

Assessing the Long-COVID Impact on Heritage Organisations

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Abstract: The aim of this paper is to understand the long-COVID impact on cultural heritage organisations, and future research needed. COVID-19 was disruptive to cultural heritage socioeconomic activities across the world during 2020 and 2021. Whilst government intervention and changes from physical to digital engagement generally prevailed, the long-COVID impact on cultural heritage organisations, their people and users, buildings, and collections remains unknown. The extent, also, to which financing, curating, visiting, and volunteering patterns have changed is uncertain. Following the pandemic closures and associated support, cultural heritage organisations are facing continuing economic, social, political, environmental, technological, and organisational culture pressures. This research examines the existing academic literature, sector publications, annual reports and associated visitor information to understand whether cultural heritage organisations have long-COVID, whether they can survive another pandemic, and what further research is needed to be better prepared. Four case studies from the UK look at the visitor and financial impacts of COVID-19 on the British Library, the London Transport Museum, The Theatre Royal Drury Lane, and Kensington Palace. This paper contributes to heritage research by providing a deeper understanding of the impact that COVID-19 had on heritage, and how to proactively plan for similar future disruptions. The impact themes show that change did not result in a new normal but in the need for a new space, consisting of blended space (physical and digital), mixed space (indoors and outdoors), and community of practice space (isolated or cross-sector networking space). The literature highlights the significance of the sector coming together during the pandemic to share knowledge and provide support through its networks. It also highlights how important it is for such unity not to be lost but to be harnessed to support ongoing organisational sustainability and better preparedness for future crises. Finally, future research suggestions are proposed grouped into social, digital, financial, and operational research themes.

Keywords: COVID-19; heritage; cultural heritage; new space (physical; digital; common space); organisational sustainability; sharing knowledge; wellbeing



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1. Introduction

On 10 January 2020, the World Health Organisation (WHO) initiated meetings and sharing of extensive guidance on a novel coronavirus outbreak. The following day, the first death due to this coronavirus was reported, and on 11 March 2020, the WHO characterised the coronavirus disease as a pandemic [1]. Initially named 2019 novel coronavirus, the coronavirus disease (COVID-19) is caused by the virus called Severe Acute Respiratory Syndrome CoronaVirus 2 (SARS-CoV-2) [2]. At the time of writing, the latest WHO report (28 January 2024) recorded 10,902 deaths in the previous 28 days, reaching a total of 7,026,465 reported deaths worldwide. Over half a million cases have been reported in the past 28 days, and nearly 0.8 billion cases reported overall [3].

The world shielded from the pandemic with lockdowns (closure of businesses and restrictions of international flights, domestic travel, and physical contact), building up stocks of personal protective equipment (PPE) and setting up extra medical facilities [4]. The lockdowns minimised its impact until vaccines were able to change its course; however,

equitable distribution of vaccines around the world was a significant issue [5]. The ‘anthropause’ lockdowns [6] had significant impact on people’s wellbeing due to the isolation, and damaged world and local economies. COVID-19 disrupted every aspect of life, from health provision, education, agriculture, sports, culture, and entertainment [7]. It had a significantly negative impact on employment and job security, and amplified gender and social inequality [8,9].

As we will see throughout this paper, COVID-19 affected heritage management significantly; the lockdowns limited access to heritage sites, such as museums and galleries, libraries, archives, archaeological sites and monuments, historic houses and castles, theatres, and all other cultural performing venues. It restricted travel, impacted its staff, volunteers, communities and users’ health and livelihoods, changed habits in operations and communication, in buildings’ security and collection care, and the overall heritage organisations’ viability was threatened. Government intervention across the world prevented permanent closures, mostly, but the lockdown closures drained financial reserves, challenged people’s flexibility and skills, and created conservation backlogs. The closures did not affect all types of heritage organisations the same, with size, governance type, registration/accreditation status, and more significantly indoor to outdoors spaces variation, all making a difference to the impact. On the other hand, parts of the planet witnessed reduction in pollution, and saplings of novel means for reaching out to audiences and communities spurred to significant growth.

As people are affected differently by COVID-19, and some suffer its effects long after the infection, we use long-COVID [10] as an analogy to understand what the long-term effect of COVID-19 is on the various types of heritage organisations, and how to best prepare for, or mitigate, similar future crises. Whilst the world aimed to return to normal, that normal we were used to was an imposed assortment of ongoing crises, including the cost of living, climate change, social inequality, wars and political unrest [11]. Coloniality, restitution, and structural racism, alongside COVID-19, climate change, and social and economic inequality, are highlighted as the most pressing issues in heritage management research currently [12]. Managing the ‘fragmented ecosystem’ of heritage operations [13] relates to questions of its cost and usefulness [14,15], especially for contributing to UN-ESCO’s sustainable development goals [16,17]. On the effect of COVID-19 on heritage management, Graham Black asks ‘Will it create a ‘new normal’ or simply speed up trends that were already under way—or merely be a short-term blip?’ and highlights that heritage institutions ‘more than ever the need to stand back from day-to-day priorities and re-think for the long term’ [18] (p. 296). The literature questions the fundamental role of heritage; how can heritage organisations best prepare not only to survive (cost of heritage operations) but also to positively contribute to support ‘the fragile culture’ [19] of society during and after crises (usefulness of heritage)? Heritage after all is about learning from experience to benefit our present and future [20].

The aim of this paper is to deepen our understanding of the long-COVID impact on heritage organisations and the role of heritage in shaping the ‘next normal’ [17] as a new space (Sections 3.3 and 4), and to outline future research needed in mitigating crisis impact (Section 4). This paper contributes to heritage research by providing deeper understanding of the impact that COVID-19 had on heritage, and how to proactively plan for similar future disruptions.

2. Materials and Methods

This paper utilises an extensive academic literature review enhanced by case studies utilising annual reports and associated visitor number information. These methods together help to understand whether heritage organisations have long-COVID, whether they can survive another crisis, and what further research is needed to be better prepared.

2.1. Literature Review

Out of 109 academic works from a SCOPUS search for (“covid” OR “post-covid”) AND (“heritage” OR “cultural heritage” OR “heritage buildings” OR “heritage monuments”), the literature review utilises 79 academic papers and eleven book chapters. A total of 19 papers were rejected, mainly for the use of heritage as ‘mother tongue’ or generally referring to ‘traditional’ song, food, drink, or religion. There was one duplication (newer version) and two papers were inaccessible or of questionable quality. To the selected 90 SCOPUS papers and chapters, 4 papers were added from the recent Special Issue *The Impact of COVID-19 on Cultural Heritage* ¹. Six further papers were included from peer suggestions.

The 100 papers and chapters reflected 36 nations. Six studies were researching COVID-19 and heritage in multiple EU nations. Italy, UK, USA, and Greece were the countries with the most papers included but in addition to those European and North American works, Asia, Africa, South America, and Australasia also had multiple representations. A total of 51 out of the 89 academic papers included extensive empirical phases, utilising a wide spectrum of methods to collect extensive data. A total of 56 publicly accessible sector publications were also reviewed, providing detailed insight on impacts for heritage operations and teams. Notable contributions include the Arts and Humanities Research Council (AHRC) funded research by The Centre for Cultural Value, the extensive stream on COVID-19 and wellbeing from Historic England, Ulster University’s UKRI research, and extensive reports by international (UNESCO, ICOMOS, ICON, EU), and UK museum organisations. The analysis started with initial thematic categorisation: effects (negative and positive); government intervention; physical and digital changes; impacts on teams, users, buildings, and collections; changes to operational patterns, best practice observed, future research. Clear themes emerged: space (physical, digital, sharing), time (planning, emergency preparation), purpose (role during and post-crisis) and rethinking the role of heritage. The initial categories and resulting themes are expanded in the results section.

2.2. Case Study Methodology

Four arts and heritage sector case studies were selected for their contrasting funding regimes:

1. A library: The British Library, a Department for Digital, Culture, Media and Sport (DCMS) funded library with revenue generating powers. The British Library is an exempt charity under the Charities Act 1993.
2. A museum: The London Transport Museum is a Transport for London (TfL), Local Authority affiliated museum. London Transport Museum Limited is a registered charity (number 1123122), which was incorporated on 6 February 2008 as a subsidiary company of TfL.
3. A theatre: The Theatre Royal Drury Lane has been a site for entertainment since 1663 and the world’s oldest theatre site in continuous use. Part of the Lloyd Webber (LW) Theatres Group Limited. Company number 03987955.
4. A historic house: Kensington Palace is part of Historic Royal Palaces, which is self-funded (i.e., an independent charity).

The aim of examining these case studies is to understand the long-COVID impact on diverse heritage organisations and outline future research needed in mitigating such impact. The process of examining the case studies commenced with collating organisational reports, annual accounts, archives, databases, and websites using a stripped down version of the Business Model Canvas [21]. Business models are defined as how organisations create and capture value [21]. Value is both quantitative (‘e.g., price, speed of service’) and qualitative (‘e.g., design, customer experience’) [22] (p. 23).

The Business Model Canvas is a graphic representation of why an organisation exists, what it intends to do, for whom and what is required to initiate and maintain it. A simplified version of the BM is in Table 1 below [22]:

Table 1. Business Model Canvas (BMC) is a graphic representation based on Ondrus and Lyytinen, 2011).

Business Model Canvas		
Infrastructure Aspects	Value Proposition	Market Aspects
Financial Aspects		

The case studies are presented in Section 3.1.7.

2.3. Document Structure

Following the introduction and methodology (Sections 1 and 2), the results are presented in Section 3, followed by the discussion (Section 4) and conclusion (Section 5).

In Section 3, the long-term effects of COVID-19 on heritage are presented within six themes (Sections 3.1.1–3.1.6). The four case studies are then presented in Section 3.1.7, providing an insight on visitor and financial impacts of COVID-19 across four different types of heritage organisations: a museum, a library, a theatre, and a palace. In the next section (Section 3.2), three themes relate to calls for review of the heritage sector as found within the COVID-19 literature: a call to critically review the sector (Section 3.2.1), understanding the ethics of COVID-19 (Section 3.2.2), and to evaluate the intervention roles of the government and the heritage sector support (Section 3.2.3). Section 3.3 introduces the main theme of a new space, not a new normal. It expands on the roles of physical, digital, and blended spaces (Sections 3.1.1–3.1.3), and as shared spaces for information sharing, networking (Section 3.3.4) and by extension as wellbeing spaces (Section 3.3.5).

Section 4 discusses the effect of such findings in a fledgling sector and provides an extensive bank of future research that is needed (Section 4.1). The conclusion presents the need to understand the opportunity of a new diversified organisational space, and the capacity and power that a unified sector would possess.

3. Results

3.1. COVID-19 Effects on Heritage

The study of previous pandemics shows that their long-term effect is unpredictable [23]. COVID-19 demonstrated how difficult it is to accurately predict the future [24]. ‘It was a crisis for cultural heritage, after all, where nothing was bombed, looted, or erased’ (participant comment in [24] (p. 282)).

The following long-term effects are presented in this section:

- Disruption and contribution,
- Impact variation for types of organisations,
- Impact on teams,
- Impact on users,
- Impact on buildings and collections, and
- Impact on tourism and visitor economy.

3.1.1. Disruption and Contribution

The restrictions disrupted not only heritage but also supply chains for food, health and manufacturing, impacting on the local economies [25]. Based on the ICOM survey on 7 May 2020, within two months of COVID-19 being declared a pandemic, 95% of museums across 107 countries had closed [26] and had to cancel and postpone cultural activities [13,27]. The cancellations included practices such as rituals and ceremonies [28] and wider programming of events and festivals [29,30]. The disruption to physical visitation weakened the user’s connections, leading to loss of authenticity [29]. The alternative of digital interaction from home crept up as unnoticed ‘digital colonisation’ in people’s lives [31]. Heritage is now reflecting on its own contribution; evidence exists of only limited innovation by heritage organisations to contribute to the overall effort beyond following the

restrictions, towards extra activities to fight COVID-19 or its health and wellbeing impacts (Section 3.1.7).

3.1.2. Impact Variation for Types of Organisations

The review shows that heritage organisations' variation by size, governance type, registration/accreditation status, and more significantly indoor to outdoors spaces, all make a difference to the impact.

Unaccredited and smaller museums are more likely to not reopen, or to take longer to reopen, compared to accredited and larger museums. Local authority museums reopen more quickly, independent charity-run museums less so, and independent private museums even less quickly [32]. Sites having UNESCO listing recovered faster [33]. Large multi-site organisations with international visitors tend to recover faster than small independent ones [34]. High-profile sites tend to attract funding easier [35]. Liu and co-authors point out the significance of timing during the year, in 'the UK, the closure of heritage sites during the peak season (i.e., Easter until September) where organizations earn up to 70% of their annual turnover, resulted in a difficult situation. . .82% of heritage organizations reported high or moderate risk to their organization's long-term viability' [36] (p. 2).

Small cinemas and independent film producers have higher impact risk [13]. Cinemas for example, operated with significantly limited capacity due to social distancing even when restrictions were loosened [37].

Broadcasting online as an alternative is not equally popular. In Italy, the public surveyed showed that '40% would pay for a pop music concert, around 30% for musical, theatre, classical music concerts and opera and only 24% for dance shows' [13] (p. 40). In Malta, cancellation of planned programming for the initial closures severely affected freelance artists [38]. The real online audience growth has been on streaming sites noting high subscriptions increases, TV for accessing information and as a source of entertainment even if limitations of creating new content fashioned an increase in repeats, radio listening, and video game downloads [13].

3.1.3. Impact on Teams

The loss of life included a lineup of heritage and culture professionals [39] and affected people's mental health [34].

Heritage crises planning is usually on likely risks such as fire, flood, and terrorism, and is managed through the emergency management plan and subsequent business continuity plans, but the COVID-19 crisis was not familiar. The risk registers normally deal with isolated issues, not complete closures [40]. 'Covid is . . .completely different. It is like a war. . .there's no end to it at the moment. . . ' (participant comment in [40] (p. 11)).

Naramski in his study of European tourism sites found that 14% of managers believed their site was at long-term risk of closure [41]. Strategy now looked at flexible working and associated human resource operations, partnership needs, emergency preparedness, alternative income generation and collection access means, associated information technology infrastructure, and the skills required to deliver all these [42].

Staff and volunteers found themselves wearing masks, installing signage, conducting regular disinfection, and reducing public programming [34]. It was a nervous period in which staff and volunteers wearing masks felt negatively about other members and visitors who did not wear masks [36].

As people started adjusting to working from home, job security was a major concern [43]. In a Texan study, four out of five employees were able to work remotely, and one in three organisations had staff reduction [34] while in the V&A London case study an 11% staff reduction was recorded [44]. Also in the UK, despite the government support furlough scheme, the National Trust made 1767 staff redundancies due to COVID-19 [45]. Based on ICOMs worldwide museum survey, 6% of temporary contracts were terminated or not renewed, 16.1% of freelancers had their contract temporarily stopped, and 22.6% of

freelance contracts were not renewed during the pandemic. The loss of volunteer support was also highly impactful [34].

The cultural sector is a fragment ecosystem, comprised mainly of small (10–49 staff) or micro- (below 10 staff) organisations. These small and micro-organisations are extensively supported by freelance self-employed people to provide expertise and capacity. In the EU, one-third of people working in the cultural sector are self-employed, and from those with permanent contracts, only three-quarters are employed full time. Short-term temporary contracts include many artists, and the workforce is supplemented by unpaid volunteers [13].

Different artistic jobs are affected differently, as a painter can paint in isolation, but a dancer would need to be part of a group. While writers can continue to write, book launches and sales were negatively impacted. Pandemic-interrupted projects affected contract staff, for example only 1.2% of Scenographers from The German Association of Scenographers were paid for their work, as their employer companies were in financial crisis [13]. Furthermore, the loss of income can affect disproportionately people who were already at a disadvantage, such as women and disabled people, growing inequality within the sector [13]. ‘...diverse workers saw larger reductions in hours during the pandemic than their white colleagues’ [43] (p. 41).

‘We found that women, people who experience racism, disabled individuals and those without higher education qualifications appeared more likely to leave the sector during 2020. . .younger creative workers (the under-30 s) were significantly more likely to leave creative occupations than their older counterparts. . .in music, performing and visual arts’ [43] (p. 41).

Before job retention schemes (furlough) kicked in, staff health and wellbeing was affected due to job and financial insecurity, especially when they had dependents on them [40]. Whilst many people understood the positive process of furlough, others often felt expendable [40] creating a division between people still working on site, and people working from home or being furloughed [43]. Digital provision is often delivered by freelancers, and internal staff had to take on those roles without the training or skills available [38,46]. During furlough, the fewer people left active in the organisation often had to take more, new roles, and learn how to deliver those but often without any training [40]. Workers not furloughed who picked up extra roles felt burned out, particularly in small teams as found in many theatres for example [43]. Depending on the quality of the communication systems utilised, working from home had both alienating, and simplification (less travel, reduced office needs) effects, creating the opportunity for a more mobile workforce. [47].

Pay in the cultural heritage sector is generally lower than other sectors, and overall the cultural sector workforce is at high risk during pandemic-like crises [13]. Even when there is growth in the sector, remuneration is not reflected equally, especially for artists [38]. In the EU culture sector, the impact on jobs was the highest out of all industries, yet the government compensation for culture did not match the compensation levels to other industries [13]. Freelances were an at-risk group and the first ones to stop getting work [46]. Freelances felt not only the financial pressures but also isolated [43]. Privately operating conservators contracted by heritage also suffered loss of work and associated income [48]. Role changes occurred, visitor-facing roles appeared to be at risk, many people moved to other industries, and fewer people entered the cultural sector [43].

Training and Support

Heritage organisations in general were very aware of the staff and volunteer wellbeing needs [40]. However, the lack of digital skills within heritage organisations became obvious, alongside the lack of investment required to develop digital skills [19]. [In]actions in the risk register need to be matched with staff training and capacity [40]. The Institute of Conservation provided ongoing training, support, and communications, demonstrating the value of professional networks during such crises [48] although it is not clear whether those resources are still accessible. The heritage workforce itself seems to be more fo-

cused on delivering engagement rather than developing its own skills to deliver such engagement [49].

Generally, the majority of heritage organisations do not have a digital content team [42] or digital infrastructure [46] to deliver an impactful and quality digital offer. Flexibility and ability in staff to take up new roles helped to increase digital content and digital engagement [38].

High-risk groups are the temporary contracted heritage skills specialists who require financial government support to survive lockdowns [50]. Additionally, the sector needs research on the role of freelancers and wider cultural workforce in the cultural sector [43].

As a snapshot of how museum teams are coping post-pandemic, English museums during 2022/23 had four volunteers for every one paid member of staff; compared to 2019/20 (pre COVID-19), volunteer hours were 14% down and volunteer numbers 5% down. Further, 3% of museums did not reopen at all. Recruitment for volunteers and seasonal staff was difficult, while permanent staff struggled financially and some left the sector for higher paid jobs [51].

3.1.4. Impact on Users

‘One of the results of COVID-19 is grief. Grief is a response to loss, especially the loss of a loved one who has died, to whom there has been a bond or affection. Grief refers to a state of loss, while sadness is a reaction to loss’ [52] (p. 478).

The pandemic expedited research on the role of heritage sites in wellbeing and wider social benefit [50,53,54]. Wellbeing as an individual construct relates to how one feels and functions, and as a social construct it relates to people holistically examining their lives [53]. There is evidence that engaging in cultural activity had beneficial effect on wellbeing, and reducing stress; often, distressed families looked at heritage sites for distraction from the stress of the pandemic [43]. Heritage site visits are associated with a reduction in stress and an increase in happiness, particularly when personal levels of wellbeing were low initially. Such improvement appears to be independent of the individual’s appreciation of the historic environment [54].

When site visits were possible, restrictions such as face masks and social distancing negatively impacted the visitor experience, but visitors appreciated the safety reasons [36]. However, people wanted consistent rules at different sites [34]. The restrictions also deprived school groups of the physical experience of heritage sites [34].

Closure of heritage sites brought an interest to consider one’s local heritage, and reopening was associated with visitor reflection on their motivations for visiting heritage sites [27]. Upon reopening, the word COVID on social media was associated with positive emotions linked to the freedom to visit [36]. This is confirmed by a participant on the impact of heritage sites to visitors’ wellbeing, “Lockdown made me realise just how important these national treasures are to our wellbeing” [53] (p. 1117). Personal feelings during the lockdown included isolation, helplessness, and anxiety about the future, alongside a reflection on personal outlook and priorities, and having more family time [53].

Heritage site visitors during the pandemic did adjust their habits; they travelled less often than intended and used a car rather than an airplane or train [55]. Heritage site visits were the safe first steps towards re-engaging with the outside physical world; however, prebooking was not always welcome [53]. Three types of heritage experiences were identified during the pandemic; seeking learning, seeking wellbeing and entertainment, and seeking participation [42,46]. Engaging with other people and experiential learning has been important to people visiting heritage sites, so much so that inability to access formal learning interpretation and materials has not been detrimental to visits during the pandemic [53]. People with membership who previously visited heritage sites regularly felt more destabilised by the restriction to their routines [53]. Older people missed their annual and regular events more than young people did [27]. Pre-pandemic regular (3–4 times a year) heritage site visitors increased their visit regularity by a further 70% post-pandemic. Meeting friends and family at heritage sites was the main reason for visit-

ing pre-lockdown (42.4% of visitors), post-lockdown re-uniting with family and friends became almost the sole reason (83.5%). The authority of, and trust towards heritage sites and larger historic, managed spaces, made people follow the guidance and overall feel safer [53]. Even during partial restrictions, people did not feel safe travelling when infection rates were low; however, they felt safer in heritage sites compared to other places, as they tended to trust the measures, and even the historic setting. This can also be observed in religious sites [56] although perhaps such blind faith could cause carelessness in following precautionary measures.

The shift to online visits and digital experiences was significant, but with limitations. Even when the majority of a population has access to the internet, as in Europe, people do not necessarily have the capacity and equitable access [57]. Already interested audiences found digital content to engage with, but less engaged audiences remained less engaged [43]. Some museum programming does not work as well online, for either technological reasons or because it is designed to work in a shared community space [58].

A final consideration on users relates to community behaviour; communities can become divisive during crises, especially when government policy is inconsistent leading to loss of public trust [34]. Cultural meanings of past injustice were reignited during the pandemic 'most notably the toppling of the statue of slaver Edward Colston into Bristol Harbour' [23] (p. 172). The fear of contracting the virus has been associated with xenophobia and ethnocentrism [59] not helped by the 'then-president Trump's cruder language, like "kung flu" and "Chinese" virus that gave tacit consent to an ongoing wave of anti-Asian violence. . . included, tragically, the killing of six people of Asian descent, eight people in total, by a white gunman in Atlanta' [35] (p. 123). The recovery of communities relied in part on the prompt recovery of heritage operations. For many people, the extended stay at home has made them look more sensitively at the ordinary parts of life and have a more thoughtful perspective on heritage [31].

Back to normal, in 2022/23 English museums have seen increase in visitation to free museums and events, and a decrease in paid programming. Schools are struggling with funding trips, particularly the travel cost [51].

3.1.5. Impact on Buildings and Collections

Heritage organisations have a dual purpose; whilst their visitor element impacts the local economy and their own financial survival, they also have an ongoing conservation set of operations to deliver [34].

The lack of staff in buildings led to issues with maintenance, conservation and security [29,60]. Works that stopped had an impact on ongoing conservation and maintenance needs, including the supply of materials [61]. In Malta, for example, travel restrictions blocked specialist conservation staff getting to the island [62]. Reduced nature-sites security and monitoring have led to increase in deforestation and other natural resources' exploitation [63] including mining, poaching, and vandalism [64]. Evidence shows that extensive parts of collections were not monitored during the pandemic [65]. Due to the overall restriction in movement, theft of artefacts generally reduced although it still occurred, and vandalism increased as sites were less monitored [66]. Research in conservation and ecology was also negatively affected [67].

Buildings also suffered from loss of visitor income that funds maintenance and repairs. Most organisations used emergency funding towards building maintenance and utility bills [68] but organisations that are not formally registered or accredited were affected more due to inability to access conservation funding [69].

Digital visitor engagement is a less-disruptive visitor approach to the fabric of the buildings and collections [62]. This can also include engaging visitors in monitoring remote heritage sites through submission of photos to help conservation, particularly in periods of reduced staff such as the lockdowns. Examples include the reporting of fallen trees and other damage [70]. Whilst some conservation work was achieved remotely, many daily monitoring and conservation tasks were not compatible with staff working from home,

with additional risk from leaking pipes and failing equipment [48]. A number of outdoors conservation roles did continue to work, but with some associated health risks [61].

There was a benefit, however, on wear and tear by the reduction in visitor volumes [27] and of air pollution which causes substantial deterioration on building materials such as stone, metal, glass and concrete [71]. Reduced air, land, and sea pollution, including ‘human-generated sounds. . . manifested. . . as a seismically detectable reduction in ground vibration’ [25] (p. 267). In 24 cities studied around the world, there was significant reduction in pollutants (PM10, NO₂, and SO₂) [71]. In Egypt, greenhouse gas emission reduced by 30–40% alongside reduction in air and water pollution ((Mostafa et al., 2021) in [72]). The reduction in tourism contributed to a dramatic reduction in pollution in cities but also in nature and the seas [28,63,73], and provided fragile environments a ‘welcome respite’ [74]. It also demonstrated that policy can intervene when needed to limit damage (physical and social) by overtourism and achieve a more sustainable balance [24].

3.1.6. Impact on Tourism and Visitor Economy

The pandemic restrictions caused loss of tourism income for heritage sites, tour operators, hotels, wider communities [13,29,34,64], and for many other industries that rely on tourism [75]. The tourism sector is more vulnerable than other business sectors [76] as is all physical heritage that relies on displays and events [19]. The United Nations World Travel Organisation, and the European Cultural Tourism Network amongst others, published guidance for tourism recovery [76] as communities required tourism to restart so that their local economy could recover [34]. The impact was less severe in rural tourism areas [36] and countries with lower dependency on tourism [77]. Research across 20 European countries shows that camping grounds, motorhome and trailer parks had the least negative impact, and holiday short-stay accommodation was impacted less than hotels [59]. Limited mobility encouraged domestic visitation and longer stays [77]. The extra demand for outdoors spaces, however, caused over-tourism in some nature sites, causing management problems [34].

The restrictions prompted discourse about the over-reliance on tourism [36] which especially affected places relying on international tourism such as World Heritage Sites [33]. The infection risk changed the welcoming attitude towards global tourists [36] but also tourism organisations now need to better understand traveller’s concerns on health risks [78]. The pandemic highlights the need to model tourism in a sustainable manner [28,79]. The literature on heritage tourism recovery is about fast recovery to the previous tourism levels [36] rather than heritage itself recovering or finding models of tourism that cause less financial and conservation risk to heritage or to the environment. Post-pandemic tourism needs to be community centred and inclusive [28] and to demonstrate social benefits as well as the economic benefits to a community [72]. It is an opportunity not only to plan tourism growth sustainably [28,80], re-think the impact of tourism and plan better spatial distribution, but also to educate tourists about their responsibility towards more sustainable visitation [33].

Whilst the tourism industry focuses mainly on growth, a shift from quantity to quality is also proposed [81]. However, such a shift can mean that tourism will become more expensive and elitist [82]. In rural areas, tourism could better integrate with farming and agriculture as a diversified economy that reduces community risk [28] and provides diversification to tourism seasonality [83].

The management of a heritage site involves high baseline costs [84]. The visitor income loss in heritage organisations impacted employment and organisational viability [24]. ‘Museums which have grown increasingly dependent on visitor numbers and self-generated income, faced a very difficult time due to COVID-19’ [44] (p. 90). USA museums lost \$33 million a day, leading to cost cutting and risk reduction measures [34]. Lavy and co-authors’ study in Texas shows that income loss was more severe in museums compared to outdoor nature sites, and in some cases outdoor sites had an increase in income. Donations was the main income stream, and it decreased overall as visitors felt the financial strain,

but again the donations decrease was much less in outdoor sites. Loss from programming activities had to be replaced by federal funding. The overall financial impact put many sites at risk of never reopening again [34].

Absence of diversification is a significant business planning flaw [44]. With a reduction in public funding, break-even budgets rely on user income-generation streams which disappear when sites are forced to close [85], such as cancelled events [80]. Over-reliance on private funding creates vulnerability [13,38] and the financial impact has raised questions about government funding priorities [23]. Considering the sea-level rises, coastal erosion, infrastructural development around heritage sites, plus looting and vandalism, there simply is not enough money to preserve the existing cultural heritage [82].

Innovative online sales such as the Fitzwilliam artworks wearing masks create additional income (Figure 1, [46] (p. 357)); however, the financial shortfall cannot be solved simply by moving heritage operations online [23].

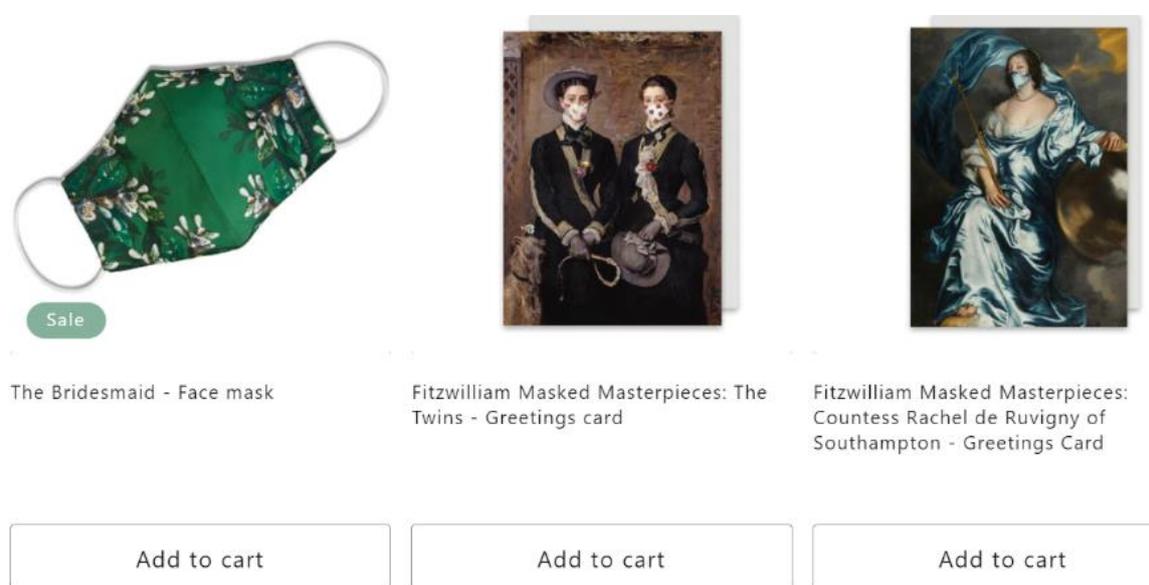


Figure 1. Fitzwilliam Masked Masterpieces. Image from <https://curatingcambridge.co.uk/collections/fitzwilliam-masterpieces> (accessed on 26 February 2024). Based on (Samaroudi, Echavarría and Perry, 2020, p. 357 Cards with artwork figures wearing masks from the Fitzwilliam Museum (Fitzwilliam Museum 2020)).

Existing financing schemes are not suitable for heritage organisations [38,50]. Instead, considering the precarious cash flow situation in heritage organisations, insurance cover against business disruption and income loss should be extensively utilised [84]. Additionally, tax reform was suggested by the Heritage Alliance as one of the government intervention measures [50]. The Heritage Alliance also pointed out that the financial impact on visitors was likely to result in a reduction in donations and memberships [50]. In the 2022/23 English museums' survey, two-thirds had higher operating costs whilst donations and admission income were down by 4% and 3%, respectively, as an indirect cost-of-living impact on museums [51]. Nearly half of the organisations surveyed in the UK had reserves to keep them going for six months or less time [49].

3.1.7. Case Studies

Case Study 1: The British Library

The British Library was established through UK Government legislation via the British Library Act of 1972 (HM Government, 1972). However, there were some other important preceding laws and international agreements, which ultimately led to the British Library Act 1972.

The National Lending Library for Science and Technology, part of the British Museum, gave a gift of assets to the British Library in 1973 [86]. The new British Library was launched amid the world Oil Crisis of 1973–1974 [87] but it weathered the storm.

Forward to the year 2019, the British Library had 28.274 m total visits (1.597 m onsite visits; 26.677 m website visits), received GBP 96.9 m in government grants; GBP 8.6 m in donations and legacies; and had self-generated income of GBP 15.2 m [88]. At that time, the British Library had a strategy composed of six purposes: (1) Custodianship (conservation); (2) Research support; (3) Innovation support for Businesses and their growth; (4) Cultural engagement; (5) Inspiring Learning; (6) International Partnerships [88] (p. 7). The British Library estate change portfolio ‘St Pancras Transformed’, ‘Boston Spa Renewed’ and ‘British Library North’, were all in the pipeline before 2020 [88]. Additionally, the British Library had an established network of Business and Intellectual Property Centres within Local Libraries [88] (p. 5). Then came the COVID-19 Coronavirus pandemic in early 2020.

When COVID-19 struck, along with the associated lockdowns, the British Library used the six-point strategy and the estate change portfolio to manage the crisis. The British Library estate change portfolio consists of the St Pancras main Library site, the Boston Spa Newspaper Storage Building and a new British Library site in Leeds, (respectively, ‘St Pancras Transformed’, ‘Boston Spa Renewed’ and ‘British Library North’) [88]. Nationally significant (and nationally funded) heritage organisations, as seen in the British Library case study appear to be exceptions to the view that heritage organisations do not have a digital content team [43] or digital infrastructure [47] that is key to deliver an impactful and quality digital offer.

The British Library change portfolio uses the United Nations’ Sustainable Development Goals (SDGs) to show where they could contribute towards sustainable outcomes. The SDGs adopted by 193 nations in 2015, are due to be implemented by 2030. Use of SDGs are most developed for the St Pancras Transformed and Boston Spa Renewed programmes. St Pancras Transformed clusters goals together and Boston Spa Renewed looks at individual SDGs [88] (p. 56). The 50th anniversary of the 1972 British Library Act, and the Development of the Knowledge Matters Strategy form part of this ‘Change Portfolio’. The Infrastructure extension plan intends to extend the St Pancras site (which was opened by HM Queen Elizabeth II in 1998 by 100,000 square feet (‘St Pancras Transformed’ for culture, learning, and business [88] (p. 4)).

In 2020, additional British Library responses to COVID-19 included a rapid transformation of their model into a ‘digital first’ national library [88] (p. 7), via for example, the ‘Heritage Made Digital’ programme [88] (p. 11). This technological business management innovation would later have significant repercussions for the British Library, its visitors and staff.

With the majority of its income from the Department for Culture, Media and Sport (DCMS), in financial year 2022/23 the British Library received almost GBP 20 m more post-COVID-19 Grant in Aid from DCMS than in 2019 [89]. The annual increase in the DCMS grant, allowed the British Library to cope well during the COVID-19 crisis. However, the emphasis on technological change introduced a significant business management flaw.

The British Library suffered a major cyber-attack in October 2023 [90] (p. 1). Criminals copied and removed 600 GB of files, including staff and library users’ personal data. The data were auctioned on the ‘dark web’ after the British Library refused to pay a ransom [90] (p. 2). Its systems and services suffered deep and extensive damage. However, following the cyber-attack the premises, exhibitions, events, and Reading Room access remained open. In the first two months (October 2023 to December 2023), the British Library research services were severely compromised and some search facilities have not returned [90].

Presumably because of COVID-19 and this cyber-attack, the British Library now has almost 2 m fewer visitors than in 2019 [89]. Total 2023 visits to the British Library (St Pancras site, Knowledge Centre and Boston Spa site and visits to the Library website, with the majority of these visits being to the website), were 26.515 m [89] (compared with 28,274 m visitors in 2019 [88]).

Case Study 2: The London Transport Museum

London Transport Museum (Figure 2) is a museum affiliated with Transport for London (TfL) and the Greater London Authority (a Local Authority). Although it receives a grant from TfL, which in 2019 was GBP 3.139 m, its trading activities raised GBP 4.445 m in the same period [91]. However, it is also reliant on other partners, including The National Lottery Heritage Fund; Arts Council England (ACE), as one of ACE's National Portfolio Organisations (NPOs) [91]; the Department for Digital Culture Media and Sport (DCMS); and HM Treasury [92] (p. 3). There were also 411,766 total visits to the London Transport Museum in 2019 [93].



Figure 2. London Transport Museum Interior (Photo Courtesy of © Colin Seymour 2023).

In 2019, excepting the Audience Development Strategy, the London Transport Museum Strategy/Change Portfolio/Change Programmes were not obvious. The Audience Development Strategy and the Diversity and Inclusion (D&I) initiative, set targets to increase the diversity its visitors, prioritising ethnic diversity and socioeconomic classifications [91]. This approach changed when COVID-19 hit.

In the advent of the COVID-19 crisis, the London Transport Museum implemented a two year 'recovery' strategy, focussed on 'people, projects, and systems' [94] (p. 12). Being heavily reliant on income generated from visitors, it needed other sources of income during the lockdown periods. These income shortfalls were substituted to some extent by increases in the TfL grant, as well as in donations and legacies [94]. Evidence from the earlier literature that heritage site visitors adjusted their habits during the pandemic (i.e., travelling less often and more locally [55]) suggests changes in visitor segments, audiences,

and behaviours. A possible area for future research would be to examine how these changes impacted the London Transport Museum.

The fact that the London Transport Museum 2023's visitor numbers have exceeded the pre COVID-19 levels (respectively 435,628 and 411,766) and 2023 self-generated income is 54% higher than in 2019 (GBP 6.850 m versus GBP 4.445 m), are evidence that the recovery strategy has been very successful. The 2023 and 2019 visitor figures are from ALVA (2019) [93] and (2023) [95]. The 2019 and 2023 income figures are from LTM (2020) [91] and LTM (2023) [92]. Considering the London Transport Museum as a large museum operationally, compared to the wider museum sector, the literature suggestion that large multi-site organisations with international visitors tend to recover faster than small independent ones [36], is supported by the London Transport Museum case study.

Case Study 3: The Theatre Royal Drury Lane

The Theatre Royal Drury Lane (Figure 3) was first erected in 1663 by Thomas Killigrew under a Royal Charter from King Charles II [96]. The Theatre Royal Drury Lane is owned by LW Theatres Group Limited, which is itself owned by Really Useful Theatres Entertainment Limited. The LW Theatres Group Limited also manages the London Palladium and provides head office functions and ticketing services to other theatres within the LW Theatres group.



Figure 3. Theatre Royal Drury Lane—Lord of the Rings. Photo courtesy of Andy Roberts, available at: ‘Theatre Royal Drury Lane—Lord of the Rings’ licensed under CC BY 2.0 (accessed 18 March 2024).

However, unlike the other case studies so far, The Theatre Royal Drury Lane data (audience and financial) are amalgamated with theatres in the LW Theatres group. Separate audience and financial data for The Theatre Royal Drury Lane are not publicly available. Potentially, this absence of data suggests an area of future research.

Although The Theatre Royal Drury Lane closed from 19 January 2019 for refurbishment work, the group 2019 audience and income figures were 841,000 and GBP 34,670,000,

respectively [97]. The Annual Report and Financial Statements for this and subsequent periods, show no government 'grants' or 'donations and legacies'. So, LW Theatres Group finances are mainly based on audience attendance.

Understandably, when the COVID-19 pandemic arrived along with the associated lockdowns/theatre closures, the group finances were hit very hard. In 2020, LW Theatres Group venues closed for 15 weeks due to the pandemic [98] and made a GBP 7 m loss [98] (p. 11) audience figures of 527,000 [98]. Refurbishment work at The Theatre Royal Drury Lane cost GBP 24.7 m [99] (p. 2). In contrast to heritage organisations that used emergency funding (e.g., for building maintenance [69]), LW Theatres used some debt financing.

The following year, 2021, was even more damaging. In 2021, LW Theatres Group venues closed for 37 weeks due to COVID-19. It made a GBP 15 m loss [98] (p. 11) on audience figures of 28,000 (LW Theatres Group Limited, 2021). Continuing refurbishment work at The Theatre Royal Drury Lane cost a further GBP 18.6 m [98] (p. 2).

The Annual Report and Financial Statements for Financial Year 2022/2023 have not been submitted to Companies House yet. However, it will be very interesting to see how the LW Theatres Group has fared since the 'end' of COVID-19. The Theatre Royal Drury Lane refurbishment work was completed in July 2021 [99]. LW Theatres Group Annual Report and Financial Statements for Financial Year 2021/2022 are very promising, showing income at GBP 88 m, with associated audience figures of 1.281 m across the group [100].

Case Study 4: Kensington Palace

Historic Royal Palaces (HRP) (Figure 4), established in 1998, is a Royal Charter Body with charitable status. HRP cares for, conserves and presents to the public, the unoccupied Royal Palaces: HM Tower of London, Hampton Court Palace, Kensington Palace State Apartments, the Banqueting House at Whitehall and Kew Palace with the Royal Kitchens, Queen Charlotte's Cottage, and the Great Pagoda. HM The King owns these palaces in right of Crown. HRP, contracted by the Secretary of State for Culture, Media and Sport manages the five London palaces on behalf of the King. The current contract expires on 31 March 2028 [101].



Figure 4. Kensington Palace. Photo courtesy of Sergii Gulenok, available at: 'Kensington Palace' licensed under CC BY-NC 2.0 (accessed 18 March 2024).

The Kensington Palace financial data are amalgamated with HRP sites. This absence of data suggests an area of future research. Kensington Palace attendance data are available via the Association of Leading Visitor Attractions (ALVA).

In 2019, attendance at Kensington Palace was 510,304 visitors [93]), with self-generated income for all HRP sites of GBP 105.43 m. Additionally, the HRP sites received GBP 4.46 m grants and GBP 2.08 m in donations and legacies [102].

In the following year (2020), the COVID-19 pandemic and associated lockdowns reduced Kensington Palace visitor numbers tenfold, to 55,557 [103]. Although, self-generated income for HRP palaces remained high at GBP 101.81 m, along with GBP 728 k grants and GBP 2.49 m in donations and legacies [104].

While 2021 showed an increase in Kensington Palace visitor numbers to 196,355 [105], overall self-generated income for HRP palaces plummeted to GBP 32.69 m. At that time, HRP palaces benefitted from much needed GBP 20.55 m grants and GBP 509 k in donations and legacies.

Likewise, in 2022, HRP palaces received GBP 10.37 m grants and GBP 939 k in donations and legacies [106], with Kensington Palace visitor numbers at 294,043 [107].

Although Kensington Palace 2023 visitor numbers (421,697 [95]) have not returned to 2019 levels, HRP 2023 finances have bounced back, with self-generated income of GBP 102.47 m [106]. Correspondingly, in 2023 HRP received less in grants (GBP 1.42 m, [106]), with donations and legacies at GBP 1.89 m [106]. Concerning the discussion about the over-reliance on tourism [36], it seems that either HRP have diversified their post-pandemic income streams, or that they have revised their value propositions, or that there has been a change in visitor segments. Further research in this area could suggest one or more of these, or something else is responsible for the HRP financial recovery. This would provide further evidence of heritage organisations needing to diversify their business models and adapt to changing circumstances [44].

3.2. Calls for Review in the Sector

The calls for review in the sector relating to COVID-19 are presented next, within three themes: a call to critically review the sector, understanding the ethics of COVID-19, and to evaluate the intervention roles of the government and the heritage sector support.

3.2.1. The Call to Critically Review the Sector

During the pandemic, the heritage sector came together to share expertise [40]. It showed conviction on its cause and survival, by building partnerships to share information and expertise, based on its shared aims, and balancing out weaknesses [13]. Heritage organisations also reached out more; they researched and listened more to their local communities [43]. The pandemic forced sites to communicate to users more timely and methodically [33]. And the natural environment was able to recover [29].

But the COVID-19 pandemic also increased the political instability around the world [24] and the political discussion became a blaming game [108,109]. Previous crises such as the influenza of 1918–1920 happened in a different world, before economic, travel, and information globalisation [25]. The COVID-19 pandemic occurred over much longer timescales compared to earthquakes or floods. Yet, recovery has similar processes of focusing on public health, followed by reestablishing critical services and then rebuilding local economies [34]. The pandemic reminded everyone in heritage management that the preservation of material heritage is an enormous and potentially impossible task, especially with climatic changes; the need to rethink heritage management due to the pandemic asks how much can realistically be conserved [82] and perhaps makes it more urgent to digitally record and provide virtual access to collections. The pandemic widened the gap between sustainable development objectives and the realistic ability to deliver those objectives [72]. As such, in heritage the shock is likely to initiate ‘a “reset”, rather than a simple “bounce-back” or return to preCOVID-19 aspirations [110]. The physical restrictions have altered perspectives on the value and purpose of heritage [111]. As heritage was so affected by COVID-19, we must question the way it is studied, managed, and used [112].

The nation-based heritage endorsed by UNESCO perpetuates the patriarchal, nationalistic, and materialistic elements of heritage, and makes it harder to deal collectively with

complex human issues during a crisis [113]. Heritage has been used politically to reinforce a sense of the ‘...“supercitizen,” to use Honig’s term from her 2001 book *Democracy and the Foreigner*’ which unites people against an external threat, rather than unite people towards common goals [35] (p. 124).

Criticism is being raised about the commodification of heritage to the detriment of collectively addressing common human challenges [108]. There is a need to evaluate the over-reliance of heritage as tourism for income generation [82], even parks now rely heavily on commercial income from parking, concessions, and events [114]. There is also an over-reliance on weekend events associated with short stays away from home, all happening around artefacts and spaces that are already fragile [82].

The lack or inability of planning during the pandemic was evident, in Ireland for example only 25% of museums had a recovery plan [115]. The pandemic also exposed the poor HR provision and pay levels in the sector prior to the pandemic [43,116] and the need for training and development in business and HR functions [43]. Not all staff and volunteers were kept informed and engaged, even with improved communication and expertise sharing during the pandemic [40].

In addition to timing issues in the ability to plan, space also needs rethinking. Future design of physical spaces in heritage sites needs to consider visitor volumes, displays, visitor flows, and their purpose, as ‘slickly designed visitor centers are more entertainment than civic discussion’ [82] (p. 474). Even city centre regeneration needs to be reevaluated post-COVID-19, as it can only preserve facades, not communities [82]. Finally, the extensive volume of heritage sites was not generally used in preventive actions during the health crisis. The limited use included some heritage sites as vaccination centres or emergency places, field hospitals (community centres and halls, exhibition centres, concert halls) and pop-up testing centres (also set up in exhibition centres, and sports stadiums, community centres, church halls and show grounds). Such testing stations often utilised event marquees and traffic control equipment that sites already had for visitor services [4].

What should the role of museums and other heritage sites be during and after a crisis? Marcia Bezerra [31] answers with the 2019 International Council of Museums definition of the museum, to ‘...contribute to human dignity and social justice, global equality and planetary wellbeing’ (ICOM 2020) [31]. It is an opportunity to review inclusion relating to digital engagement, and the importance of nature to health and wellbeing [68]. To view the COVID-19 impact on heritage as a universal call not only to saving lives but also to a ‘life worth living’ [113]. UNESCO asks heritage to fight for a sustainable future and for a new world reflecting our shared needs and shared future [117]. Silberman asks of UNESCO to represent local and global intangible heritage such as inequality, war, and hatred, not nationalistic bounded traditions [82]. This is in accord with Butler asking a human-centred world, moving away from nationalistic approaches to managing heritage [113]. To deal with existing and future global crises, a global society will benefit from experiencing of a heritage that reflects the multiculturalism of communities, not the harmful nationalistic attitudes that nurtured imperialist and colonialist attitudes [82]. Holtorf champions ‘...Richard Sandford’s (2020) contemplation whether the legacy of COVID-19 might be “a new sense of ourselves as moral actors” (p. 59) in resetting the role of heritage as the unifying and collaborative driver for a sustainable future for humanity [108].

There is a call then to stand back and rethink [18], and to make informed and long-term decisions [43]. This is an opportunity to reflect on the sector [18,36,118] refocus on sustainable development and find solutions to overtourism [82,111,119]. Heritage needs to develop a better understanding of the contribution of heritage towards physical and mental health of individuals and communities [13]. Ongoing research is needed in preventing and managing similar viral disease [120] and heritage could then help to build community awareness and planning for prevention and coping during pandemics.

UNESCO urges for a holistic approach by focusing on five key areas that feed into an inclusive, diverse, and sustainable ecosystem: policy, values propositions, technology harnessing, support provision, and informed evidencing (Figure 5) [117] (p. 49).



Figure 5. UNESCO COVID-19 Culture in times of COVID-19: resilience, recovery, and revival strategy, p14. Source: <https://unesdoc.unesco.org/ark:/48223/pf0000381524> (accessed on 14 February 2024).

Community participation and engagement in planning and implementation are useful approaches, during and following a crisis [65]. The post-COVID-19 era should have ‘...an emphasis on processes of collective memory rather than things. Localism will be an increasing element in cultural heritage appreciation. ...cultural heritage will be where people live, not where people visit’ [82] (p. 473). Rethinking heritage contribution at the local level, will also make it less vulnerable to such crises [112]. Local communities need to build their skills in sustainable development and associated infrastructure [28], and heritage organisations could be core to the community skill building. Yamada and co-authors propose that heritage organisations need to better understand their local communities, particularly the vulnerable ones, and to make a concerted effort to fully engage with young audiences [27].

There are many small changes that can also help. Archaeology is key active learning [121] and can contribute to public engagement during lockdowns with back garden digs and digital community projects [23]. Heritage can explore lesser known collections through digital [122] and by moving away from blockbuster exhibitions and better use of permanent collections for temporary exhibitions [18].

A rebalance is needed of physical and digital in all aspects of heritage management; research, planning, and operations [30]. Walmsley proposes ‘**regenerative modes of working. A regenerative approach would carve out time for the positive initiatives that we witnessed across the cultural sector during the pandemic: revisioning and re-strategising, professional and network development, reflection and evaluation, play and innovation**’ (highlighting in original [43] (p. 68)). And the sector needs to plan by keeping in mind that environmental protection, heritage, tourism, and wellbeing are interconnected [115].

The heritage service is diverse and intangible, making it difficult to change [56]. COVID-19 has taught us that the future requires creative participation in change, rather than stubborn conservation of past mistakes [82]. Heritage can develop new ways of communicating, working, and supporting other organisations in the sector [61].

3.2.2. The Ethics of Curating COVID-19

‘The National COVID Memorial Wall outside St Thomas’ Hospital in London features 150,000 hand-drawn pink and red hearts to represent those who have died after contracting the virus and stretches nearly five hundred meters between Westminster and Lambeth Bridges’ (Figure 6) [35] (p. 133).

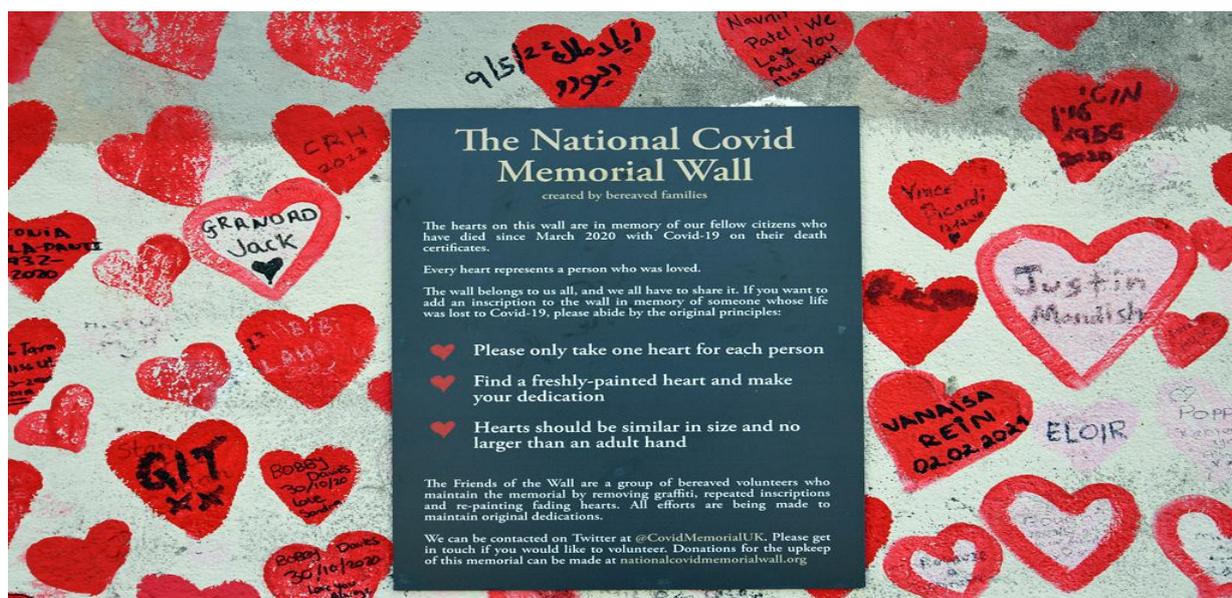


Figure 6. COVID Memorial Wall/2022. Image by George Rex Creative Commons <https://openverse.org/image/b1b75076-86e6-436a-8f2a-92fdb1c2af03?q=covid%20Memorial%20Wall> (accessed on 25 February 2024).

‘A sense of urgency in the collective push to commemorate victims of COVID-19 has produced a more piecemeal, ad hoc, and hence unpredictable politics of memory. Faith leaders, politicians, and family members of victims hurry to integrate their own sense of loss into a broader, more purposeful narrative’ [35] (p. 133). The New-York Historical Society, Museum of London [35] Old House Law Museum, and National Museums Scotland [4] raced to collect and reveal COVID-19, with the Irish and British Archaeologists launching the Viral Archive (2020) [108]. Spennemann ‘posits that the social and economic impact of COVID-19 is so profound that the pandemic will become the focus of public exhibitions in the future’ [123] (p. 29). He then builds up a picture of what the preservation of a

COVID-19 temporary structure would be; not just the physical objects but also contextual documentation about the rationale for it, its planning, staff rostering, sample collection protocols, etc., providing a more permanent representation of a temporary event [4]. Bezerra sees museums as places to reflect about the pandemic, the isolation, the masks, and the feeling of blame for neglect that caused loss of people close to us [31].

Angelo and co-authors ask how ethical is it to collect during a pandemic, the signage, masks, barriers, and other physical evidence of such a tragic event? They point out how little material, including archival record there is from past pandemics. And if one collects such evidence while it is all around us, how soon is it ethically appropriate to exhibit such reminder of human loss? [73]. Hoskins and Maddern ask further, who should be asked about being involved in such discourse? How is such quarantine affecting us and how does it relate to historic quarantine and migration sites? Will the story be about hand sanitizers and home-made masks, or about the inequitable distribution of vaccines? [35].

Are heritage organisations discussing and interpreting social changes such as our readily acceptance to be tracked in mass? [124]. Holtorf expresses disappointment that heritage engagement was mostly about respite and escapism, and not enough about discourse on the core troubles and concerns people had [108]. He further urges heritage to move on from its main use as nationalist pride and economic development, and to serve in connecting humans over a world heritage [108]. Lerario encourages museums 'to transform their collections from 'objects' into 'subjects' of communication' [26] (p. 3075). This is in accord with many museums slowly moving away from exhibiting for financial reasons and now are 'activating collections', and invite community participation and co-curation [43] (p. 64).

3.2.3. Government and Sector Support Intervention

The Network of European Museum Organisations recommendations for supporting museums in respond to the pandemic were: the provision of urgent funding support, investment in digital infrastructure and skills, and making museums fit for any future crisis [38]. In the USA the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) provided support during the pandemic to non-profit organisations and small businesses [34]. The UK Government Job Retention Scheme ('furlough') had positive impact on peoples job security, which affects financial security and health [40] alongside a GBP 1.57 billion emergency government funding pot to support the sector [43,68,125,126]. UNESCO recommends that 1% of government expenditure should be allocated for culture annually [127]. In the UK during 2022/2023, 0.39% of government spending was on culture (one-twelfth of what was spent on Defence), and even in 2020/21 with the provision of emergency funding, the percentage was 0.44% [128].

From across the world there is evidence of lack of government coordination [40,43]. Pressure on the UK government to reverse policy and open outdoor attractions, including zoos, was needed and was eventually successful [40]. By the time the government confirmed that parks could stay open in England, one-quarter of them had already closed [85].

The sector asked that sufficient notice for reopening is required [129]. The variation between regional and national restrictions, lack of staff and volunteers, and distancing limitations affecting capacity, meant that one-third of attractions in England did not open directly after the lockdown ended [36]. Disconnected but overlapping strategies and guidance were a common issue [67] as governments had to balance protection of the vulnerable with minimising negative economic impact [23]. Overall, the contradictory guidance impeded recovery [34]. Government guidance has to be clear, consistent, and aligned between local and national government [34].

Sector support organisations such as the American Alliance of Museums, the Museums Association in the UK, and the International Council of Museums (ICOM) looked at categorising levels of risk and prioritising responses; online access to collections was a key theme [46]. Another theme was that the high-risk group of freelancers needs policy to reflect fair pay, and the sector to understand and support graduating artists [13].

3.3. A New Space

The immediate effect of COVID-19 on space was emptiness; of airports, public buildings, and shop shelves due to panic buying [130]. The impact themes show that change did not result in a new normal but in the need for a new space, consisting of blended space (physical and digital), mixed space (indoors and outdoors), and community of practice space (isolated or cross-sector networking space).

3.3.1. Physical Spaces

During the lockdowns, there was decreased travel and increased time spent at home, and people started seeing personal time and space from a different perspective [27].

When limited access was permitted, changes to site visits included face masks, contactless payment, sanitising all surfaces, social distancing, body temperature checks, vaccination passports [76], QR codes for registering visits to trace positive cases [124], prebooking for timed entry, plexiglass screens, removal of interactive displays, and the appearance of collection-based facemasks in the museum shops [18]. The changes raised practical issues such as ‘how do you deep clean a sand pit?’ [18] (p. 298).

Documentation, information leaflets, ticketing, membership subscription, and payment became contactless [13,75,124]. The lockdowns interrupted but not stopped long-term development projects [44] nor quinquennial inspections [131]. Site staff and volunteers used digital technology to work from home [42]. Break-ins, damage and theft, including of lead from church roofs, was widely reported during lockdowns [132].

Social distancing, face coverings and hygiene processes were welcome and expected in indoor sites. In outdoor sites, those actions were less relevant [36]. Visitors are generally positive about protection measures but these have to be applied consistently across sites [36]. Heritage sites need more engaging ways to communicate such measures to visitors [83,133] and when sites have implemented and communicated well the measures, they see increase in visitor confidence, satisfaction, and return visits [56,134]. Furthermore, people who visited previously are more likely to visit during a lift of restrictions [56].

Rarely disrupted events such as religious ceremonies were affected [27], which was a particular issue in areas with limited or no online alternatives to physical attendance [83]. And associated sounds were suspended, such as bell ringing in churches or the prayer broadcast from mosque minarets that changed to urged people to pray from home instead [25].

In heritage research, fieldwork was interrupted [31], particularly for research participants where extensive travel or large areas were involved, whilst back-garden and in-isolation research increased [70]. More digital research networks, however, were created [67].

Traffic in the air, on ground, and sea reduced [25]. When travel was permitted, people chose destinations near home or in neighbouring countries, often using private transport and visiting rural and outdoor destinations more [59]. The impact on community lives included the cancellation of sporting events, from football to Olympics, and of festivals, concerts, exhibitions, and annual events like Christmas markets [135]. The SARS-CoV-2 virus infection was more severe in cold weather, hence winter destinations were more impacted than summer ones [41].

The pandemic created a less physical world in which the ‘hug’ becomes a historic artefact [31]. Concerns were raised that public transport such as bus services could disappear in remote areas where they were already financially at risk [136]. By expanding online meetings, our personal spaces have become backgrounds in our work and study [31]. ‘Cultural consumption’ takes place not in the museum settings but in our homes, and competes with our daily activities [26] (p. 3074). With the restrictions during COVID-19, we have gained a new perspective about material heritage, physical access and mobility [24].

During the lockdowns and recovery following reopening, indoor sites have been affected by restrictions much more than outdoor sites [36]. After a slow return initially, parks and natural heritage sites experienced increased visitor numbers compared to preCOVID-

19 years [34]. Outdoor versus indoor provision was a factor in the ability to cope with the pandemic [34], particularly as restrictions in travel and indoor spaces prompted people to use local parks [125]. The motto ‘Visit your local park, Protect the NHS, and Save Lives’ demonstrates the importance that open spaces had during the pandemic [114]. Nature sites had a marked increase in visitor numbers; however, this created staff shortage issues, littering, and erosion [68,77]. It is important, therefore, for all sites to consider and calculate their visitor carrying capacity [137] including the management of visitor volumes in historic cities [138]. Existing options can be developed creatively, Vrasida proposes the extensive development of underwater observatories and diving to explore underwater natural and cultural heritage as an alternative experience that still follows restriction rules [139]. Furthermore, the increased use and appreciation of open spaces is creating an increase in open spaces’ stakeholder collaboration [29]. Baggot asks that the visioning process for green spaces is ‘based on principles of social equity, sustainability and public health’ and enabled by collaboration [85].

The governments’ restriction approach towards indoor and outdoor spaces varied [36]; therefore, heritage organisations should plan for each type differently and aim to maximise outdoor space uses during pandemics. Outdoors, however, was not the only alternative to indoors limitations. Digital space was called upon to supplement physical engagement [140]. Even before the pandemic, the vulnerability of physical heritage had called for the development of digital engagement [19]. The necessary changes made due to the pandemic in online and outdoors use can aid long-term sustainability and these need to be built in business models and to be continuously developed [34].

3.3.2. Digital Space

When the pandemic was declared, there was a clear lack of digital expertise to provide online content [141]. This was particularly noticeable in developing countries which lacked the digital infrastructure and skills to provide equitable alternative engagement [46]. The pandemic found museums lagging behind in digital planning and skills as they realised they needed means to communicate, interpret collections, and raise funds [46]. Even though sites had social media before the pandemic, it was common to have no updates from the sites for months [142]. Museums had been reluctant to fully embrace digital contact until the restrictions on physical contact forced their hand [26]. Organisations with prior digital engagement experience had a clear advantage when the lockdown was implemented [43].

Heritage has not been alone in accelerating digital changes. ‘One major impact of the lockdown during the COVID-19 pandemic has been to speed up online provision across the education sector, from teaching five year olds to universities’ [18] (p. 156). The significant development of collections digital engagement was not initiated during but before the pandemic [44]. The physical restrictions, however, became an accelerator for digital technologies adoption [24,71,142] and opportunities for ‘digitization and transmission of knowledge’ [30] (p. 1).

Kuźelewska and Tomaszuk discuss the sharp increase in internet users globally from 2008 to 2019, by 2.5 billion people [57]. Using recent information from Statista, we see that at the start of the pandemic, around 59% of the world population used the internet and that did not change dramatically during the pandemic, and the increase continued afterwards, reaching 66.2% (two-thirds of the world population) using the internet by January 2024 [143].

Through online meetings, websites, and apps, people brought heritage home, changing habits and perspectives. Interacting online from one’s familiar space creates an openness in interaction [31]. And full of hope, people marked favourite digitally visited sites to physically visit when allowed to return [144].

Website pages saw an initial reduction in online visits when physical sites closed, as people were not looking at opening hours or similar visitor information [145]. Even then, website visits were usually a few seconds short [146]; the use of collection pages and databases, however, used for research by academics, students and general public was

higher during the pandemic compared to pre-pandemic use [145]. The online retail sales increased during the lockdowns and now could reach worldwide audiences [44].

During the pandemic, there was a significant increase in provision and use of digital offer [34] and an increase in associated public engagement [46,147]. This extended contactless access to heritage spans from ticket booking, virtual tours, virtual classes and workshops, and story times [34] to ‘. . .immersive reality headsets (augmented reality, virtual reality and mixed reality) and handheld devices equipped with a higher graphical computation, positional tracking sensors and rendering capability. . .’ [142] (p. 204).

The online content included use of previously digitised resources (online collections and exhibitions, virtual museum tours, 360° tours, publications, performances, games), digitisation of programming during the lockdown (live and recorded broadcasting of performances and talks), increased social media activity (including use of YouTube and SoundCloud), and lockdown-related activities offering behind the scenes views of collections and heritage operations, or inviting participatory co-creation of artistic and educational activities online [42]. The American Alliance of Museums themed four types of digital experiences during the ‘pandemic crisis: (i) “unique campaigns and series on social media”; (ii) “engage in real-time with live streams”; (iii) “virtual tours”; and (iv) “virtual and artificial reality” ’ [42] (p. 367).

Museum social media presence had a significant increase during the pandemic [44]. A whole range of hash tags on social media such as #ClosedButOpen were used to maintain communication [42]. Users on social media engaging with cultural heritage content applied positive and reassuring terminology [36].

Funding contributed to the transfer of physical performances online, an example being the project funded by the National Lottery Heritage Fund that enabled St-Martin-in-the-Fields to keep singers in employment by delivering concerts online [68]. Theatres, music festivals, operas, and other performative arts released shows through social media and on Zoom [146]. Images and video were particularly useful content for collections and educational digital content [46].

Mainstream media have existing accessible and wide audiences. The Museums Association and the BBC demonstrated how this can be used for a successful cultural provision, through the Culture in Quarantine service that was available across radio, television, and digital platforms (Figure 7) [148].

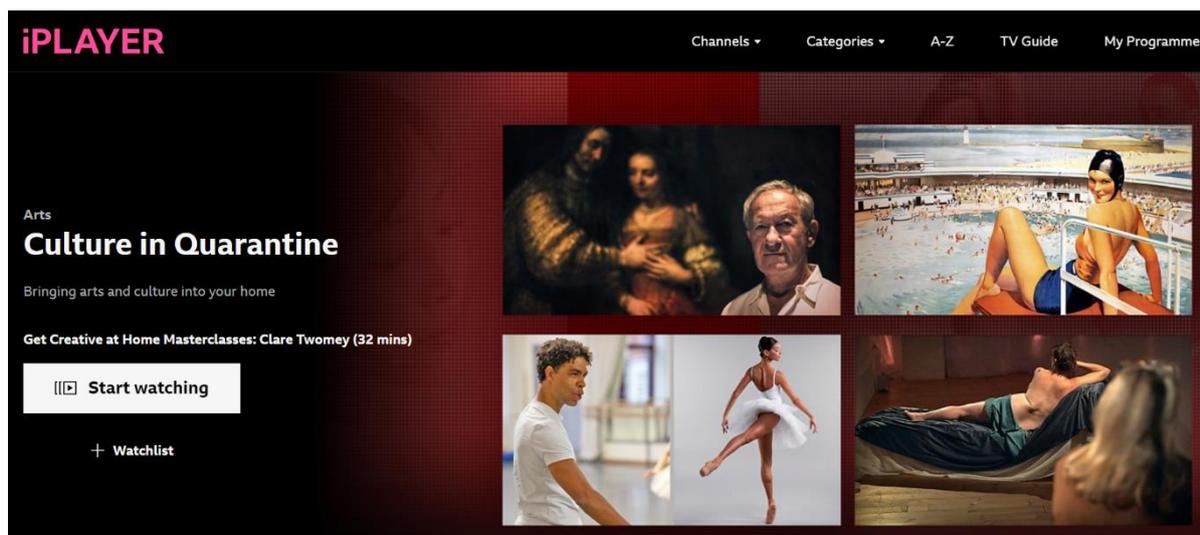


Figure 7. Culture in Quarantine Digital culture provision between the Museums association and the BBC. Image: <https://www.bbc.co.uk/iplayer/episodes/p088hhjd/culture-in-quarantine> (accessed on 26 February 2024).

A good example of extensive and quality digital presence is provided for Benaki Museum in Athens, by Boutsiouki and Damou. The Benaki Museum combined online presence utilising ‘international cultural platforms, such as the Europeana and the Google Arts’, website digital access to collections and archives, alongside ‘360° virtual tours of all galleries that are supported by an audio guide in six languages’, and multimedia period and collections themed productions [42]. Google Arts is also mentioned by Tsihla for its ability to share cultural contact digitally to worldwide audiences [149].

A good example of a virtual exhibition² is the digital transfer of “Rembrandt and Amsterdam portraiture, 1590–1670” by the Museo Nacional Thyssen-Bornemisza, Madrid, Spain, which created a 56% uplift in online visits [38].

In European heritage sites, virtual tours were the most popular online content [41]. However, the provision of 360° virtual tours or similar experiences during the pandemic was very low, with only 2% of heritage sites in the USA and 3% in the UK offering such digital experiences [147]. The 360° tours are found at 40% of multi-site museum organisations and at only 11% of micromuseums [150].

Digital enabled heritage to maintain contact with its users to market itself, to provide online shopping, and access to online events [151]. Online calls to support heritage sites financially through donations, online shopping, memberships, and gifts, were present in most heritage organisations digital content [46]. It also provided wider learning prospects and more importantly increased ‘the intention to revisit’ [6] (p. 5). Digital was particularly useful to maintain engagement with schools and with local communities, and preparing those audiences to return on site once open [43]. In the UK and USA, history and art-related institutions offered more digital content than science/natural history ones, and libraries offered the least [46].

Continued digital engagement also enabled heritage organisations to discuss contemporary issues [46]. Content around wellbeing and emotional support was highlighted as a priority by international heritage organisations, yet such provision was very modest and there is little evidence of digital content serving the specific needs of vulnerable groups. A good example against this trend is from the Manchester Museum’s wellbeing ‘Cultural First Aid Kit’ for hospitals and care centres [46] (p. 352). There are examples of heritage organisations providing critical thinking discourse through social media and wider digital content, this mainly related to sites that represent difficult heritage such as the Auschwitz Memorial, Anne Frank House, and the International Slavery Museum [152].

Government members were understandably keen to show off the vast range of heritage experiences that can be accessed ‘without ever leaving your living room’ [153]. User-friendly ways to access multi-site digital content is Bloomberg Connects which provides access to ‘thousands of hours of content from 350+ institutions, for free’ [154] and the Irish Museums Association webpage³ showcases the digital offer of its country by listing links to a range of Virtual and 3D Tours, 360° Visual Tours, Audio/Video Tours and Podcasts, Online collections and Exhibitions, Creativity and Learning Resources [155].

But the increase in online content was not easy. The need for increased use of digital technologies faced limited digital skills and small digital budgets [77]. The urgent increase in digital services was delivered by staff having to take new responsibilities [46]. Digital content that utilised existing methods such as hashtag, minimal cost, and few skills, were utilised the most, whilst resource-heavy methods such as podcasts and live streaming were used much less. Where there was organisational capability to reallocate resources, it boosted the increase in online content provision, which in turn increased online visitors [38]. Heritage organisations urgently learned how to utilise social media as spaces of co-creation with users, and online content such as photos become cultural heritage collections that reflect the public mood and the types of technology being available [156]. By developing considerable digital content, many heritage sites from non-English speaking countries reached worldwide audiences [157]. The lack of skills and budgets was more impactful in volunteer-run museums as only one in ten offered digital educational content, and their social media and video content was also significantly lower than museums with

paid staff [150]. A total of 20% of European heritage sites studied by Naramski and co-authors did not increase their online presence, due to lack of expertise or capacity [41]. Smaller organisations and festivals did not have the capacity or resources to convert their programming to an online offer [43].

Digital technology was used to develop digital skills, from induction training [34] to webinars, podcasts, daily and weekly online briefings that were shared regularly and extensively by the sector support such as the Association of Leading Visitor Attractions, Museums Association, Association for Cultural Enterprises, Association of Independent Museums and The Heritage Alliance [40]. Furthermore, heritage organisations increased use of technology for conservation monitoring [71] and even explored AI for exhibitions [158].

Digital access was also boosted to share operational knowledge and processes about managing heritage organisations during the pandemic; the EU presents strong examples of knowledge banks for COVID-19 and cultural heritage management and research, including country reports, interview series, online initiatives, financial measure by country, reopening measures, and a wide range of other resources [159].

Digital Development

Based on the 2020 National Lottery Heritage Fund survey, COVID-19 related restrictions created three key priorities for the use of digital technology in the UK museums: '(a) marketing, fundraising and communication purposes; followed by (b) content development; and (c) community building online' [46] (p. 340).

Social media has been upgraded from a distraction to main stream engagement [23] and overall digital media has become a necessary public communication method [34]. Haq and co-authors see digital engagement of virtual tours and online interactions as an extensive multisensory experience, an online tourism sector [75]. An increase in digital engagement is expected, for a lasting hybrid visitation [77].

There is strong public support for the development of digital technologies for the cultural heritage sector [19] and Holtorf argues for heritage to be digitally capable and relevant [108]. User technologies, however, have financial cost considerations and user limitations; they have high initial and ongoing costs especially due to fast-changing digital technology, can be difficult to use, of poor or average quality, and isolating rather than socialising [13,142,147]. Small and rural sites have found access to the technology more difficult, but as associated costs are reducing, digital technology is becoming more accessible to utilise [147]. Therefore, the costs, skills required, and benefits of digital plans need to be integral to the business plans and to be linked to the organisations' overall objectives [19].

Digital infrastructure and skills training are key in the sector's engagement with the public and for internal sharing of information [142]. Digitisation of collections is restricted by limited budget, staff capacity, Intellectual Property Rights restrictions, and unsuitable equipment. Practical considerations such as the size of the artefacts have an impact, for example natural history museums in Europe with large artefacts that are difficult to digitize, have very low (15%) percentage of their collections accessible online [26]. Digital skills and infrastructure require continued sector support [42,140]. The investment in digital should build rich content on the strength of collections [38]. The EU allocated €2.4 billion (2021–2027) for the development of digital skills and infrastructure in the cultural sector and proposed the development of a common European space online for cultural resources [42].

Operational Usefulness

With the acceleration of digital engagement, digital content is going to be the backbone of heritage operations [6] and becomes shared value when it is created with or by the public [160]. Participatory digital interactions contribute to the value of heritage, they become part of heritage [156]. And content from previously used digital technology such as audio guides is now available through the visitor's own mobile devices [142].

The use of Sketchfab and other programmes in 3D artefact provision [46] has seen an increase in 360° virtual tours that combine a range of content and can be utilised for

virtual access, education, and conservation purposes [84]. However, in exploring collection artefacts only 1% of digital content is of 3D objects [46]. The continued digitisation of collections can help in both the conservation and engagement objectives [161,162].

Online commercial income generation was generally underutilised during the pandemic; some of the most innovative uses were the application of collection images on face masks [46] as mentioned in Section 3.1.6 (Figure 1). The digital income generation varies per size of the sites; for example digital income generation tools in the UK are used at 80% of large museums compared to 35% of micromuseums [150]. There is, therefore, opportunity and further need to monetise digital content [13].

Larger museums generally utilise digital more than small museums, and paid-staff organisations utilise digital more than volunteer-led organisations [150]. Social media and website visits have continued to grow post-pandemic, but online educational provision has decreased [150]. There is, however, a need to protect heritage organisations and users from deliberate digital misinformation campaigns [57]. And the limitations and potential of AI need to be acknowledged and further researched [158].

Digital Equality and Social Usefulness

Increased opportunities and barriers of online access due to digital technology fall within the international human rights to participation [57]. Digital technology can bring people together against a crisis, but not all people have equal digital access [156] raising the question whether the introduction of digital access has introduced new barriers to access [46]. Digital access requires digital literacy, a device to access content, and sufficient quality internet connection, but there is a disparity in such availability of all three across the world, creating barriers and a digital divide [42].

‘...digital distribution is not the great equaliser or diversifier that much of the sector was hoping it was and even claiming it to be. Although the **number of cultural engagements increased** during the pandemic, **the number of engagers remained stubbornly static**...’

‘...Most significantly, the digital offer inverts the age profile of audiences. Whereas **in-person engagement tends to be dominated by older people, the digital offer has a much younger (and more ethnically diverse) audience**, with a distinct preference for more interactive, immersive experiences’ (highlighting not in the original) [43] (p. 68).

Furthermore, the online site visits are not social events but private, isolating, designed as a single-user experience [146].

Digital engagement, therefore, needs to digitally include excluded audiences [156]. It requires a plurality of media to reach audiences, and to reflect the plurality of art and audiences [145]. Visual content for example, can be more easily understood by most people, but needs to be supplemented to be fully inclusive [46]. Likewise, whether virtual, or visual and auditory, online experiences need to provide an authentic representation of the heritage it depicts [135].

Clini and Quattrini see digital as the means to democratise access to cultural heritage and an opportunity to develop collaborative interaction of public and organisations, and expand digital educational provision [19]. Digital also changes the role of the museum from an authoritative place to becoming a visitor, now asking to enter people’s homes [26]. This creates a challenge for the website, to become ‘as warm, welcoming, inclusive, and supportive as the physical site’ [18] (p. 164). Online content needs to be of good quality, assessed through benchmarking, evaluation of decision-making processes, and of the resources being allocated [42].

‘...many museums limit themselves to simply transferring online their collections and/or disseminating their ordinary on-site activities, leaving little space for interaction and generally paying little importance to establishing a direct relation with the public. For a more skilled, informed and exigent audience, seeking for

captivating and engaging experiences, such kind of online experience does not represent an attractive option' [26] (p. 3068). Cultural organisations therefore 'need to transform their narratives from object-centric to people-centric' [146] (p. 3).

The purpose and quality of content are questioned too. Kist asks whether online content can trigger critical thinking about ethical issues, and whether it should? Or is it just for marketing, fun and non-challenging? Is the need to be popular becoming self-censorship? [152].

Towards a Blended Space

Crooke discusses 'blended engagement' of the physical and digital offer as a more inclusive approach to positively impact wellbeing and build trust on museums as 'places of care' for collective reflection during crisis [58] (p. 13).

Conservation and interpretation of heritage artefacts and sites can be achieved through digital media, as complementary to physical visits, not instead [147]. Digital engagement can contribute to reducing the impact of physical visits [62], provide continued communication [163] and reach younger audiences [151]. By combining physical and digital, museums can improve their reach and organisational sustainability [42]. For example, short (2–5 min) videos, as used for digital access to a site during restrictions, can prompt future interest and visits [164].

A virtual multi-user pilot is the Mondrian 3d museum⁴ [146], which suggests that 'In a 3d museum you can stroll around, chat with other visitors, take a guided tour, build your own exhibition and invite your private audience' [165]. There is now an opportunity to create combined physical and digital spaces for socialising '...to experience a joint, synchronous, social activity without requiring to be co-located in the same physical place' [146] (p. 2).

3.3.3. Metadata: The Era of Cookies

Use of online users' metadata provides the ability to learn about visitor demographics for research and AI applications [19] and to provide online content to targeted audiences [6]. Digital engagement enables to understand visitor patterns such as tracking the users' position in a heritage site [19]. In this necessary and perceived as positive and dynamic approach to heritage engagement, cultural heritage is discussed as 'a product' and the users as 'cyber public' [149] (p. 675). The digital engagement being more accessible but also less tangible, is likely to be a manufactured individual experience, instead of a physical 'well-informed expression of collective and civilizational memory' [82] (p. 471). Metadata should be used thoughtfully, to create more user-friendly websites and content [145] alongside a considerate use of metadata in audience development and to inform the development of virtual reality and artificial intelligence [42].

3.3.4. Common Spaces: Information Sharing and Networking

The literature consistently highlights the significance of the sector coming together during the pandemic to share knowledge and support through its networks. It also highlights how important it is for such unity not to be lost but be harnessed to support ongoing sustainability and better preparedness for future crises.

The pandemic united the fragmented heritage sector and concerted effort is needed to maintain this unity [43]. A crisis of such magnitude was beyond what the heritage sector could be prepared for and was further hampered by unclear decision making and communications of official guidance. It, therefore, had a significant impact on the sustainability of sites and on the welfare of its people. The sector, however, demonstrated the significant increase in collaboration and information sharing at national and international level [40]. The sector ecosystem has demonstrated how interdependent it is and the usefulness of networks and sector bodies 'such as the Historic Environment Forum, the Heritage Alliance, Historic Houses and Icon' to represent the diversity and requirements of the

sector [125] (p. 15). In the Historic England survey, participants asked for means of better information sharing and prevention from duplicating resources [129]. ICON provided a comprehensive bank of guidance and resources to its members during the pandemic, including a post-lockdown collections' care guide for before returning to site, upon return to site, and collection care essentials [48]. Dealing with the pandemic has been aided by inter and intra organisational information sharing in heritage, cross-sector and international sharing and alliances [76]. Sector networks have been important for sharing information and expertise [67,125], best practice, guidance sharing, and digital skills development [29]. Report and guidance encourage governments to promote cross-sector collaboration [117], and transnational collaboration is imperative during crises [38]. 'Data and knowledge sharing must be encouraged' [43] (p. 46).

It is an opportunity to continue sharing [35] knowledge and equipment cross borders as we did during the pandemic and learn to collaborate for all challenges ahead [125]. The issues of out of date policies [34] call for a resource bank with up-to-date pandemic policies. Better preparation is needed, through improved resource coordination, and open sharing of information [34], and simple templates or checklists for shutdown procedures and associated training will be useful [40]. Compendium is one such an example, it provides a very useful database with reopening measures for the cultural sector, across a number of countries in Europe (inc. the UK) [166].

3.3.5. Social Equality and Heritage as Wellbeing Hybrid Spaces

'Originally described as a 'social leveller', it has become clear that the overwhelming effect of the pandemic has been to exacerbate already existing social and economic inequalities' [12] (p. 1). The pandemic caused inequality through economic, access, and social factors. Most impacted were the already marginalised and vulnerable, particularly of the south hemisphere [23], also impacted by inequality in distribution of vaccines around the world [12]. The economic impact has been highlighted more prominently than the human loss [75]. The use of digital engagement by heritage organisations increased the barrier for already disadvantaged communities [31]. And within heritage organisations '...the pandemic has aggravated and accelerated existing inequalities and longer-term trends across the arts and cultural sector' [43]. It also changed perceptions on civil liberties as seen by the mass public acceptance of public tracking through smart phones for COVID-19 [124].

Chiscano and Darcy [167] discuss the impact of spaces (and access to such spaces) on disability. They discourse disability as per Chatterjee's 2008 work on museum practice, not a disability of the body, but disability of a person due to socioeconomic, political, and cultural barriers to participation. Such limitation disables people from contributing to the value creation of cultural heritage, which also means that their voice is not represented in the interpretation of such cultural heritage. This creates a vicious cycle, the more vulnerable that people feel and the less represented they are, the less they engage. Chiscano and Darcy's COVID-19 recommendation to site managers is to review how socioeconomically accessible and representative their [physical and digital] sites are.

Considering physical disabilities, particularly for blind and partially sighted people, 'messages like 'stay at home' and 'social distancing' are not new' to them [168] (p. 6). In that respect, online activities have enhanced the physical access limitations. However, online content for people with disabilities needs to not only be developed with their participation [167] but also 'in a universally accessible format, accommodating users with and without disabilities' (p. 1), as inclusive additions and integrated content, rather than segregating disable from able users [169].

Heritage sites can contribute to visitors' wellbeing aspects 'including capability, social connections, ontological security, and trust' [53] (p. 1129). They can link communities with health and wellbeing agencies, co-create and provide hybrid spaces to the community, and measure the benefits of wellbeing [58]. Heritage sites can be the reflective and shared space for communities to recover and grow [58].

4. Discussion—A New Space, Not a New Normal

Are heritage organisations suffering from long-COVID then? In general, heritage organisations increasingly have a dual-purpose; of historic environment preservation, and the expectation of a more self-funded business model. And their role as all-knowing is being challenged, alongside their inherited patriarchal, elitist, and nationalist attitudes. Individual organisations have been struggling for decades amidst funding cuts, increasing conservation costs, and an identity crisis. The sector itself is still a relatively young one, emerging from its previous incarnation of Cultural Property to a yet un-unified sector, interchangeably called Culture (relating to values of creativity, learning and personal cultivation), or Heritage (inherited assets within which the cultural values reside⁵). The combined Cultural Heritage term can also be exclusive, as natural heritage, and intangible heritage do not feel included.

COVID-19 infected such a fledgling and already weary patient; it drained its reserves and forced it to evaluate its routines and purpose. A total of 95% of museums across the planet closed during the pandemic, and depending on their governance structures, size, role, and capacity, they reopened at very different stages and with varied levels of injuries. Their people had to learn new operational habits, and self-employed heritage professionals were seriously distressed. COVID-19 exposed the poor provision of succession and professional development planning within most heritage organisations which are managed by small teams and are volunteer dependent. Their regular users felt seriously deprived, and new audiences, including school children, missed out on cultural heritage's nurturing embrace. Vast volumes of conservation backlogs of building and collections deteriorated further, whilst digital engagement came to the rescue but with more financial costs and training requirements. The case studies show how the more diversified and prepared organisations were, the better their recovery was, but even the more developed ones fell victims; this time to different types of malicious, digital viruses. The pre-COVID-19 period was assumed as normal, but was not healthy. It was dominated by a (purposefully?) divided sector that, however, learned to communicate better in a more distanced manner. And this revealed its strength. The sector came together to share knowledge and expertise across its common objectives, and hence evened out its weaknesses.

Change, therefore, did not result in a new normal but to the need for a new space. Physical spaces can have conservation, capacity, and access limitations, but are tangible proof of the stories being told, and central to people coming together. Digital spaces can complement the physical spaces, with increasingly more sophisticated, and costly media. Heritage audiences ought to be engaged beyond being financial sources or interesting social media data being tracked by cookies; the blended spaces need to be spaces of wellbeing for users, staff, and volunteers, and common networking spaces encouraging trust to share information and learning from each other.

The case studies emphasise the benefits of diversification; financial and of belonging in a diverse group of sites. The case studies have presented a complex picture of the impact of COVID-19 and the unpredictable outcomes for the four heritage sites. On the one hand, it seems like the London Transport Museum fared best out of the case studies. Despite having the clearest strategy (especially concerning their portfolio and estates programmes) and receiving the largest grants, the British Library did not fare as well as the others, in addition to being unfortunate due to their over-reliance on information technology and the subsequent data breach. Although the LW Theatres Group Limited did not appear to receive any grant income, it did surprisingly well during and especially after COVID-19, with the Theatre Royal Drury Lane coming onstream in 2021, after heavy investment in refurbishment. Kensington Palace and HRP, which needed significant support via grants have also done relatively well, although not as well as the London Transport Museum.

The case studies suggest that some measures with regard to new blended spaces that occurred during the pandemic, were actually in the pipeline well before COVID-19 arrived. Examples are the Theatre Royal Drury Lane closure for refurbishment in 2019 and the

British Library estates change portfolio programme (which commenced before COVID-19). The wider impact of COVID-19 in the case studies was:

- An acceleration to enhance digital spaces, especially at the British Library (which led to catastrophic results for the British Library).
- A race to get grant funding, apart from the Theatre Royal Drury Lane which relied on debt financing during COVID-19.
- A massive reduction in visitor numbers and hence rapid falls in self-generated income. Only the London Transport Museum seems to have recovered (and surpassed) its pre-pandemic position.

4.1. Future Research

Based on the literature and case studies, organisational areas that require further research have been grouped below in social, digital, financial, and operational themes. The extensive future research proposed, demonstrates the need for proactive preparedness rather than reactive responses; metaphorically thinking along the lines that ongoing maintenance is cheaper than major repairs. It also shows that whilst this paper is a good starting point, much more theoretical and empirical research is needed to inform the topic of proactive planning for organisational sustainability in heritage.

Social

Aligned with the work by Historic England, how can heritage contribute to wellbeing and health, and how can these be tangibly measured and valued?

From Walmsley and co-authors [43]: ‘Develop more understanding of all the different contractual frameworks for artists, creatives and other workers in the CCS and propose a framework for fair practice that does not lead to precarious employment and income and ensures an equal and level playing field in comparison to standard workers’.

What has the visitation restrictions’ impact been on schools?

What can we learn from the extraordinary change in the soundscape during the pandemic compared to what we have been accustomed to as normal? How can such learning be communicated to heritage audiences?

The DCMS announced a series of research through the Boundless creativity Report [170]. How is that research progressing and how can the findings be utilised?

Digital

How much of the digital engagement is still provided, and how does that complement, or not, the physical engagement provision?

The limitations and potential of AI need to be acknowledged and further researched.

What is the impact on the English language of the global digital content increase by non-English speaking nations?

Why was the use of 360° virtual tours so low during the pandemic, even in developed countries? What is due to the cost, technical skills and equipment needed, poor overall quality, or other factors?

Financial

Have financial reserves in heritage organisations diminished? How much by, do they have 3, 6, 12 months’ worth?

A longitudinal study is needed to map the recovery journey of heritage organisations.

Future research is needed on insurance models against loss of income from disasters and pandemics.

How can the beneficial to wellbeing outdoor spaces be used strategically to diversify the visitor and income generating provision of heritage organisations during pandemic and ‘normal’ times?

The Heritage Alliance proposed tax reforms to support recovery. Have tax reforms or equivalent measures taken place, if so, what difference have those made? The ‘VAT on tourism and hospitality services’ report by Seely and Masala provides a starting point [171].

Operational

Are heritage organisations adding pandemic planning in their general emergency plans?

How do heritage operations and emergency planning compare in pre- and post-pandemic years?

How do the funding, resources, and training for digital development provided by the EU and nations across the world, compare?

What processes and platforms are being used to collate and share heritage management knowledge about dealing with pandemics?

Natural England stated: 'As the nation emerges from the current crisis we're [Natural England] determined to make sure that our green spaces are greener, our natural environment is stronger and the public's connection with it is deeper than ever before. The Government's environmental ambition is explicit within the 25 Year Environment Plan, and Natural England is uniquely placed to develop new ways to recover nature that integrate the management of the historic and natural environment.' [74]. Is this happening? How is this being delivered?

As streaming sites, TV, and radio saw high user increase during the pandemic, how can heritage develop significantly higher volumes of ongoing programming for streaming sites, TV, and radio, to drive engagement during normal times and reuse during pandemics?

Have the numbers of visitor memberships dropped during the pandemic? Have memberships recovered/increased since?

The cases have highlighted areas of further research, especially regarding theatres. For example, it would be interesting to examine how the LW Theatres Group Limited coped at the theatre site level and what exactly they did to manage the COVID-19 crisis so well. Likewise, an in-depth study of the London Transport Museum during this period could also reveal some interesting results and shed more light on how heritage organisations cope with crises.

5. Conclusions

This paper detailed the wider socioeconomic and cultural impacts of COVID-19 on the heritage sector. The idea of risk was approached through a more systematic and comprehensive way that looks beyond the material conservation and extends towards the sustainability of a heritage organisation, which heavily relies on visitor flow. This paper shows that the heritage sector was not prepared for dealing with the pandemic. As risk preparedness revolves mostly around dealing with environmental challenges such as floods, climate change, or disasters such as fires or even looting, it is essential to rethink of risk preparedness more broadly taking into account unanticipated and uncertain events, such as a pandemic and their holistic and systemic impacts.

COVID-19 was a major disruption across all aspects of life, including the economy and the need to rethink about over-reliance on tourism. It accelerated digital engagement and had a varied impact on heritage organisations, depending on their size and type of operations, governance model, and crucially their access to outdoor spaces. It impacted the teams and users of heritage sites, and the collections and buildings in those sites. It [re]ignited an interest for the role of heritage in wellbeing and equitable participation, whilst heritage still reconciles itself in relation to gender equality, colonialism, and nationalism. The literature calls for a critical review of the sector include the need to understand the ethics of COVID-19, and to evaluate the intervention roles of the government and of the heritage sector support. It is a call for quality physical and digital co-creation of a unifying heritage. It is a universal call not only to saving lives but also to a 'life worth living' [113], to behave sustainably, and imagine a new diversified (operationally and socially) space.

Organisational sustainability, and mitigation strategies against long-COVID type-crises will benefit from proactively planning a diversification of spaces (blended (physical and digital), mixed (indoors and outdoors), and community of practice space (work in isolation, or be part of a multi-site and cross-sector networking space). The literature highlights

the significance of the sector coming together during the pandemic to share knowledge and provide support through its networks. It also highlights how important it is for such unity not to be lost but to be harnessed to support ongoing organisational sustainability and better preparedness for future crises. Unity across the biocultural heritage sector (perhaps this is a more inclusive term?) is the equivalent to building healthy vaccine stocks.

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Notes

- ¹ https://www.mdpi.com/journal/heritage/special_issues/covidOnCH (accessed on 31 January 2024).
- ² [https://static.museothyssen.org/microsites/exposiciones/2020/vv_audioguia_rembbrandt/index_sonido_in.htm?startscene=0&startactions=lookat\(223.97,0.24,100,0,0\)](https://static.museothyssen.org/microsites/exposiciones/2020/vv_audioguia_rembbrandt/index_sonido_in.htm?startscene=0&startactions=lookat(223.97,0.24,100,0,0)) (accessed on 26 February 2024).
- ³ <https://irishmuseums.org/text-pages/irishmuseums-online-content-and-resources> (accessed on 26 February 2024).
- ⁴ <https://museum3d.eu> (accessed 26 February 2024).
- ⁵ See relating research at www.avculturalheritage.org (accessed on 28 May 2024).

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