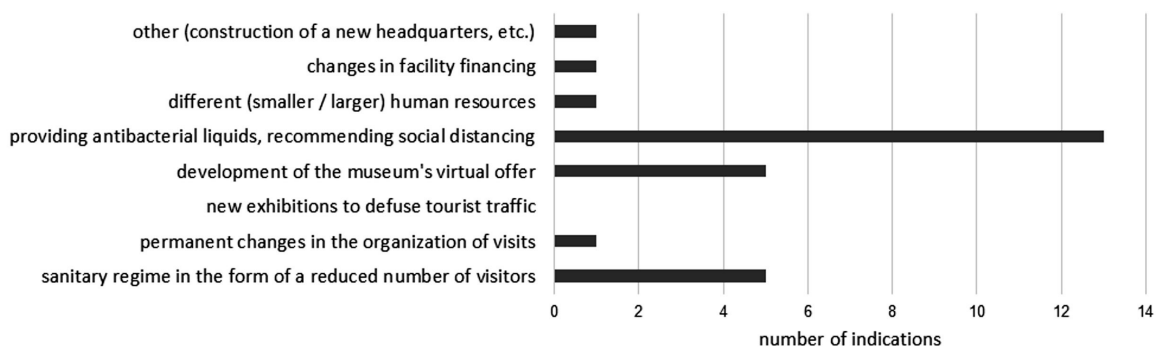


Figure 6. Expected further restrictions and changes in the work of the studied facilities after the end of the pandemic, own study

The largest museums and those created by national and local government have made the majority of changes and many of them will continue to operate in the future, even after the pandemic has ended. In contrast, private museums and those belonging to non-governmental organisations have made fewer changes and also plan to make slightly fewer permanent. The basic relationship evident from the analysis of the data presented in Figure 7 indicates that the larger the institution, the greater the number of changes it can make and these may become part of its normal operations once the pandemic has ended. The same is true for government and local government institutions that receive external subsidies. In contrast, smaller units, mainly NGOs and private ones, have

introduced relatively fewer changes and usually do not plan to extend them. This is due to the costs involved in introducing and then maintaining new procedures and ways of functioning. Private museums and NGOs do not receive external subsidies to the same extent as large local and state museums. Our results correlate with the main observations by Newman et al. (2020) and Travkina and Sacco (2020). The larger institutions with pre-pandemic digital strategies reported a smoother transition into a digital museum in the time of plague than the smaller ones struggling with the challenges of the rapid technological development in the museum world even before the lockdowns (although not only from economic reasons).

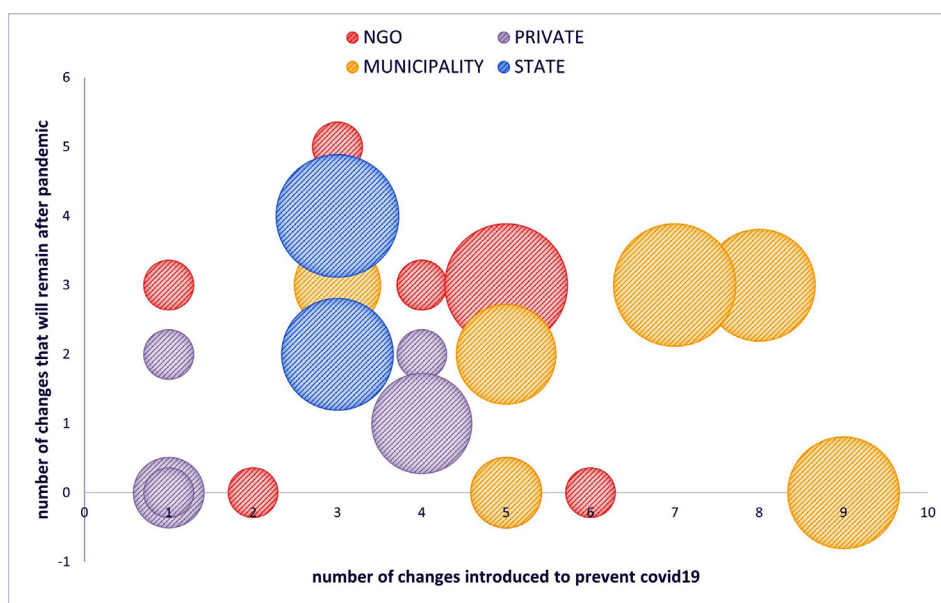


Figure 7. Response to the pandemic situation in the context of the number of changes made to the organisation of visits and the number of changes that will remain after the pandemic in the institutions surveyed, according to their size and form of foundation, own study

In relation to the potential impact of the pandemic on the change of the contemporary paradigm in museology, assuming an increased multisensory character of exhibitions through multimedia tools (often requiring direct, physical interaction with the tool), the opinions of respondents are clearly divided. 28% are optimistic that the pandemic will not change this paradigm and that the current crisis is temporary, with the same number of respondents having no opinion. The remaining 44% see more or less serious consequences for contemporary museology in a post-pandemic world: according to 32% of the total number of respondents (and almost

73% in this group), they express the view that the pandemic will partly affect the described paradigm, forcing museum professionals to develop new, “resilient” scenarios for the functioning of exhibitions during global epidemics. [It is in line with general opinion in museum community, shared also by Ou (2020) and Bieczyński (2021) on the basis of the China and Polish museum experiences; the pandemic is seen as a game changer.] For 8% of those surveyed, the pandemic will result in a permanent change in this paradigm, causing the development of so-called virtual museums with a simultaneous reduction in multimedia tools for using exhibitions in the

museum, and according to the remaining 4% this change will entail a return to the traditional (not requiring physical interaction from visitors), “showcase” way of presenting collections. The first (no change) and the last group (a shift into the past) of the respondents seem to ‘conjure a reality’. This in line with this what Kahn’s

wrote (2020): ‘If museums take the “let’s sit this out, and see what happens approach” they are far less likely to emerge with evolved, healthy and flexible identities that will be needed to continue their roles as preservers of knowledge and transmitters of communication in the post-epidemic world.’

5. Discussion

5.1. In the face of an unknown future – the early predictions

Already in the first months after the announcement of the global pandemic, it became clear that the epidemic situation and the accompanying restrictions would turn the museum world “upside down”, forcing it to react quickly and take non-standard measures. The restrictions to which museums have been forced to submit have affected not only the ways in which they organise their work or present their collections, but also the entire sphere of social interaction between the museum and its audience. As noted by Copley (2020, p.112), museums have evolved from zones perceived as physically safe, cognitively intriguing, socially and individually creative spaces of between humans and the collection (monument, art) into places of exclusion, that incite fear: “You could smell fear everywhere”. Museum professionals varied in their assessment of the predicted impact of the pandemic, from extreme concern to causal optimism. The former already saw the crisis of museums on the horizon as a result of the direct loss of income (periods of closure, lower attendance, lack of international tourists) and the general poor condition of the post-pandemic economy (Soares, 2020; Gorbey, 2020). For the others, the pandemic opened up a number of new opportunities and possibilities for museums, among them the more rapid development of digitisation and virtualisation of museums, digital tools and skills, the renewed focus of museums on local audiences, and a return to

the core (traditional) tasks of museums such as collecting and providing access to collections, conducting research and education in general (Agostino et al., 2020; Gaimster, 2020; Samaroudi et al., 2020). Among the optimists, there were also those for whom, in a post-pandemic reality, museums will see an increase in popularity, becoming places of direct (human) interaction where the viewer takes a break from the technology-dominated virtual reality (Arnold, 2020). At the same time, the dynamic development of virtual museums was anticipated, immune to successive lockdowns, but posing many technical, conceptual and ideological problems. The conviction that nothing can replace the viewer’s contact with the original (King et al., 2021, p. 500), forces museum professionals to multiply their efforts to sustain interest in museums online (Copley, 2020). This will require creativity, flexibility, but also a lot of funding and work. According Marty and Buchanan (2022, p. 132): “The COVID-19 pandemic made it clear that there is a need for museums to recognize museum technology professionals as essential museum employees.” Paradoxically, in the opinion of Bąk and Wiśniewski (2021), the periods of museum closures have acted as a kind of catalyst for those activities that museologists talked about and planned, for which there was not enough time or funds so far (Giannini and Bowen, 2022).

5.2. From pessimism to looking for a new opening

Museums in the new reality are seen as a platform for social communication, where, with the help of digital tools, users are both recipients of the museum product and its active

creators (“visitors who traditionally belonged to the museum’s external stakeholders began to act as internal stakeholders”, “... users will become producers and consumers at the

same time” (Choi and Kim, 2021, p.13). As the examples, Choi and Kim (2021, p. 13) gave the Seoul Museum of Art, where “users are able to replace the role of the curator”, in the Seoul Media Canvas “users act like artists”. As a response to a lockdown, The Getty Museum in California issued a social media challenge to recreate their artworks based on things people had at home. Burke et al. (2021, p. 121) claimed that the results were unexpectedly optimistic, revealing “creativity, humour, and fun in spite of the ongoing crisis.” According to Raimo et al. (2021) the activities undertaken by museums in the digital world improved the relations between museums and customers, and were effective in creating the new concept of the participatory museum (see Simon, 2017) and promoting post-visit learning. Some museums promoted and supported emotional wellbeing of their online visitors by undertaking actions in the spirit of “Slow Art” (Tan and Tan, 2021, p. 69).

Another cautious prediction for the post-pandemic era for museums was the rise of small museums at the beginning of the pandemic. As Poulot (2020) wrote visitors’ fears of crowded (mega)museums, subject to significant tourist pressure, and a policy of sanitary restrictions, can cause local communities to turn to smaller, niche, and less crowded muse-

5.3. Challenges or the “old-new” dilemmas

The return of museums to relative normality at the beginning of summer 2021, was associated with moderate optimism in some museums. Despite the crisis caused by the pandemic, it seems that museum professionals do not expect a dramatic change in the contemporary, open and interactive paradigm of museology, although they are aware that maintaining the current direction of museums will require them to be more flexible and creative (Zbucnea et al., 2020). All this, on the other hand, requires funds, which in the museum sector as a whole (and certainly in the small or private facilities) are still, according to the respondents, insufficient. This conclusion is highlighted by one respondent’s assessment of the situation of private museology in Poland:

“There is no official assistance to the sphere of private museums.”

ums. In many respects, this would require their reorganisation. At the same time, however, it is recognised that it is the smallest museum establishments, often because of their ownership characteristics and resulting funding opportunities, that are most vulnerable to pandemic liquidation (what our study clearly showed). This fact was later confirmed by a study carried out by the *Network of European Museums Organisations*, reporting for 30% of the private museums surveyed a loss of income in the order of €1,000/week, and for 25% above €5,000 (NEMO, 2021). Although these sums were barely a fraction of the losses of large museums caused by closures and declines in attendance, smaller museums dependent on ticket revenue (or other commercial activities such as hosting events) could have gone bankrupt.

Generally, the future of museums in the pandemic times appeared rather in darker than brighter colours. Marty and Buchanan (2022 citing AAM, 2020) supported this black prophecy giving the example of the position of the US museums. In 2020 they wrote that although the temporary relief for museums was provided in 2020, according to the American Alliance of Museums on average, individual museums through October lost about \$850,000 in revenue in 2020 due to the pandemic.

Museum professionals also draw attention to the increasing costs of running museums, due to the need to ensure that collections are made available under greater or lesser (perhaps as the pandemic dies out) sanitary regimes. As one respondent writes:

“In view of the significant drop in income and the high cost of anti-pandemic measures, this makes the normal financial functioning of the museum including the conservation and acquisition of collections impossible.”

Given the economic situation, the fact that the effects of the pandemic have hit museums or non-museum tourist routes in historic post-military sites run by private individuals harder seems to be confirmed. The results of our study are in line with the observation by Meng et al. (2023, p. 144) who reported: “The impact of COVID-19 on government and pri-

vate museums varied since the former have more financial support to tackle the problems aroused. The group of these facilities was clearly dominated by those whose financial situation had strongly deteriorated (Table 3). The situation of establishments run by local governments, on the other hand, was the most varied,

which could be related to the different overall financial condition of individual local government units (ability to provide assistance) as well as the perception of the importance of the place of culture in the ranking of tasks provided to their inhabitants.

Table 3. Assessment of change in financial situation of surveyed entities due to pandemic, own study

Nature of change in the economic situation	Founder/operator*			
	individual	local government	association foundation	central administration
catastrophe (polar shift)	0	0	0	0
very strong deterioration (by three grades)	0.0	14.3	9.1	0.0
strong deterioration (by two grades)	60.0	28.6	9.1	50.0
deterioration (by one grade)	20.0	28.6	36.4	50.0
constant	20.0	14.3	27.3	0.0
no comparison	0.0	14.3	18.2	0.0
total	100.0	100.0	100.0	100.0

*The values in the table are given in %.

The negative impact of the lack of public support and participation in meeting the costs of the pandemic was also evident in other countries, such as Romania, while in Italy, a country perceived as a “museum eldorado”, museums could count on both government and private support (Zbucnea et al., 2020). Another issue worth considering is the functioning of historic (including post-military) objects under care and made available to the public in a commercial manner (but outside of the register of historic monuments or the system of institutional museums), whose survival on the market goes beyond the benefits of a single private business. Such facilities also have a social function and guarantee, in many cases, the survival of a monument for which a useful new function has been found. The lack of or insufficient support for saving museums in general is also signalled in the third ICOM report (2021) on the situation of museology in times of pandemic, where more than 1/3 of the respondents (museums and institutions taking part in the survey, 36.06%) did not receive any financial support. ICOM’s report (2021) also revealed that museums in crisis have mostly (59.1%) not found new ways to compensate for their lost income (e.g. by increasing or creating

virtual museum shop offerings or by renting vacant museum spaces). This problem affected small and medium-sized museums to the greatest extent, as well as those financed by public funds or endowment funds. Museums financed by private funds or earned incomes have been somewhat more active in this direction. Unfortunately, the results of the survey on museums’ activity towards compensation of lost income conducted by ICOM (2021, p. 11) cannot be compared with the results of the research on Polish military museums, as this issue was not included in the survey.

The surveyed Polish military museums did not differ from other museums in terms of “substitute” activities undertaken in virtual space; however, most of them used already existing tools of virtual contact with the audience: websites, social media, and films offering virtual tours. [Thus, the survival (digital) strategies of the Polish museums were similar to those reported by Zuanni (2020) all over the world (cf Gutowski, Kłos-Adamkiewicz, 2020; Petelska, 2021)]. A fairly standard set of them (Zbucnea et al., 2020, p. 692-695) was perhaps due to the size of the establishments, with less marketing potential (people, equipment, skills) or technical facilities to (quickly) undertake

this kind of action or to adopt a “wait-and-see” strategy in the face of both the uncertainty of the pandemic situation and the chaos of the authorities’ decision-making in response to it. Moreover, in the context of the virtualisation of museums, it can be seen that this path is not taken uncritically by museums, especially given their important social functions. Manist’s (2022) research on online museum audiences during the pandemic showed that visitors who are most active in visits to traditional museums are least likely to use virtual exhibitions. Only 1.9% declared that they were recipients of this tool, which may indicate that they no longer need to experience museum collections online. Therefore, the question arises whether the online offer can contribute to increasing attendance in museums.

The doubts highlighted by the pandemic and related to museum virtualization are best captured by a comment from one museum (although it was one of the larger institutions in the study group):

“The cultural quarantine did not include virtual reality, giving the public a substitute for museum attendance and physical participation. Data on unique viewers and the average number of page views became the measure of interest in the collections. The virtual world, however, has brought about a confrontation with an immeasurable problem: the absence of the digitally excluded viewer, who traditionally and conservatively understands communing with a work of art, including people with disabilities.”

The opinion of the museum quoted above is in line with the observations by Holmes and Burgess (2020) and Baker et al. (2020). Not all audiences have equal access to digital technologies (especially in developing countries where digital exclusion is still a serious social and economic problem). As a result, the COVID-19 has contributed to the digital divide, exacerbating inequalities in society.

Small museums, often located peripherally both geographically and in terms of opportunities for cultural participation, are an important platform for local communities to engage directly with the past, the memory, and the culture. At the same time, however, presenting collections in the virtual world increases their accessibility, also to people with disabilities (King et al., 2021, p. 493). The sensitisation of

museum professionals and some audiences to the need to create conditions for disabled people to access and use the collection, when other audiences could empathise with their situation, experiencing social isolation and suddenly being in a museum deprived of one of the important senses (touch) of experiencing the collection, could be considered a rather unexpected effect of the pandemic.

Despite difficult conditions in which military museums in Poland had to operate, it is worth noting that some of them used a wide range of tools of virtual contact with the audience (from four to six), including: virtual exhibitions, virtual guides, films about the museum available on the Internet, expansion or creation of a website, streaming and expansion/introduction of a newsletter. However, among the units surveyed, these were the largest (in terms of employment).

The increasing presence of museums in virtual space seems to be a sign of our times (Agostino et al., 2020). Although in the situation of periodical closures of museums caused by sudden and global events, such as the coronavirus epidemic, the continuation of museum activities through virtual space seems to be a solution beneficial from the point of view of the recipient of the museum offer (Riviero et al., 2020, p. 16). However, the described solution seems to glaringly illuminate the problem of inadequacy of the current system of financing museums to the challenges and threats of the contemporary world. Although museums largely rely on various types of public funding, income from ticket sales or events in museum spaces supports the statutory activities of museums: the collection of exhibits and collections, their conservation, and research. Museums operating in the period of physical closure in virtual space remain “open” to visitors, but do not generate income for it. For museums, especially privately owned or run by associations and foundations, this can be a serious problem. This concern was shared by many museum workers in the first weeks of closing museums due to the coronavirus pandemic (cf Counts, 2020, p. 9). Khlystova et al. (2022) pointed out that in order to prosper and develop, the creative industries (among them museums) would require an increase in their financial and human capital capacity. They will also need to

employ digital safety nets and develop their digital skills further.

The importance of museums in social life in times of pandemics, including those transferring their collections to virtual space, is emphasised by the fact that in this space they could become a safe haven for people, a place of escape in times of existential anxiety (King et al. 2021, p. 501). This belief of one institution interviewed is an expression of some optimism, at least in terms of attendance, about the time to come after the end of the pandemic:

“The prolonged absence of potential visitors should whet their appetites.”

Unfortunately, this optimism is not proven by the assessments of attendance that emerged

in the surveyed units after reopening during the period of slowing down (but not ending) of the pandemic (Table 2, Table 4). As we can see, the difficult situation for museums caused by the pandemic is unlikely to end with the disappearance of the epidemic threat (cf ICOM, 2021, p.13) However, uncertainty about the long-term effects of the crisis remains constant”). The concerns voiced by museum professionals about their inability to successfully re-attract visitors to museums are confirmed by ICOM’s third report (2021, p. 22) on the situation of museums, and although they are slightly weaker (50.3%: 58.6% of the units surveyed) than at the beginning of the pandemic, they still remain strong.

Table 4. Assessment of change in attendance of surveyed entities due to pandemic, own study

Nature of change in attendance	Founder/operator*			
	individual	local government	association foundation	central administration
disaster	0.0	14.3	9.1	0.0
very strong deterioration (by three grades)	0.0	14.3	18.2	50.0
strong deterioration (by two grades)	40.0	28.6	36.4	50.0
deterioration (by one grade)	40.0	28.6	9.1	0.0
constant	20.0	0.0	0.0	0.0
no comparison	0.0	14.3	27.3	0.0
total	100.0	100.0	100.0	100.0

*The values in the table are given in %.

5.4. Aftermath

Globally, 2023 is the first year free from the pandemic. Fortunately, visitors have returned to museums in crowds (Museum Association, 2023). However, the scientific and open publicity’s interest in long-term effects of COVID-19 and their possible solutions has noticeable plummeted. Poland is not exceptional here. Since ‘the back to normal’ there weren’t any structural legal and administrative activities

undertaken that might significantly improve the situation of especially small or private museums in difficult ‘times of plague’. In this context one could say ‘*All Quiet on the Western Front*’. However, the pandemic boosted scientific and professional interest in the issues of virtual museums, digitalization, on-line museum education, and augmented reality in museums (see Table 1).

6. Conclusions

Summarising the results of the study, it should be stated that the analysed Polish military museums have been affected by the consequences of the global pandemic crisis in a manner consis-

tent with the entire museum sector. This might be perceived as the theoretical implication of the author’s work. It only proves how strongly the Polish museology is embedded in the

global contexts, both in terms of practical operational issues and maintaining relations with the audience. This is an undeniable value, but also a threat. Similarly to the entire museum sector, it follows the same rigidly defined path of development, experiencing similar effects in times of crisis. The Polish case study might suggest that the ways or reacting in the face of different risks should be more adjusted to the size of museum, the form of ownership, and local social and economic environment.

Military museums in Poland, as the research has shown, were affected, primarily in the economic sphere and in terms of a decline in attendance, for which periods of closure were most responsible. Moreover, reduced interest in the museum offer resulted from visitors' concerns about their sanitary safety.

It turned out to be irrelevant whether museums had the possibility to move part of the tourist traffic to the open air, organised outside in the case of military exhibitions, as the restrictions were formulated for a given category of facilities/institutions without regard to their individual specificity. The nature of their exhibitions and the way they are presented in at least a partial open-air museum formula did not influence the formulation of a different form of operation during the pandemic, because the law at that time did not provide for greater flexibility in the operation of museums, imposing top-down solutions.

In terms of staffing, as a large proportion of the museums surveyed operate largely on the commitment of volunteers, the impact of the pandemic on employment appeared to be smaller. Closing all museums several times, regardless of their size (in terms of their buildings and open exhibition space) and atten-

dance, also seems a step too far. In the case of museums with low attendance which does not significantly increase the risk of infection, long-term closure of the facilities means in practice removing them from the field of interest of the local community and its activity in the socio-cultural space.

The forms of assistance used by some institutions proved to be insufficient for most of them, which leads to the conclusion that there is a need, first of all, to develop a system of support for museum units that is adequate for institutions of different sizes and under different financing systems (Antara and Sen, 2020). Particular attention should be paid to facilities run by private entities, associations and foundations, especially that the support of such entities is systematically neglected in the Polish (and other) system of protection and accessibility of museum monuments. The pandemic exacerbated the already difficult situation of Polish private museums. For institutions struggling for financial survival, the problems of virtualisation of the museum offer seem important, but for the time being secondary¹. At present, it is the day-to-day operation of some museums that is crucial, not the development of their collections or new investments. In the absence of the above-mentioned systemic solutions, that would provide economic support for museum facilities in times of crises undermining the current formula of their operation, it is also important to provide museums with knowledge and skills on how to increase their online presence, but also how to effectively monetise it [monetising the online presence of museums was neatly described by the participants of a webinar devoted to this issue: „To Charge or Not to Charge?” (NHB, 2020)].

7. Limitations and further research

The research findings should be read acknowledging the limitations which affected this study. Although the authors' investigation was taken from about 33% of Poland's military museums,

it is noteworthy to underline that this sample reflects all Polish museum categories according to museum ownership, size, time of creation, and the character of museum military collections.

¹ Some of the private museums that ultimately did not complete the survey, when contacted by telephone during the review of the list of military museums and the survey itself, often claimed that they were waiting for a better time to launch their activities, or had closed until further notice. The devastating impact of the pandemic on private museums is probably greater than studies show.

Due to the fact that there is no single and universal definition of a military museum the authors defined the term and chose the objects to study according to this meaning. Some difficulties might occur while comparing the results of other studies on military museums based on the different criteria.

As the author's work suggests, further research should focus on the structural financial and organizational support aimed at small and private museums facing forthcoming global crises.

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