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## Museums, COVID-19 and the Pivot to Social Media

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## ARTICLE

# Museums, COVID-19 and the pivot to social media

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**Abstract**

This paper examines social media activity by UK museums during the COVID-19 pandemic. There is a general perception that as museums closed their doors for extended periods, their digital presence increased to maintain connections with their audiences. However, much of the research conducted in this area is based on small-scale studies and examples of best practice from large, well-resourced museums. By contrast, this study utilizes a comprehensive database of over 3300 active UK museums to understand the use of Facebook and Twitter across the sector. Specifically, the paper examines the frequency with which museums posted to these digital platforms as they attempted to engage with their audiences. Our findings indicate that there was no substantial increase in social media use and activity across the UK museum sector during the COVID-19 pandemic. This research has implications for museologists studying the impact of the pandemic on museums' digital activity, for museum social media professionals, and policymakers responsible for museum digital transformation strategies.

**KEYWORDS**

COVID-19, data analytics, digital media, digital museology, museum analytics, museums, social media

## INTRODUCTION

This paper examines social media use and activity by UK museums during the COVID-19 pandemic. There is a general perception that as museums closed their doors to the public, their digital presence increased to maintain connections with their audiences. Within the academic literature, there is discussion of a digital “pivot” (Kidd et al., 2021), and suggestions that the

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pandemic may play a role in ushering in a digitally mediated future. This was clearly articulated in the ArtFund report “Looking Ahead”:

What has emerged is a new model for the museum, one in which the physical space of the museum is no longer dominant. Instead, the museum is divided into three: on-site, on-line, and out in the community; each space equally important and informed by the other two.

(ArtFund, 2021, p. 5)

However, much of the research in this area consists of small-scale studies (e.g., fewer than 10 museums) or analyses of the best practices of large, well-resourced museums. By contrast, our project—“Museums in the Pandemic: Risk, closure, and resilience”<sup>1</sup>—utilized the Mapping Museums database of over 3300 active UK museums to chart museums' social media use during the COVID-19 pandemic.<sup>2</sup> Our findings indicate that there was no substantial, sustained increase in social media activity on Facebook and Twitter across the UK museum sector during this period. Specifically, this paper tracks the use of social media by museums and the frequency of museums posting to these digital platforms. It does not examine audience engagement with these posts, which will be explored in a subsequent paper. As such, our findings outline the social media provision museums made for audiences and raise questions about both their capacity and motivation to do so. As such, our work contributes to the emerging literature surrounding the nature and scope of a digital pivot in museums, both in general terms and as a direct response to the COVID-19 pandemic.

## BACKGROUND

“Museums in the Pandemic: Risk, closure, and resilience” (hereafter MiP) follows on from the Mapping Museums project, which examined the UK independent museum sector between 1960 and 2020, and produced a comprehensive, searchable knowledge base of all UK museums (Candlin et al., 2023). In March 2020, following the announcement of the first COVID-19 lockdown, the research team developed a plan to utilize the Mapping Museums knowledge base to monitor the museum sector during the pandemic. Research began in January 2021 following the award of funding. The focus of MiP was to use machine learning techniques to identify online presences of the museums in our knowledge base, such as website URLs and social media accounts (data not captured in the initial Mapping Museums research). We then employed web-scraping techniques to collect text from these digital assets to understand common words and phrases museums use that might indicate something about their status (i.e. language suggesting financial difficulty). Ultimately, the two projects are closely aligned: The MiP data has enabled us to extend the work of Mapping Museums to quantify and qualify aspects of the UK museum sector's response to the COVID-19 pandemic.

### Museums' turn to digital media during the COVID-19 pandemic

The use of digital media has become increasingly common in UK museums in the past twenty years, resulting in both policy development and the academic sub-discipline of digital museology. Despite this, prior to the pandemic there was “... a huge discrepancy between GLAMs' levels of digital understanding and maturity” (Finnis & Kennedy, 2020, p. 47). Yet, when the first national lockdown was imposed in March 2020, in the absence of in-person visits, digital media became the primary means through which museums could connect with audiences. They did this through online exhibitions, live-streamed events, podcasts, and

social media. Given the entire sector faced the same challenges, there was a palpable sense of digital transformation. Finnis and Kennedy (2020: 11) noted that “Organisations reacted, jumped or were forced to shift to digital working at a speed of change that would have been unthinkable before.” The scale of this digital leap was outlined in an ArtFund (2020) report—drawing on survey results from April to May 2020—which noted that 86% of respondents said their museum had increased its online presence since the start of the pandemic (p. 19). This momentum was described as a “pivot to digital” (Kidd et al., 2021); as “accelerating the digital revolution” in museums (Cipullo, 2021); and taking place in the context of a “digital transformation agenda” (Finnis & Kennedy, 2020, p. 2).

From the outset of the pandemic, academics studied the nature, scope, and effectiveness of the digital initiatives museums introduced. Initially, this meant documenting museum activities (Zuanni, 2020) but as the pandemic continued, academics studied specific events—such as virtual discos held by the Open Museum in Glasgow (Kist, 2021)—to explore the types of messages museums conveyed to audiences through digital media. Similarly, Samaroudi et al. (2020) analyzed the digital initiatives of 83 cultural institutions in the United Kingdom and the United States to understand which users they were targeting. Beyond a focus on audiences, scholars examined how digital ways of working prompted by the pandemic became embedded in organizational strategies (Noehrer et al., 2021), and how digital marketing disrupted established methods of museum communication (Krajnovic et al., 2021). This reflects a range of ways of understanding the digital “pivot” (cf. Kidd et al., 2021, p. 3).

Alongside this scholarly work, a series of reports emerged from the sector that provided snapshots of the impact of COVID-19 on museums, examining issues including closure, staff wellbeing, and income loss. The most extensive were produced by the Network of European Museum Organisations (NEMO) and the International Council of Museums (ICOM). Considering digital initiatives, the data indicated a significant uptick in activity, although its scale varied according to reporting metrics. Across three reports covering the first year of the pandemic, ICOM (2020, p. 2) indicated that museums’ “digital communication activities” increased by “at least 15%.” This was based on the number of museums engaging in all seven of ICOM’s defined digital activities.<sup>3</sup> By contrast, NEMO (2021, p. 4) suggested that 93% of museums surveyed “increased or started online services” since the start of the pandemic, using a more liberal criteria of museums conducting at least one of 10 digital activities.<sup>4</sup>

The reports also presented information about museums’ social media usage. The first ICOM report, using data collected between April and May 2020, indicated that 91.5% of reporting museums had a social media account while 49.3% started or increased social media use since the beginning of the pandemic (ICOM, 2020, p. 10). The third ICOM report, using data collected between April and May 2021, cited similar figures with 92.7% of respondents indicating their museum had a social media account and 45.7% noting increased usage (ICOM, 2021, p. 17). Similarly, the first NEMO report, using data from March to April 2020, indicated 73% of respondents said their museum increased social media activities due to the pandemic (NEMO, 2020, p. 15). By the second NEMO report, using data from October to November 2020, this figure had increased to 76% (NEMO, 2021, p. 4). In all studies, social media was the most popular form of “online services,” outweighing other digital initiatives (NEMO, 2021, p. 14).

The ICOM and NEMO reports also point to potential problems surrounding digital infrastructure. Both make a distinction between “large” and “small” museums, indicating the former were more likely to have pursued digital initiatives during the pandemic. The second NEMO report (2021: 4) indicates that 81% of large museums increased their digital capacities while only 47% of small museums did. Similarly, the third ICOM report (2021: 18) suggested that 77% of large museums increased their social media activity, while only 55% of small museums did.<sup>5</sup>

These reports imply a significant and sustained adoption of digital initiatives by museums, particularly social media, but it is important to note their methodological limitations. Both reports rely on data amassed quickly in response to the unfolding pandemic, a context in which problems related to data collection have been documented (Marty & Buchanan, 2022, p. 123). Furthermore, the surveys underpinning the reports suffer from skewed representation and are not weighted to account for this. For example, of the 961 responses to the first NEMO survey, 13% ( $n=124$ ) are from Austrian museums, overrepresenting that country by a factor of 10.<sup>6</sup>

These reports on the sector have been complemented by scholarly research attempting to assess museums' social media use during the pandemic. Agostino et al. (2020) examined social media activity at the 100 most visited Italian state museums between March 8, 2020 (when lockdown was introduced in Italy) and April 30, 2020. Their study indicates that activity on museums' social media platforms doubled and museums acquired significant numbers of new followers. However, despite this increase in posts and users, there was less growth in interactions between the museums and users. The study highlights an initial spike in social media activity as a result of lockdown, but the study's timeframe and its focus on a small set of popular, well-established museums limits what it can say about social media use across a range of museums and beyond the short term.<sup>7</sup>

A study by Ryder et al. (2021) conducted between July and September 2020 indicated that 64 of 66 cultural institutions in the United Kingdom and the United States increased their social media activity because of the pandemic and reported higher social media engagement during periods of temporary closure. This led the authors to suggest that the pandemic had caused these institutions to transform “digital content into their central message and social media into their primary communication medium” (p. 1). However, they also noted that 44 of the 66 institutions saw a steady decrease in engagement over time (p. 8). They also reported that a majority of respondents wanted to continue with increased digital engagement post-pandemic but faced implementation challenges, including staffing and funding (p. 9–10).

Adopting a more qualitative approach, Kidd and Nieto McAvoy (2022) studied Twitter usage in UK museums between March and May through two hashtags—#CultureinQuarantine and #MuseumAtHome—and by analyzing the contents of 9000 tweets. In doing so, they were able to understand who was tweeting, what they were tweeting about, their tone, and the value created for audiences. This allowed for a nuanced view of the interplay between the cultural institutions tweeting and the public interacting with them. This approach systematically analyzed social media engagement, which complemented reflective pieces on the value of social media for audiences (Kist, 2020; McGrath, 2020).

Despite the indications of increased social media activity outlined in these initial studies, there was no clear understanding of how this unfolded across the breadth of museums (beyond larger institutions) and over the duration of the pandemic. This links to a broader problem within the literature on digital museology which is a lack of large-scale evaluative exercises that reflect the experience of the wider museum sector, particularly smaller museums. Studies on both social media and broader digital initiatives are often confined to larger, popular, well-resourced museums (See, for example, Romolini et al., 2020; Zafiroopoulos et al., 2015) or draw conclusions from work with small sample sizes (King et al., 2021; Kydros & Vrana, 2021). This means that problems highlighted prior to the pandemic—about disparities between museums' digital capacity in terms of time, resources, and staff competencies—tend to be obscured.

Our study situates itself within the literature by providing an evidence base to reveal the scope and scale of social media activity by UK museums during the COVID-19 pandemic. It seeks to demonstrate how social media usage changed over time, how this varied by museums (according to size), and offers preliminary explanations for these trends, raising questions about the extent of the digital transformation of the sector in light of this. This work provides the most expansive view of social media activity across the UK museum sector to date, providing an evidence base that might be used to pinpoint museums that lacked the capacity or

were disinclined to attempt social media communications with their audiences and understand what barriers prevented them from doing so.

## METHODOLOGY

For the MiP project, we rapidly developed a data collection mechanism to generate a comprehensive dataset of museum social media accounts and website URLs. We chose to analyze Facebook and Twitter due to their popularity among museums, the relative ease of collecting data, and the existence of literature on the topic. Since its emergence in the mid-2000s, social media has experienced tremendous growth, with 59% of the global population active on a social platform in 2022 (Kemp, 2022). Facebook is particularly important due to its huge user base which makes it more representative than Twitter (Ballatore & De Sabbata, 2020). While very popular, particularly among younger users, other social media platforms like Instagram and TikTok make it hard to collect data at the scale needed for this study.

Our starting point was the Mapping Museums knowledge base of over 3300 UK museums—an extremely complete data set capturing uneven geographical distribution (Ballatore & Candlin, 2022). The technical team matched digital data to these museum records by creating automated Internet search protocols to identify museum URLs and social media account matches. Following a series of data filtering processes, samples of URLs and social media handles were manually validated by project researchers (see Ballatore et al., 2023). These processes generated a corpus of 3295 museum URLs, 2560 Facebook accounts, and 2223 Twitter accounts (reflecting that not all museums are active on social media).

Once the search protocol generated matches with sufficient accuracy, the technical team scraped museum websites twice a month from March 2021 until March 2022, collecting their entire textual content which could be used for a semantic analysis. For social media data, we used Meta's CrowdTangle and the Twitter API for Academic Research to collect Facebook and Twitter data from January 2019 onwards. As such, we generated a dataset of museum social media accounts spanning the calendar years 2019, 2020, and 2021. This timeframe provides a snapshot of social media usage at UK museums before, during, and after lockdown mandates. The scraped data included lexical content, activity data (i.e., number of posts), and account data (e.g., year of creation).

These automated processes are techniques designed to rapidly assemble complex datasets. To our knowledge, these methods have not previously been used in the museum sector, and certainly not at this scale. As with any such process, there are caveats regarding the accuracy of the data. For the URLs gathered, data accuracy was calculated at 90%, with a margin of  $\pm 3\%$ . The accuracy of the social media dataset was above 95% for both Facebook and Twitter (Ballatore et al., 2023), producing high-quality input for data collection for these platforms.

In manually reviewing the data inaccuracies, incorrect website URLs and social media handles largely consisted of tourism websites and local council websites. This makes sense as such sites frequently contain information about museums which likely led our automated tool to select them as the “official” museum URL or social media account. Our results also contain instances in which a museum account was duplicated, meaning some museums are overrepresented in the data. A further caveat relates to museums' relationship to their social media accounts. As our data collection aimed to be comprehensive and complete, we searched for a URL and social media account for every museum in the Mapping Museums knowledge base. By contrast, other studies typically identify smaller samples of museums with a clearly defined social media presence (e.g., Agostino et al., 2020). This meant that our data collection process encountered social media handles which were linked to museums but not controlled by them. This often occurred in instances where the museum is part of a larger organization, such as company museums, museums of religion, or university

museums. For example, the Berkshire Freemasonry Museum has its own page on the Berkshire Freemasons website. Its Twitter handle is an account for the broader Berkshire Freemasons in which the museum is occasionally mentioned but which it does not directly control. As such, tweets from this account, which appear in our analysis, are largely unrelated to this specific museum. Other examples are less clear cut. As such, there is difficulty distinguishing between museums with a social media presence versus museums that control a social media account.

This automated approach enabled us to assemble the most extensive database of museum URLs and social media handles in existence for the UK museum sector. Given the aim of quickly assembling data in response to the rapidly unfolding pandemic there are inevitably some errors in our data, which reflects the risks of using automated processes in museum work (cf. Gerrard et al., 2017). But despite these limitations, this dataset captures trends in social media activity of UK museums with an unprecedented level of completeness.

## UK MUSEUMS SOCIAL MEDIA ANALYSIS

The analysis begins by reviewing social media coverage across the UK museum sector. It then examines museums' use of Facebook and Twitter during the pandemic, considering user activity and frequency of posting/tweeting. The analysis is framed around the first (March 23–July 04, 2020) and third (January 06–May 17, 2021) national lockdowns to examine how museums' social media use changed during this time.

### Social media coverage

We identified a Facebook account for 77% of open museums in the Mapping Museums knowledge base and a Twitter account for 67% of open museums.<sup>8</sup> However, museums may own a Facebook or Twitter handle but use it infrequently or not at all. If an account did not publish at least one post during the research period (January 01, 2019–December 31, 2021), we defined it as redundant and excluded it from our study. After this refinement, we found that 64% of open museums in our knowledge base had an active Facebook account, while 60% of open museums had an active Twitter account. We were unable to identify a Facebook or Twitter account for 18% of museums in our knowledge base.

Across this social media dataset,<sup>9</sup> the adoption and use of social media were linked to museum size. As Table 1 demonstrates, large museums were much more likely to have social media accounts and to actively use them than smaller museums.<sup>10</sup> Moreover, the number of inactive Facebook accounts for small museums (15%) is perhaps indicative of difficulties in maintaining social media provision.

TABLE 1 Percentage of Facebook and Twitter accounts by size. Active accounts posted at least one message from 2019 to 2021.<sup>11</sup>

	Total number of museums	Facebook			Total number of museums	Twitter		
		Museums with account (%)	Account active (%)	Account inactive (%)		Museums with account (%)	Account active (%)	Account inactive
Huge	12	75	75	0	12	75	66.7	8.3
Large	498	89.6	81.5	8	498	86.5	80.5	6
Medium	864	81	71.6	9.4	864	73.4	66.1	7.3
Small	1816	71.9	56.3	15.3	1816	58.9	51.1	7.5



The number of museums with social media accounts changed slightly during the pandemic. Since March 2020, 17 museums in our knowledge base registered a new Facebook account while 22 museums registered a new Twitter account. As outlined in Figure 1, the majority of Facebook and Twitter account registrations in the UK museum sector occurred in the early 2010s. Therefore, when the pandemic emerged, museums that wanted to be on these platforms already were—there was no rush among those without accounts to create one.

An indication of social media use can be understood as activity within a calendar year. The number of active accounts varies each year as some became inactive during this period. Twitter saw consecutive decline in active accounts, dropping by 72 in 2020, and a further 107 in 2021. By contrast, Facebook saw a decline of 11 active accounts in 2020, but a net gain of 17 accounts in 2021. This reflects a general decrease of museum Twitter activity over the study period, as discussed below.

### Social media use

In the analysis below, we present data on the number of museums using social media and the posts they produced to show how levels of activity changed during the pandemic.<sup>12</sup> Facebook and Twitter data are presented separately for clarity, with key points summarized at the end of each section. The data are typically examined in relation to 2019 figures as a “normal” point of comparison. When considering the data visualizations, it is important to note that social media activity fluctuates during the year due to the seasonal opening of some museums. For example, it is typically lower in the winter months when a cohort of the sector is closed.

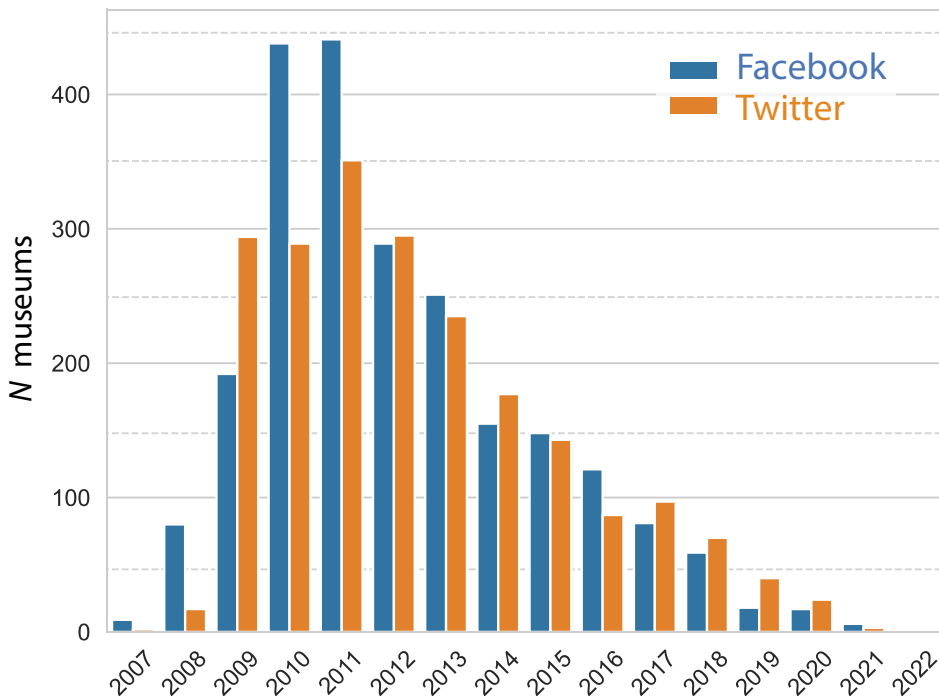


FIGURE 1 Creation of UK museum Facebook and Twitter accounts by year, 2007–2021.

## Facebook

In early 2020, before the pandemic began to impact daily life in the United Kingdom, the number of museums using Facebook and the posts they produced was similar to typical 2019 levels (see Figure 2). In March 2020, with the announcement of lockdown, the number of monthly museum Facebook users increased slightly to 1893 (2019: 1830) while monthly posts fell to 437,227 (2019: 446,419). This increase of museum Facebook users is likely explained by their desire to communicate their open/closed status. The week museum closures were announced (16–22 March)—saw 1776 museums active on Facebook—a 16% leap from the previous week and the highest weekly museum Facebook user figure recorded in our dataset. Congruently, the small dip in posts for this month may be due to disruption caused by the closure of museum offices and working from home. This means that during this week, approximately 53% of museums in our broader knowledge base of UK museums used Facebook to attempt to communicate with their audience.

During the first lockdown, following an initial spike the number of museum Facebook users decreased. From a record high in March, museum users decreased in April and May—the lowest monthly figure of 2020—before recovering slightly in June (see Table 2). Between March and June, at their lowest point museum Facebook users fell nearly 10%, and between April and June on average 136 fewer museums per month were using Facebook than the same period in 2019. This may indicate that some museums ceased operations entirely due to the March lockdown, rather than just a physical site closure.

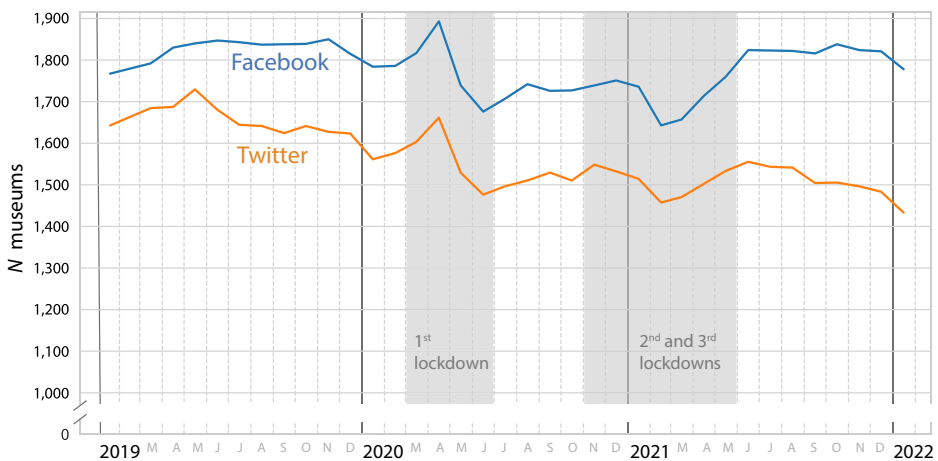


FIGURE 2 UK museums active on Facebook and Twitter, 2019–2021.

TABLE 2 Number of museums active on Facebook by month, January to June 2019 to 2021, emphasizing change during first and third lockdowns.

	2019	2020	2021
January	1771	1786	1643
February	1792	1817	1657
March	1830	1893	1714
April	1840	1739	1760
May	1847	1676	1824
June	1843	1707	1823

By contrast, April and May saw normal levels of Facebook posting, indicating fewer museums were posting more frequently, with average posts per museum increasing from 19.0 in March to 24.9 in May. As demonstrated in [Figure 3](#), increased posting activity was sustained across these months, with spikes around two events. These were #CultureinQuarantine—organized by BBC Arts on April 30, 2020, in which museums were encouraged to participate using #museumsfromhome—and the 75th anniversary of VE Day on May 8, 2020. These two days produced the highest daily number of museum Facebook users for the year at 1026 (30 April) and 1084 (8 May), and the two highest daily number of museum Facebook posts for the year at 2606 (30 April) and 2548 (8 May). In the context of increased activity, these events appear to have encouraged participation with 10–15% more museums posting on those days than daily averages for the rest of the month.

When considering museum activity by size, it is clear that smaller museums had more difficulty in maintaining a Facebook presence. Between March and June 2020, small museums saw a 11.8% decrease in museum Facebook users, while medium sized museums saw an 9.1% decrease. Large museums saw a 6.6% decrease, while huge museums saw no decrease. Museums that remained active on Facebook recorded increased posting activity across size categories, albeit relatively marginal ones. Smaller museums recorded the most modest increase in average months posts from 16.1 (March) to 18.4 (June), medium museums increased from 20 to 22 posts, large museums increased from 23.1 to 26.6. Huge museums did not increase by as big a rate—from 37.8 to 39.6 posts—but these figures, more than twice the quantity of smaller museum output, demonstrate the much greater capacity of these museums to produce social media content.

Following the end of the first lockdown, museum Facebook users remained on average 5% lower than 2019 monthly figures for the rest of the year. Similarly, overall Facebook posting activity decreased (see [Figure 3](#)). The most notable declines occurred in July (−8.8%), August (−11.1%), and September (−7.9%) showing pronounced decreases compared to the same months in 2019. The sole exception was December, where posting activity reached parity with the previous year.

By the third national lockdown, museum Facebook activity was significantly impacted. January, February, and March 2021 saw fewer museum users than comparable months in 2019 and 2020 (see [Table 2](#)). It is only from May 2021 that monthly users increase to reach relative parity with 2019 figures (over the remainder of the year they are never more than 1.4% below 2019 figures). This point indicates a return to pre-pandemic levels of museum Facebook

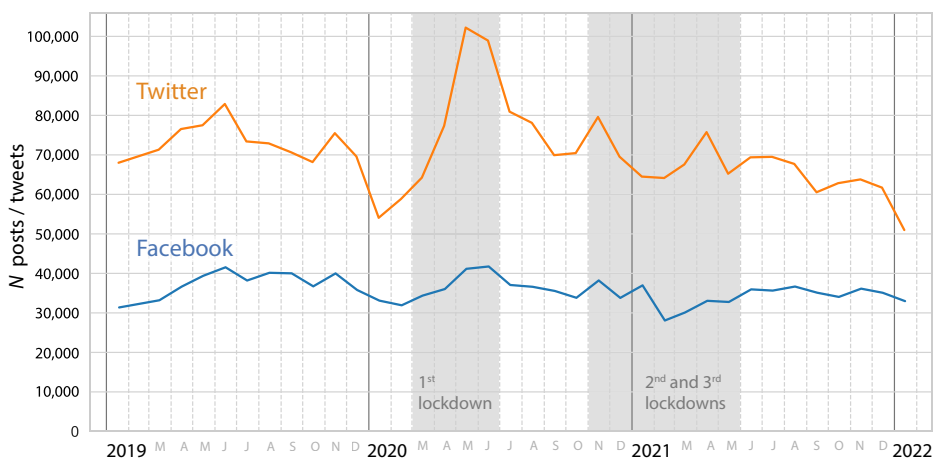


FIGURE 3 UK museum posting/tweeting activity on Facebook and Twitter, 2019–2021.

usership. Museum Facebook posts follow a similar trend with significantly fewer monthly posts from January to May than either of the previous two years, on average 12% lower than 2019, and 14% lower than 2020 figures. For example, total posts in April were 32,766, compared to 39,394 (2019) and 41,158 (2020). Museum Facebook posting figures for the remainder of the year closely resemble the decline recorded in 2020. For example, compared to 2019, posts in June (−8.6%), July (−12.2%) and August (−7.3%) are significantly lower. It is only in November and December 2021 that post totals reached a degree of parity with 2019 and 2020 numbers.

When considering museum Facebook users by size in this period, it is important to consider museum figures in the context of reopening. Over the period, small and medium museums are the categories most predominantly impacted. Between January 2021 and May 2021, there was a 13.6% increase of small museums using Facebook and a 12% increase for medium museums. By contrast, there is only a 3% increase in large museums using Facebook, while huge shows no increase. This indicates that small and medium museums were beginning to return to the platform, their absence likely due to both seasonality and pandemic closure. By May 2021, museum Facebook users are comparable to pre-pandemic levels across size categories, with 378 large museums (2019: 379), 544 medium museums (2019: 550), and 824 small museums (2019: 836) active.

By contrast, the decrease in posting activity between January and May (outlined above) was apparent across size categories with the most pronounced decline among large museums. In May 2021, large museums posted 17.6% less than May 2019 (with comparable numbers of active museums) and 16.7% less than May 2020 (with 37 fewer museum users); medium museums posted 15.4% less than in 2019 (with comparable numbers of museum users) and 14.7% less than 2020 (with 50 fewer museum users), while small museums posts were 9.8% lower than 2019 figures (with comparable numbers of museum users) and 10.9% lower than 2020 numbers (with 58 fewer museum users).

To summarize, the figures indicate a spike in museum Facebook activity during the first lockdown, followed by a period of retrenchment during which users and posts decreased as museums dealt with other challenges. From May 2021, the number of museum Facebook users returned to pre-pandemic levels, although museums appeared to be posting less frequently compared with 2019. Ultimately, the total number of museum Facebook users each year increased marginally during our study period from 1992 museums in 2019, to 1998 in 2020, and 2021 in 2021. By contrast, the total number of annual Facebook posts produced by museums declined from 446,419 in 2019, first by 2% in 2020, and a pronounced decrease of 8.9% in 2021.

## Twitter

In early 2020, in the months prior to the pandemic, the number of museums using Twitter and the tweets they produced were notably lower than 2019 levels. In January and February, 5% fewer museums used Twitter, and the number of tweets published was 14.6% and 9.9% lower, respectively. Similar to Facebook, museum Twitter user activity increased in March 2020, with 1660 monthly museum users (2019: 1686) and 77,346 tweets (March 2019: 76,542). The week museums closures were announced (16–22 March) saw 1516 museum Twitter users—a 15.9% increase from the previous week—and the highest weekly Twitter user figure recorded in our dataset. This means that during this week, approximately 45% of museums in our broader knowledge base of UK museums used Twitter to attempt to communicate with their audience.

During the first lockdown, following an initial spike the number of museum Twitter users declined. From a high in March, museum Twitter users fell in April and in May—the lowest monthly figure of 2020—before recovering slightly in June (See [Table 3](#)). This reflects a 9.9% decrease of museum Twitter users over these months, and between April and June on average

**TABLE 3** Number of museums active on Twitter by month, January to June 2019 to 2021, emphasizing change during first and third lockdowns.

	2019	2020	2021
January	1658	1575	1456
February	1683	1602	1469
March	1686	1660	1501
April	1728	1528	1532
May	1679	1475	1554
June	1643	1495	1542

184 fewer museums per month were using Twitter than the same period in 2019. These patterns of usership and posting broadly mirror Facebook activity.

In stark contrast, there was a substantial increase in the number of tweets sent in this period. While museum Twitter posting figures in March show a marginal increase (77,346), in April 102,216 tweets were recorded—a 32% increase on the previous month (2019: 77,505) (see [Figure 3](#)). It is unclear whether this was powered by unique museum Twitter posts, or increased retweets as a means of information sharing. This increase similarly appears to have been propelled by coordinated publicity activities. On April 30—the #CultureInQuarantine event—daily tweets posted by museums spiked to 8753. This was the highest daily figure for 2020, and 63% higher than the average daily figure for that month. Indeed, while overall museum Twitter users fell in April, 1034 users tweeted on this day, making it the highest daily figure for museum Twitter users in our social media dataset. Similarly, significant Twitter activity surrounded the VE Day celebrations, with spikes in museum tweets on May 7 (5047) and May 8 (4397), taking the May monthly figure to 98,937 tweets (2019: 82,879). By June, while a still a higher total than 2019, the spike in tweets had begun to wane (see [Figure 3](#)).

When considering museum Twitter activity by size, smaller museums were more likely to have ceased activity on the platform, although the range between museum sizes is less pronounced than Facebook. Between March and June 2020, the number of small museums using Twitter per month decreased 8.4%, medium museums saw a 7.1% decrease, large museums saw a 6.6% decrease (the same percentage as Facebook users), while huge museums saw no decrease. In terms of museum tweeting activity, small museums show increases in April (+28.3%) and May (+28.4%), while by June they end 2.3% higher than March figures. Medium museums similarly show significant increases in April (+43.5%) and May (+39.3%), while by June they are 14.5% higher than March figures. Large museums show a significant leap in April (+49.6%) and May (+33.5%), while this has tailed off somewhat by June and they are 8.3% higher than March figures. By contrast, huge museums show comparatively modest increases in tweets in April (+4.5%) and May (+7.3%), before decreasing in June (−19.5% of their March total). However, these museums already generated a significantly higher volume of Tweets than other museums so similar increases are perhaps unrealistic. There is a clear link between museum size and average number of tweets posted (see [Table 4](#)), but our data show that large museums had the most pronounced response to lockdown, with average tweets per active museum increasing from 90.3 to 141.3 between March and April.

Following the end of the first lockdown, monthly museum Twitter user figures were on average 5.8% lower than comparative 2019 figures for the remainder of the year. By contrast, while the spike in tweets posted by museums subsided by the end of June, the monthly number of tweets posted was similar to or marginally surpassed 2019 figures for the remainder of the year, especially in the spike occasioned by the announcement of the second national lockdown in October (see [Figure 3](#)).

TABLE 4 Total posts, number of museums active on Twitter, and average number of tweets per museum by size, March 2020 to June 2020.

	Museum size											
	Huge			Large			Medium			Small		
	Posts	No.	Avg.	Posts	No.	Avg.	Posts	No.	Avg.	Posts	No.	Avg.
March	3667	9	407	35,427	392	90	27,542	504	54	35,611	745	47
April	3834	9	381	53,022	375	141	39,540	482	82	45,701	673	68
May	3937	8	492	47,308	351	134	38,376	466	82	45,752	676	67
June	2951	9	327	38,389	366	104	31,553	468	67	36,462	682	53

During the third national lockdown, Twitter use was still largely subdued. January 2021 monthly Twitter users (1456) were the second lowest across the study period. This figure increases by April, reaching parity with 2020 levels but remains 11.3% lower than 2019 figures (see Table 3). The highest monthly museum Twitter user numbers in 2021 occur during May, the end of lockdown for museums—with 1554 museums active (2019: 1679). There was a spike in user numbers during the week of May 17, when museums reopened to the public, with 932 museums active, the highest weekly user figure of 2021. For the remainder of the year, monthly Twitter user figures are, on average, 7.5% lower than the comparable period in 2019.

By contrast, the number of tweets museums posted was more stable. Across December and January, the “bottoming out” of tweets is more controlled than the precipitous drop recorded in December 2019 (see Figure 3). In January and February, despite fewer active museum Twitter users total tweets are higher than 2020 levels, although lower than 2019. In March, total tweets posted by museums (75,755) are broadly comparable with the previous two years, and constitute the highest monthly total in 2021. This was aided by a peak on March 8 (4297)—the highest number of daily museum tweets for 2021—which was the day lockdown restrictions initially eased and also International Women's Day.<sup>13</sup> There was a smaller spike in tweets around museum reopening on May 17, although no sustained uptick following reopening. From June, the number of tweets posted by museums per month is consistently lower than comparable months for the previous two years until December 2021 (52,151), which is the lowest in the study period (see Figure 3).

Considering museum Twitter use by size, all categories begin this period with lower Twitter user figures than January 2020, particularly small (−9.4%) and medium museums (−8.5%). Due to seasonal reopening, museum Twitter users gradually increase in the subsequent months and by May 2021, users in each size category surpass 2020 figures, while remaining lower than May 2019. Compared to this month, in May 2021 there were 63 fewer active smaller museums (−8.2%) and 31 fewer active medium museums (−5.9%), and 12 fewer active large museums (−3%). Considering museum Twitter posts by size, aside from the March 2021 spike evident across all categories, monthly posting figures are consistent: between January and May increases for medium (0.8%) and small museums (0.1%) are negligible. Therefore, as the number of active museums increased for both size categories between January and May, these museums were posting slightly less on an individual basis, while large museums maintained a consistent posting rate.

To summarize, the figures indicate a spike in museum Twitter activity during the first lockdown, followed by a period of retrenchment. Across the whole study period, we saw an 8% decrease in active Twitter users.<sup>14</sup> Moreover, December 2021 shows the lowest number of monthly Twitter users for the entire study period, although it is important to note that similarly low numbers were evident before the onset of the pandemic, in months like January and February 2020. In terms of museum Twitter posting activity, the highest annual figure came in 2020 with 914,642 tweets—largely the result of the spike during the first lockdown—and this remained

relatively robust for the remainder of the year. However, following the end of the third lockdown Twitter activity declines. The decrease to 780,347 total tweets in 2021 combined with declining museum user numbers may indicate Twitter is losing popularity among museums, especially as there was no robust increase in activity in comparison with Facebook.

## SUMMARY OF FINDINGS: NO SUSTAINED PIVOT TO SOCIAL MEDIA

During the COVID-19 pandemic, the number of museums users of Facebook and Twitter peaked in March 2020. Of the active museums in the Mapping Museums knowledge base, approximately 57.3% used Facebook to attempt to engage their audiences in March, while 50.3% used Twitter. Use of these platforms declined throughout the remainder of the first lockdown. While museum Facebook user numbers returned to pre-pandemic levels by the end of the third lockdown, the number of museum Twitter users remained significantly lower than 2019 levels.

In terms of museum posting activity, Facebook posts peaked in March 2020 before decreasing for the remainder of the first lockdown. Despite reviving user figures, Facebook posts were subdued during the third lockdown and for the remainder of 2021. By contrast, museum Twitter posting activity increased significantly during the first lockdown and remained buoyant for the rest of the year relative to 2019 levels. While there is a small spike during the third lockdown (March 2021), this momentum is not sustained, and the total number of tweets posted by museums is lower for the remainder of the study period.

According to our data, there was no increased, sustained usage or activity on either Facebook or Twitter by UK museums during the pandemic. Facebook was the platform most frequently used by museums and regained popularity over the course of the study period. By contrast, Twitter suffered declining popularity and our data indicate no significant revival in museums using this digital platform. It is important to note that falling museum user activity may not necessarily be a negative trend—a smaller cohort of museum users may be more actively engaging their audiences—but it is beyond the scope of this paper to make such an assessment; this will be evaluated in forthcoming research.

## DISCUSSION

The data present an interesting set of results. Our work indicates that Facebook and Twitter saw an initial burst of museum activity during the first lockdown, supporting the findings of other studies conducted around this period (Agostino et al., 2022; Kidd & Nieto McAvoy, 2022). However, our finding that there was a subsequent decline in usership and posting throughout the pandemic and no sustained pivot to social media, contradicts the NEMO and ICOM surveys, which indicate high levels of social media usership and posting by museums they surveyed continuing well into 2021. A possible explanation is that survey respondents informing those reports may have been closely connected to the work of these organizations, and thus more likely to be active online, creating a limited sample. By contrast, our study captured the experience of the entire UK sector, and thus offers a more holistic picture of its practice.

This decrease in overall usership and posting during most of the study period (particularly between the first and third lockdown) likely has many facets. While it is not possible to provide a detailed explanation of the precise causes of the decreases across the breadth of museums, we can point to some factors that may have influenced this and could be the source of further investigation. These consist of specific attributes of the UK museum sector itself, specifically relating to capacity, but also broader sociological factors.

Firstly, UK museums were eligible for the government's Coronavirus Jobs Retention Scheme—which ran from March 2020 to September 2021—meaning that government largely subsidized staff wages. According to Parliamentary data, 46% of museums were using the furlough scheme as of 6 May 2020 (DCMS, 2020, CVD0188). A consequence was that furloughed workers could not undertake paid work. It is conceivable that museums furloughed staff whose responsibilities included digital engagement, which may contribute to decreases in social media activity in the data. Similarly, some museums may have made staff responsible for social media redundant due to financial exigency, or did not have resources to hire additional staff to take on such responsibilities (cf. Marty & Buchanan, 2022).<sup>15</sup> While provisional research has been conducted on redundancies in the UK museum sector during the pandemic—with an estimate of 4100 job losses—the extent to which jobs related to social/digital media were impacted is unclear (Museum Association, n.d.).

A further consideration relates to specificities of management in the sector, especially for museums that open seasonally or rely on volunteers. Preliminary research undertaken by Larkin and Candlin (2022) indicates that rather than reopening following the end of the first lockdown many museums remained closed throughout 2020 and into 2021. Such closures were due to a range of factors, including financial considerations or to protect staff/volunteer health, and this likely contributed to troughs in digital activity recorded in the data, especially during the summer months. Detailed in-person interviews with staff at small, volunteer-led museums as part of the broader MiP research lend support these conclusions.

A related point emerging from the data is the scope of social media usership and posting activity across the sector. There is a clear connection between museum size and social media activity. This is borne out by the disparity in the usership and posting figures of huge museums and small museums. Huge museums had the capacity to remain active throughout the pandemic, posting a significant quantity of content in an attempt to engage audiences. By contrast, small museums had a much lower adoption of social media accounts, and during the two lockdown periods under study saw the biggest dips in active usership and posting. This perhaps indicates the lack of capacity to maintain increased social media activity, especially when museums reopened after the first lockdown, which underlines concerns about digital infrastructure and capacity across the museum sector and may reflect existing digital inequalities (Walmsley et al., 2022, p. 19; see also Finnis & Kennedy, 2020, p. 22).

And finally, in broader social terms when the pandemic first hit there was a novelty and need for online activities, both in terms of sharing information and attempting to keep audiences engaged. However, subsequent declines may be due to museums recognizing diminishing appetites for digital content. It is particularly telling that the number of posts across both Facebook and Twitter was significantly lower following the end of the third lockdown. Data from the “Culture in Crisis” report produced by the Center for Cultural Value (Walmsley et al., 2022, p.11) similarly indicates that cultural engagement gradually decreased during the first lockdown across the cultural sector, including digital engagement.

## CONCLUSIONS

In conclusion, our research assesses the extent to which UK museums utilized social media during the COVID-19 pandemic. It has sought to paint a holistic picture of these practices at museums, a perspective often overlooked within museum studies which typically privileges best practices at larger, well-resourced institutions. Our findings indicate that despite a pronounced spike in museums' social media activity during the initial months of the first lockdown, this was not sustained throughout the pandemic. For the most part, such activity was lower than 2019 activity levels. While Facebook user and posting figures have rebounded to pre-pandemic levels, those of Twitter are still in the doldrums. These findings may prove useful



for digital museologists when considering how the nature of museum communication might be changing, and how museum social media use is configured across different platforms.

While we feel our findings are generally indicative of a relative stasis concerning UK museums' use of social media during the pandemic, it is important to acknowledge limitations to this research. It is possible that museums made significant use of other platforms during the study period. Agostino et al. (2022) show that Italian state museums heavily favored Facebook, with Instagram a more commonly used digital platform than Twitter. It may be that UK museums made more use of Instagram or even TikTok to diversify their social media efforts and consequently Facebook and Twitter engagement were less significant communication tools. Moreover, our study did not examine the broader context behind decreases in social media output. For example, decreasing Facebook posts may have coincided with a rise of Facebook Live events, so that other forms of digital activity may have increased but in ways we were unable to quantify. We also acknowledge that our findings focus on museums' use of social media and not engagement, which may show significantly different patterns, namely that museums may have used social media less, but audiences were more engaged by their activity.

Ultimately, these findings provide an opportunity to assess how UK museums made social media provision during the pandemic, and also to consider why there was no sustained pivot to social media by these museums during this period. Hopefully, this work will prompt further consideration on the scope and extent of social media use within the UK museum sector and whether more needs to be done to address capacity and inequities across different museum types as we emerge into a post-pandemic world.

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## DATA AVAILABILITY STATEMENT

The dataset supporting this article is openly available from the King's College London research data repository at <https://doi.org/10.18742/23253329> and at <https://github.com/Birkbeck/museums-in-the-pandemic>. According to Meta and Twitter terms of use, the underlying data used to assess social media activity cannot be re-shared.

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## ENDNOTES

<sup>1</sup> “Museums in the Pandemic: Risk, closure and resilience” was led by Professor Fiona Candlin (Principal Investigator), Professor Alexandra Poulouvassilis (Co-Investigator), and Dr. Andrea Ballatore (Co-Investigator). Further details are available here: <https://www.bbk.ac.uk/research/projects/museums-in-the-pandemic>. *Note:* The formal name

for the project as funded by UKRI is “UK Museums during the COVID-19 crisis: Assessing risk, closure, and resilience.”

<sup>2</sup> Details about the Mapping Museums project are available here: <https://museweb.dcs.bbk.ac.uk/home>

<sup>3</sup> These activities are as follows: Collection online; Online exhibition; Live events; Newsletters; Podcasts; Quizzes/contests; Social media (ICOM, 2020: 10).

<sup>4</sup> The options were as follows: Social Media posts; Quizzes and contests; Adding objects to their online collection; Live content from within the museum; Special newsletters; Video content; Museum podcasts; Virtual tours through the museum; Online exhibitions; Online learning programs (NEMO, 2021: 14).

<sup>5</sup> Both ICOM and NEMO define museum size based on staff numbers. Museums with 10 or fewer employees were classed as “small” while museums with 100+ employees were classed as ‘large’ (ICOM, 2021: 28; NEMO, 2021: 29).

<sup>6</sup> There are approximately 700 museums in Austria. Conservatively estimating the number of museums globally as 55,000 means Austrian museums make up 1.2% of this figure.

<sup>7</sup> There are approximately 5000 museums in Italy.

<sup>8</sup> We use the term “currently open” as the Mapping Museums knowledge base comprises both open and closed museums.

<sup>9</sup> In this paper, knowledge base is used to refer to the entire Mapping Museums data corpus. Social media dataset is used to refer to the museums for which we identified active social media accounts.

<sup>10</sup> Museum size metrics developed for the Mapping Museums project based on visitor figures were used for this study: Huge (1,000,000+), Large, (50,001–1,000,000), Medium (10,001–50,000), and Small (0–10,000). See Candlin and Ballatore (2018).

<sup>11</sup> The data presented here reflect a problem of large-scale data scraping as the social media accounts of one “huge” museum wasn’t identified. In reality, “huge” museums should register as 100%, but because of the small population size the missing museum has a significant impact in terms of percentage. Similarly, the tiny disparity of percentage values for small museums is the result of a minor scraping discrepancy.

<sup>12</sup> The data used in this study were collected in a defined timeframe. Following the data collection period, Facebook overhauled its platform under the company's reorganization as Meta, while Twitter was purchased by Elon Musk. Both of these events cause significant changes in the way the platforms operate, for example the decision by Twitter to introduce a subscription model. Researchers should be mindful of the way in which such changes may impact any subsequent studies of these platforms, particularly in relation to any comparison with the figures we present here.

<sup>13</sup> Our data showed that events, holidays, or festivals prompted significant spikes in activity.

<sup>14</sup> On an annual basis active Twitter users fell from 1918 in 2019, to 1870 in 2020, to 1766 in 2021.

<sup>15</sup> While tracking staff redundancies or reassignments would have addition context for our analysis, it is virtually impossible to collect data on this in a systematic way.

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