Digital Access to Arts and Culture

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June 2022

Digital Access to Arts and Culture is the first major UK research project dedicated to investigating the accessibility and inclusion implications of the rapid growth in online arts and culture during the pandemic.

Supported by an Arts and Humanities Research Council COVID-19 grant, and carried out in collaboration with The Space and Indigo, with advisory support from Arts Council England, the project has gathered knowledge about how arts and culture organisations have delivered online and hybrid content in response to the pandemic, and investigated what 'digital access' to arts and culture is and how it can be achieved.

Looking to a future in which all arts and culture organisations are multi-platform content providers, the project has also explored how to develop hybrid programmes in which live and digital content can work in symbiosis to generate greater social value.

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1. Introduction

▶ The audience of the future will not be an audience

This report summarises an 18-month study into the role of digital arts and culture in the UK during the pandemic, with a focus on its accessibility implications. The report pays particular attention to the 'pivot' to online programming undertaken by many arts and culture organisations following the onset of COVID-19. It also explores how online and live programmes have interacted with each other, how digital accessibility tools are finding their way back into in-person activities, and what the wider accessibility implications of the on-going hybridisation of arts and culture may be.

The surge in streaming arts and culture during the pandemic led to significant accessibility benefits, in particular for d/Deaf and disabled, clinically vulnerable, and older people. It is our belief that it has also opened the door to a new approach to digital access that addresses previously invisible barriers to engagement.

For example, one of the largest barriers to engagement with arts and culture is travel – the effort, the time, the cost. For many who are d/Deaf and disabled, older, vulnerable, low income, overworked, geographically remote, chronically ill, time poor, or carers, this can form such a hard barrier to participation that no on-site accessibility features can make the trip to a physical venue feasible. Online programming has the potential to play a transformative role in improving the accessibility of arts and culture to these and many other people.

However, evidence from recent top-level studies also demonstrates that, even though online media users are significantly younger and more ethnically and socioeconomically diverse than in-person arts and culture attendees, the demographics of participant who engage with arts and culture online are overall fairly similar to those who attend in-person (Walmsley et al. 2022). So far, digital arts and culture has not significantly widened or diversified participation. Clearly there is a long way to go before it can make a significant contribution to opening the sector beyond its historic skew towards white, middle class, middle aged participants.

Despite the above sector-wide findings, we believe that much has changed since March 2020, and that there are already many best practices taking place that point towards a more inclusive future for arts and culture. For this reason, in this report we focus in particular on the challenges and achievements faced at ground-level, by the organisations and individuals that have worked tirelessly to allow people to enjoy arts and culture despite the physical constraints of the pandemic. Though the report also includes an inclusivity-focused analysis of the various large-scale longitudinal surveys by our project partner Indigo, its main focus is on the experiences and activities of specific organisations and their stakeholders.

Through various approaches including semi-structured interviews, participant surveys, and creative collaboration with arts providers, the report investigates the (positive and negative) digital experiences of individual arts and culture organisations, and pays particular attention to innovative and inclusive uses of digital technologies over the last two years. Its goal is practical: to demonstrate key areas of potential for the use of digital technologies to achieve accessibility gains in future, to provide examples of how these potential gains can be achieved, and to highlight the challenges that can prevent digital programming from achieving them.

Much discussion within the arts and culture sector over the last two years has focused on how to make online content profitable. We propose an alternative benchmark for evaluating digital activity: accessibility. Digital technology offers numerous accessibility tools such as captions and customisable audio. But we argue that putting digital content online is itself also an accessibility feature, as it allows arts and culture providers to reach people with visible and previously invisible accessibility needs.

In its focus on the potential of technology to allow people, wherever they are and whatever their circumstances may be, to engage with arts and culture, the report takes its lead from Arts Council England's Let's Create strategy (2020), which looks forward to, and aims to facilitate, a reconfiguration of the traditional transmission-based model of the arts into a participatory model.

"By 2030, we want England to be a country in which the creativity of each of us is valued and given the chance to flourish. A country where every one of us has access to a remarkable range of high-quality cultural experiences."

Arts Council England, Let's Create strategy

A starting point for our engagement with the aspirations of **Let's Create** is our choice, as far as is possible, to avoid using the term 'audience' in this report. The word 'audience' is commonly and often indiscriminately used in discourse within and about the arts and culture sector. But is it still fit for purpose? The etymology of the word is rooted in an asymmetric power relation: visits by supplicants to royalty. A faint echo of this meaning still persists in our current understanding of the word. We, the audience, are granted an audience with artists and their works. In order to be granted this audience, we must approach them on their own terms: at the times, in the locations, and in the manner that they dictate.

Sanjit Chudha, former Marketing and Communications Manager of leading Black British theatre company Talawa, notes that by thinking of communities rather than audiences, Talawa aims to 'unthink the transactional relationship' of arts engagement. We propose to follow

this lead by instead using the term 'participants'. It is not ideal, as it also refers to many activities that extend beyond arts and culture. However, it has the benefit of suggesting a two-way relationship – an interaction.

The concept of interaction is of course already well-established within the creative industries as a descriptor for an engagement between human and computer, often paying particular attention to interfaces (for example, touchscreens, headsets, or haptic devices). But we see interaction not only as a technological, but also as a creative, imaginative, and potentially political mode of being.

In looking to a future in which participants and organisations engage in more interactive, open, and equal relationships, we highlight the role of hybridity. For much of 2020 and 2021, digital programming was mostly necessity-driven, and consequently the focus of discourse in the arts and culture sector was on how to use digital as an alternative to in-person arts and culture. Discourse inevitably often focused on the relative effectiveness and value of in-person versus online activities. This frequently involved a degree of simplification, resulting in an artificial binary in which liveness and digitality were somehow seen as existing in competition with each other.

This binary is no longer useful. There is no zero-sum game here. In 2022, as attention has shifted back to 'returning' to venues, we believe that the lessons learnt during the pandemic should be directed towards exploring how digital and in-person programming can work in symbiosis to make arts and culture more accessible and inclusive.

To this end, our report is targeted in particular at arts and culture organisations and related SSOs, researchers and policymakers. It addresses what, we believe, is a collective aspiration across the sector: a future in which there are no barriers to participation in arts and culture.

This future is still far from being realised, but if we can work together to identify barriers wherever and for whomever they exist, and to reduce them, we can at least approach it. By exploring how hybridity provides opportunities for overcoming many of the historic barriers that still pervade the arts and culture sector, this report aims to make a small contribution to this collective work.

2. Summary

▶ The increased availability of online arts and culture during the pandemic led to accessibility benefits for many people – in particular d/Deaf and disabled, clinically vulnerable, geographically remote, and older participants.

▶ Many participants with accessibility needs now see streaming arts and culture not only as a conduit for accessibility features (including closed captions, BSL interpretation, and audio description) but also as an essential accessibility feature in itself.

▶ However, various factors have recently caused many performing arts organisations in particular to pull back from providing regular streaming content.

These include low revenue, limited funding, a public funding structure that favours one-off projects, the absence of a digital rights framework, and uncertainty about what content works best.

▶ As a result, many people with protected characteristics and previously invisible accessibility needs (for example, geographic isolation) now risk being left behind from arts and culture organisations' return to venue-focused programmes.

▶ For this reason, the report's authors argue that a future focus on hybrid programming is essential: the more routes that exist for engaging with arts and culture, the easier it is to engage with, and the more inclusive it can become.

3. Definitions

▶ Arts and culture

Our use of the term 'arts and culture' follows that of the Office for National Statistics, the most generally accepted (though not the only) definition used in policy and research. This regards arts and culture as belonging to the 'arts, entertainment and recreation' national account subgroup, and encompassing performing arts, music, museums, galleries and heritage. These five areas provide the overall boundary for our research; so cultural fields including film, television, social media, and gaming fall outside of our research, except inasmuch as they directly relate to the activities of arts and culture providers.

The Department for Digital, Culture, Media and Sports (DCMS) classifies arts and culture slightly differently, as a grouping of nine sub-sectors within the wider 'creative industries' sector. These are: music, performing and visual arts; advertising and marketing; architecture; crafts; product, graphic and fashion design; film, TV, video, radio and photography; IT, software and computer services; publishing; museums, galleries and libraries. Following this taxonomy, our research focuses on performing arts, museums, and galleries. However, in this report we acknowledge common usage by referring to this grouping as a 'sector'.

Though we do not distinguish between 'arts' and 'culture', it is worth noting that academic research often treats them as different but closely linked concepts. Becker defines 'art' as 'a work being made and appreciated' (Becker 1982: 4); it is often also associated with symbolic value (Bourdieu 1993). 'Culture' is often regarded as something broader that includes 'the arts' as well as practices and routines of everyday life, whether used for education, for aesthetic and spiritual enlightenment, or for entertainment and diversion (Griswold 2008). While 'the arts' tend often to be associated with historically elitist and exclusive practices, the concept of 'culture' additionally includes activities traditionally classed as 'popular'. According to this perspective, but not our narrower definition, the practices and products of the wider creative industries are also classifiable as 'culture'.

▶ Accessibility

For this study, we adopt the definition of Finkel et al: "Accessibility can be understood in terms of the measures put in place to address participation by those with impairments, both permanent and temporary, as well as both physical and mental, including perceived class and cultural barriers" (2018: 2). In this sense, accessibility is tangible and context-specific – focusing on the use of specific tools to address barriers to engagement. Following Finkel, we believe that a focus on accessibility necessitates addressing the needs of participants with protected characteristics, but also necessitates addressing wider barriers to engagement wherever they exist, and working to make arts and culture equally accessible across diverse communities of potential participants.

▶ Inclusion

A related term often used by policymakers, practitioners, and commentators is 'inclusion'. Inclusion here is symbiotic with accessibility, though its focus tends to be less instrumental and more symbolic, encompassing whether and how people are made to feel valued and welcome by arts and culture providers. As Finkel and Dashper (2020: 486) point out, inclusive cultural events should 'enable diverse audiences to participate fully in an accessible, comfortable, and enjoyable manner.'

▶ Digital access to arts and culture

We understand digital access to arts and culture as the opportunity to engage with a full cultural experience (live or asynchronously, as well as before, during, and after scheduled events) through the use of digital technologies, and see it as inseparable from both accessibility and inclusion.

▶ Hybridity

For the purposes of our study, 'hybridity' means the combination of multiple types and formats of image, sound and text in ways that are not possible with traditional media (Couchot 2002, Bolter 2006, Ortega 2020).

We understand hybridity in arts and culture as something that encompasses live and digital, but also often combines them in fluid and evolving ways (e.g. live online performances, or AR assisted physical exhibitions). We also understand it as encompassing and not qualitatively distinguishing between 'in-person' participation and 'online' participation – understanding that some people on-site may engage with arts and culture digitally, and that 'at home' there are many ways of participating. In principle, hybridity – in the sense that we understand it – is entirely inclusive. It does not presume how people should participate in arts and culture. It allows people to choose their own combination of in-person, online, or mixed engagement. It embraces adjacent forms of cultural participation including gaming. And it understands that there is a place for two hours of focused attention, but that participation can also be marked by more fragmented forms of engagement, across different platforms including social media.

4. The digital arts and culture landscape

Digital technologies can be powerful instruments of growth in arts and culture, capable of catalysing innovation and widening creators' and consumers' access to publicly funded cultural activities. Pre-pandemic reports, sectoral overviews and digital strategies from cultural organisations often demonstrated significant optimism in this respect. For example, the UK Government's 2018 Culture is Digital report put high hopes onto the synergies between culture and technology, arguing that they have the capacity to 'drive our cultural sector's global status and the engagement, diversity and well-being of audiences' (DCMS 2018: 5).

Pre-pandemic baseline research on digital participation commissioned by Arts Council England (ACE), notably the From-Live-to-Digital report (AEA Consulting 2016), suggested that streamers are younger and more ethnically diverse than average theatre and cinema audiences, and that streaming shows a negative correlation with income. **From-Live-to-Digital** also argued that digital activities should not be regarded as a replacement to in-person activities but could instead form a complement to them. The report highlighted various potential advantages of online provision of arts and culture, including convenience of access and opportunities to introduce newcomers to art forms and organisations with which they would not otherwise engage.

More recently, however, various challenges around using digital technologies to reach more diverse and younger audiences have

crystallised. ACE's commissioned report Live-to-Digital in the Arts (MTM 2018) revealed that the demographic profile of online arts and culture participants was very similar to those already attending in person. Nesta's Digital Culture 2019 report (2019: 6) even went so far as to suggest that, for participating cultural organisations, 'digital technology is not having a greater positive impact on audience development objectives than in previous years'.

Further questions around the effectiveness of digital provision have arisen since the start of the pandemic. Walmsley et al. (2022) suggest that online arts and culture has failed to meet initial expectations around potential increases in diversity of both online and offline participants. Other issues related to lack of affordable internet connections, skills and community support, have continued to limit the success of digital strategies in arts and culture (Mackey 2021). Digital inequalities have also been observed between cultural organisations (Nesta 2019, Mihelj et al 2019, Leguina et al 2021, Holcombe-James 2021).

Insights around access generated from the multiple COVID-19 research projects between March 2020 and May 2022 do however reveal that the increased availability of online arts and culture during the pandemic led to some benefit in terms of audience health, wellbeing and overall experiences. For exampe, Bradbury et al. (2021) observe clear links between mental health and home-based, online arts and culture activities during the pandemic.

Walmsley et al. (2022) also conclude that, although the increase in online arts and culture generally failed to reach new participants during the pandemic, it improved the quality of experience for many existing attendees, particularly people who are d/Deaf and disabled, older or live further afield. These findings echo Haferkorn et al. (2021), whose research on the live music sector posited that the livestreaming of concerts during the pandemic removed significant barriers of access, notably cost and geographical distance, which particularly benefited participant groups including carers, d/Deaf and disabled people, elderly people, people with low disposable income, and people with claustrophobia or social anxiety, many of whom are usually not able to attend live concerts at physical venues.

The COVID-19 Cultural Participation Monitor (2021) has further unveiled differences in cultural engagement across regions and ethnicities. Notably, during the pandemic, younger, Black and Asian audiences have been more likely to participate with culture online than traditional audiences – though, again, these have mostly comprised people who already engaged with arts and culture before the pandemic.

Online arts and culture has been more effective in moving already-active cultural participants online than in reaching new participants. Research carried out by Indigo's Culture Restart surveys, carried out at various stages throughout the pandemic, reveals that many who previously only attended live events were new digital users (Indigo Ltd. 2021a). Despite a recent decline in interest, the proportion of respondents who said they would be interested in engaging with culture online in future (and also willing to pay for it) remains high and fairly consistent at the time of writing. Although participants' confidence built up throughout 2021, the Missing Audiences survey (Indigo Ltd. 2021b) still showed a significant proportion of previously frequent cultural attenders had not yet returned to any cultural venue by the end of 2021.

5. Methodology

In order to reflect the complexity of this continually evolving crisis, and in particular to give voice to the diverse practitioners and participants impacted by it, our project adopted a collaborative mixed-methods approach. In response to different needs, we combined qualitative and quantitative research, as well as the use of primary sources of information (collected by us) and secondary sources (collected by others).

Our quantitative research addressed what cultural activities different demographic groups engaged with in-person and online, as well as their overall attitudes. We used data from three main sources: the UK Government's Taking Part survey; Arts Council England's survey of English NPOs; and three longitudinal surveys carried out by our project partner Indigo.

The Indigo surveys were sent out by over 300 UK arts and culture organisations, and collectively gained over 70,000 responses. The **Audience Tracker** and **Missing Audiences** surveys collected data from organisations' mailing lists: people who at some point had participated in arts and culture, but did not necessarily do it regularly or recent. The **Digital Experience** survey was collected from participants right after taking part in an online experience.

Our qualitative research focused on how cultural organisations used hybrid in-person and online programmes to fulfil their social remit during the pandemic. The research took place through interviews and follow-up surveys with a range of digitally-engaged arts and culture organisations. It also included extended collaboration with eight organisations: Opera North, Serpentine Galleries, The Lowry / **Mystery Trip**, The Barbican / **CripTic Pit Party**, Darkfield, Bournemouth Symphony Orchestra, The Tank Museum, and Imitating The Dog. These activities variously included multiple interviews, surveys of in-person and online participants, ticketing and viewing analytics, analysis of organisations' extant data, video production, and (in the case of **Mystery Trip**) action research which involved our PI forming a part of the creative team.

Finally, we searched the websites of all 291 publicly-funded UK theatres to ascertain whether they had any streamed activities (including performances, workshops, classes and other video-based digital engagement activities) advertised between March 2020 and September 2021, and/or in their autumn 2021 season, and/or in their spring 2022 season.

Data produced by the project also included literature reviews of academic and policy-focused writing, as well as a review of COVID-19 quantitative surveys across the UK arts and cultural sectors. This data informs our final report, as well as our case studies, media engagement, and academic research, all of which can be accessed through our project website.

Data sources and technical details are summarised below.

Data	Type	Source	Details
Interviews with arts and culture organisations	Qualitative	Primary	Number of interviews (N) = 39 45-90 minutes' length each March 2020 – May 2022 Full list of interviewees available in the appendix
Follow-up survey with arts and culture organisations	Quantitative	Primary	N = 16 (November 2021)
Surveys of online and in-person participants, carried out with collaborating organisations	Quantitative	Primary	Bournemouth Symphony Orchestra (N = 529, Oct 2021) Imitating The Dog (N = 380, Nov 2021) The Barbican / CriptTic Pit Party (N = 28, Nov 2021) The Lowry / Mystery Trip (N = 35, April 2022) Full resuts available here
Online research of UK theatres	Quantitative	Primary	N = 291 (November 2021 & March 2022) Searches were carried out of the websites of all 291 UK theatre companies with NPO or eqivalent funding for details of their autumn 2021 and winter/spring 2022 programmes. Full dataset available here
Action research	Qualitative	Primary	PI's creative participation in Mystery Trip production, January – March 2022
Ticketing and social media analytics	Quantitative	Secondary	10 organisations Source: Spektrix, social media
DCMS Taking Part Survey web panel	Quantitative	Secondary	N = 1052 (May 2020), 1035 (Jun 2020), 976 (Jul 2020) For details see here
Indigo Digital Experience Survey	Quantitative	Secondary	N = 2302 (Dec 2020 - Jun 2021) For details see here
Indigo Audience and Visitor Tracker	Quantitative	Secondary	Total N = 58830, waves = 10 (Oct 2020 - Jul 2021) For details see here
Indigo Missing Audiences (Wave 1) survey	Quantitative	Secondary	N = 10834 (Sep - Oct 2021) For details see here
ACE NPO annual survey (2018/19 - 2019/20)	Quantitative	Secondary	N = 801 (18/19), 768 (19/20) For details see here

6. Key findings

The below findings emerge from research carried out between January 2021 and May 2022, and focus mainly on the first two years of the pandemic. Our research has extended across multiple fields within the cultural sector (including theatre, opera, dance, live music, combined arts, immersive arts, festivals, galleries, and museums) and aimed as far as possible to reflect its diversity. For exvample, in our choice of interviewees we aimed for as broad a spread as possible across multiple axes including size, sub-sector, geographic base, digital maturity, nature of activity, and cultural or societal focus.

Out of choice, this project does not engage with the complex (but fundamentally related) ethical and practical issues of access to museum archives. The report's authors are enthusiastically supportive of the various OpenGLAM initiatives taking place across the UK, and of the move among museums towards the use of Creative Commons licenses, but acknowledge that this is a distinct research field that we cannot at this time contribute to.

Out of circumstance, the project skews towards the performing arts. About half of the organisations that we interviewed work in the performing arts. Indigo's Culture Restart, Digital Experience and Missing Audience surveys, from which much of our quantitative data emerges, also received significantly more responses from performing arts organisations than museums. Section 5.3 in particular, which

details the 'snap back' to in-person only activity from autumn 2021 onwards, emerges from research carried out on the theatre sector specifically.

Nonetheless, we believe our research provides insights that reflect and are relevant to organisations working throughout the arts and culture sector.

The relatively small scale of this project also means that much of our research is built on the findings of adjacent COVID-19 research projects. Accordingly, many of our findings (for example, that d/Deaf and disabled participants value digital arts and culture particularly highly; that online arts have not yet generated revenue; and that a culture change in the funding structure for digital activity is needed) nuance and add ground-level detail to previous top-level discoveries.

In-keeping with the grassroots focus of our research, our main goal has been twofold: firstly, to provide evidence of how individual arts and culture organisations have used digital tools to improve accessibility, and of how successful these efforts have proven; secondly, to give voice to diverse cultural workers and online participants involved in the last two years of digital innovation by documenting their empirical experiences during this unprecedented time of crisis.

6.1.   Hybrid arts and culture has led to multiple accessibility and inclusion benefits

Our research variously revealed and confirmed that the shift to online and hybrid programming during the first two years of the pandemic achieved diverse accessibility and inclusion benefits for both organisations and participants, alongside various other benefits. Perhaps the most useful summary of these benefits is provided by our post-interview survey of collaborating organisations, in which respondents were able to choose as many options as they wanted from a list of potential benefits related to online activity (Figure 1).

Evidence around specific benefits, as recorded through our case studies, interviews, and surveys, is presented below.
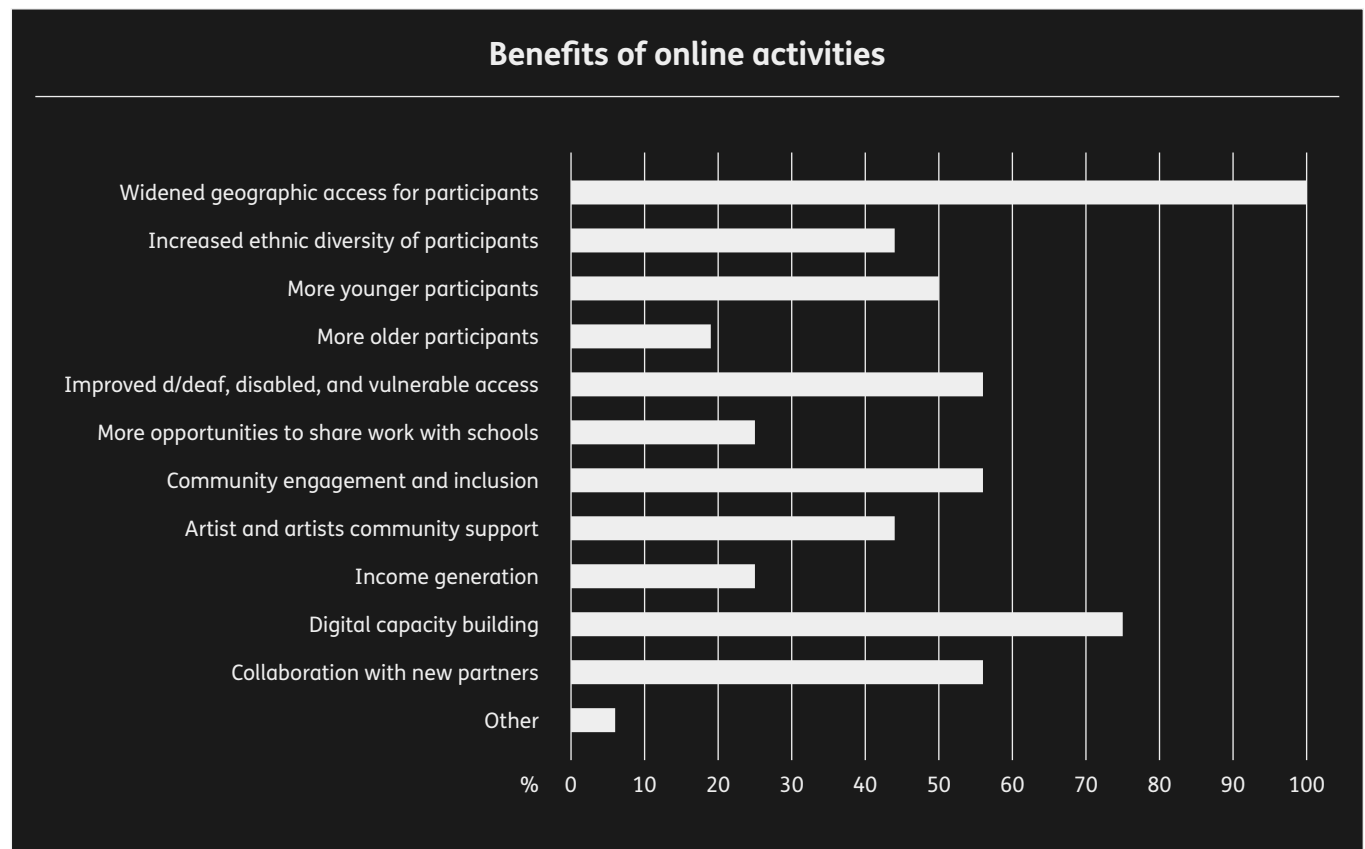
Benefits of online activities

Category	Value
Widened geographic access for participants	~100
Increased ethnic diversity of participants	~44
More younger participants	~50
More older participants	~19
Improved d/deaf, disabled, and vulnerable access	~56
More opportunities to share work with schools	~25
Community engagement and inclusion	~56
Artist and artists community support	~44
Income generation	~25
Digital capacity building	~75
Collaboration with new partners	~56
Other	~6

Figure 1. Source: Follow up survey (October-December 2021)

► Improved accessibility for d/Deaf, disabled, and vulnerable participants

Over the last year, widespread evidence has emerged of the extent to which d/Deaf and disabled and vulnerable people in particular have benefitted from online arts and culture: from population-wide surveys to impassioned individual testimony in the national press (Torregiani 2021; Webster 2021).

Surveys conducted as part of our case studies have also resulted in numerous testimonies about the value placed on increased digital accessibility by many d/Deaf and disabled and vulnerable participants. All of these surveys included multiple comments by participants that strongly urged arts and culture providers to continue creating online content beyond the pandemic.

"Please, please continue with the livestreams. I feel safe, they are more convenient, I save the parking fee and program cost (I'm on a tight budget) and don't have to be out at night in the winter."

BSO@Home viewer

Our analysis of Indigo's Audience Tracker survey data provided additional quantitative insights into the value of online programming for d/Deaf and disabled participants. Overall participation online between October 2020 and July 2021 was similar among disabled and non-disabled participants (Figure 2).
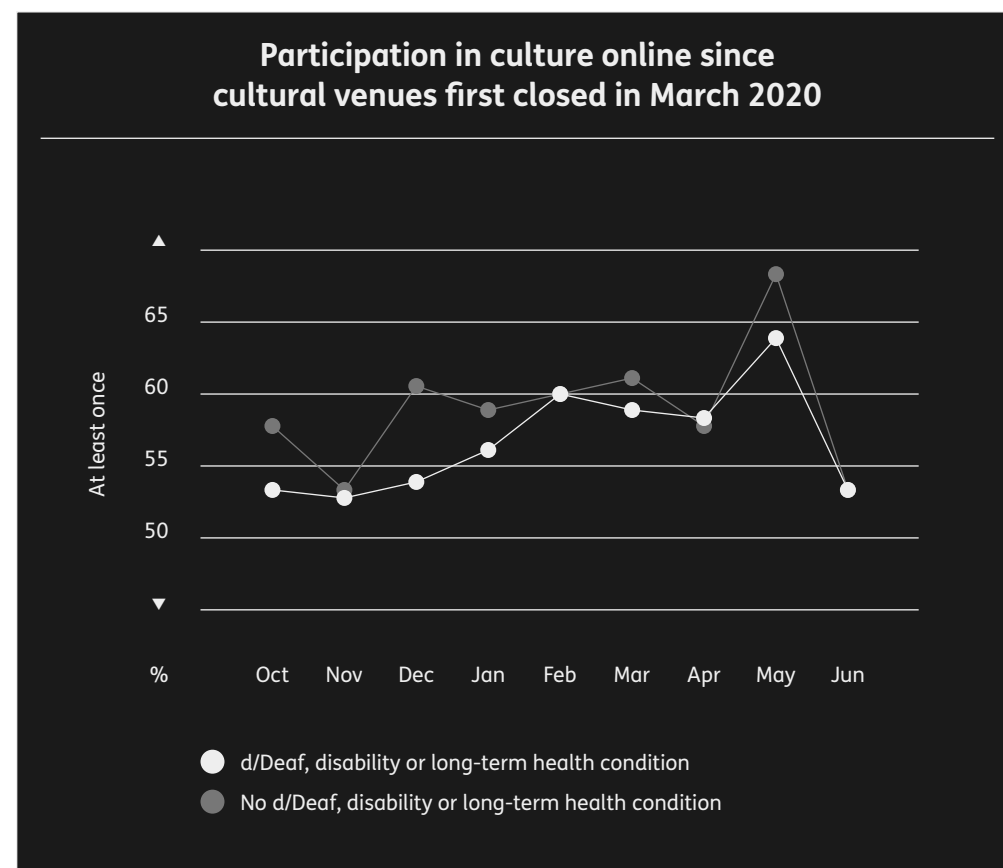

Figure 2. Source: Own elaboration using Audience Tracker data (Oct 2020 - July 2021).

However, with the caveat that the Indigo survey over-represents people who are culturally active, we observed that different participant groups emphasised different reasons for not booking in-person activities once they became available as lockdowns eased (Figure 3). The graph below focuses on two key barriers to in-person attendance: crowds and travel. It suggests that though both eased towards the end of lockdowns, participants who identified as disabled remained more cautious about in-person attendance than non-disabled participants.

This data reflects the many historic and on-going accessibility issues with which in-person attendance confronts disabled participants, none of which abated after the lockdowns ended. It also suggests that online participation seems to have greater value for disabled than for non-disabled participants.

Question: Reasons you'd give for NOT booking any events or planning any visits

Legend:
- □ D/deaf, disability or long-term health condition – Avoid crowds of people
- ○ D/deaf, disability or long-term health condition – Reluctancy to travel
- ▪ No D/deaf, disability or long-term health condition – Avoid crowds of people
- ● No D/deaf, disability or long-term health condition – Reluctancy to travel
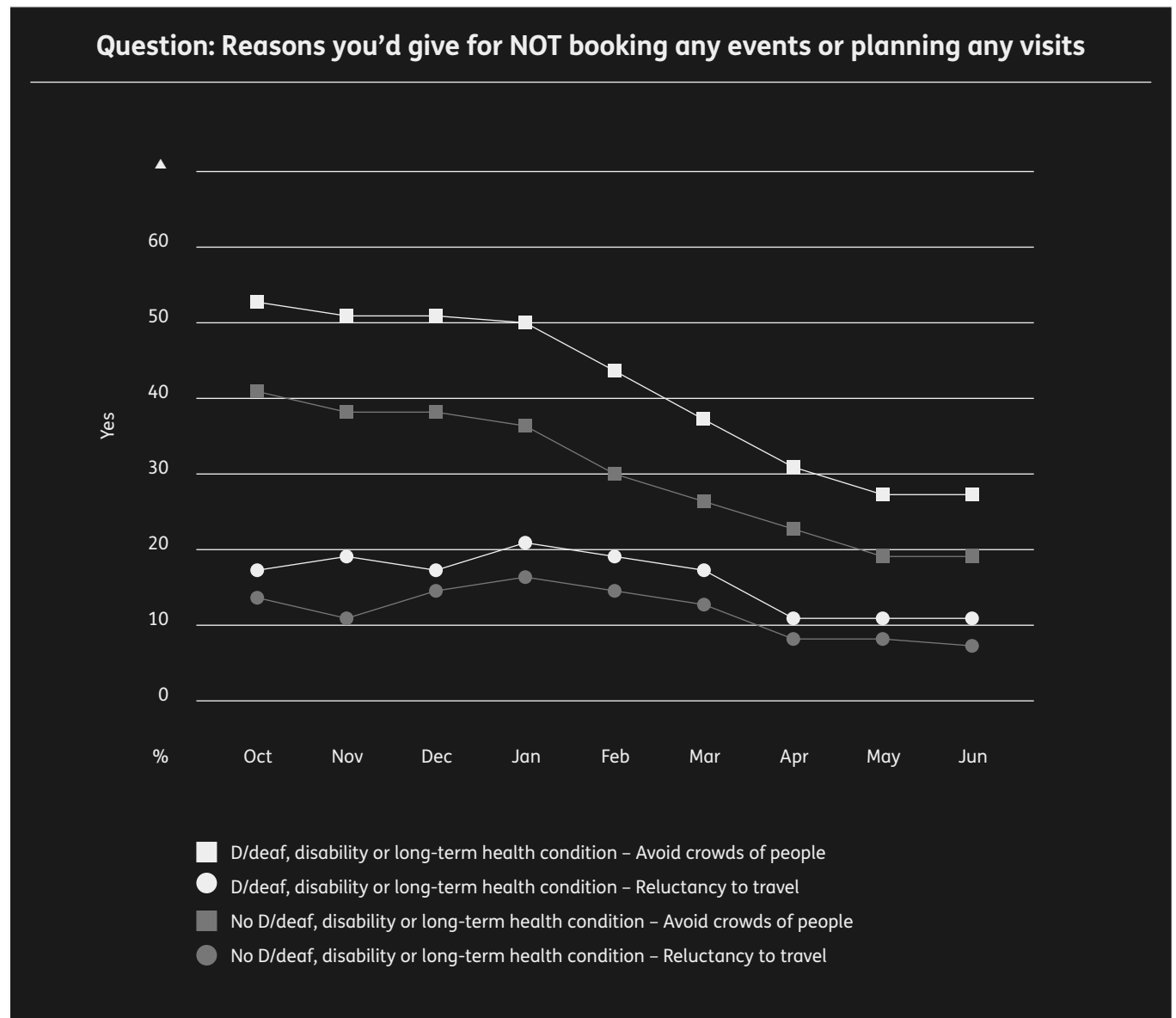
Figure 3. Source: Own elaboration using Audience Tracker data (Oct 2020 - July 2021).

The above conclusion is strengthened by our elaboration of Indigo's Digital Experience Survey data, which revealed that with lockdown restrictions lifted, 64% of disabled participants remained interested in sustained future online participation in arts and culture, compared to 53% of non-disabled participants, again suggesting that they place higher value on online cultural activities (Figure 4).
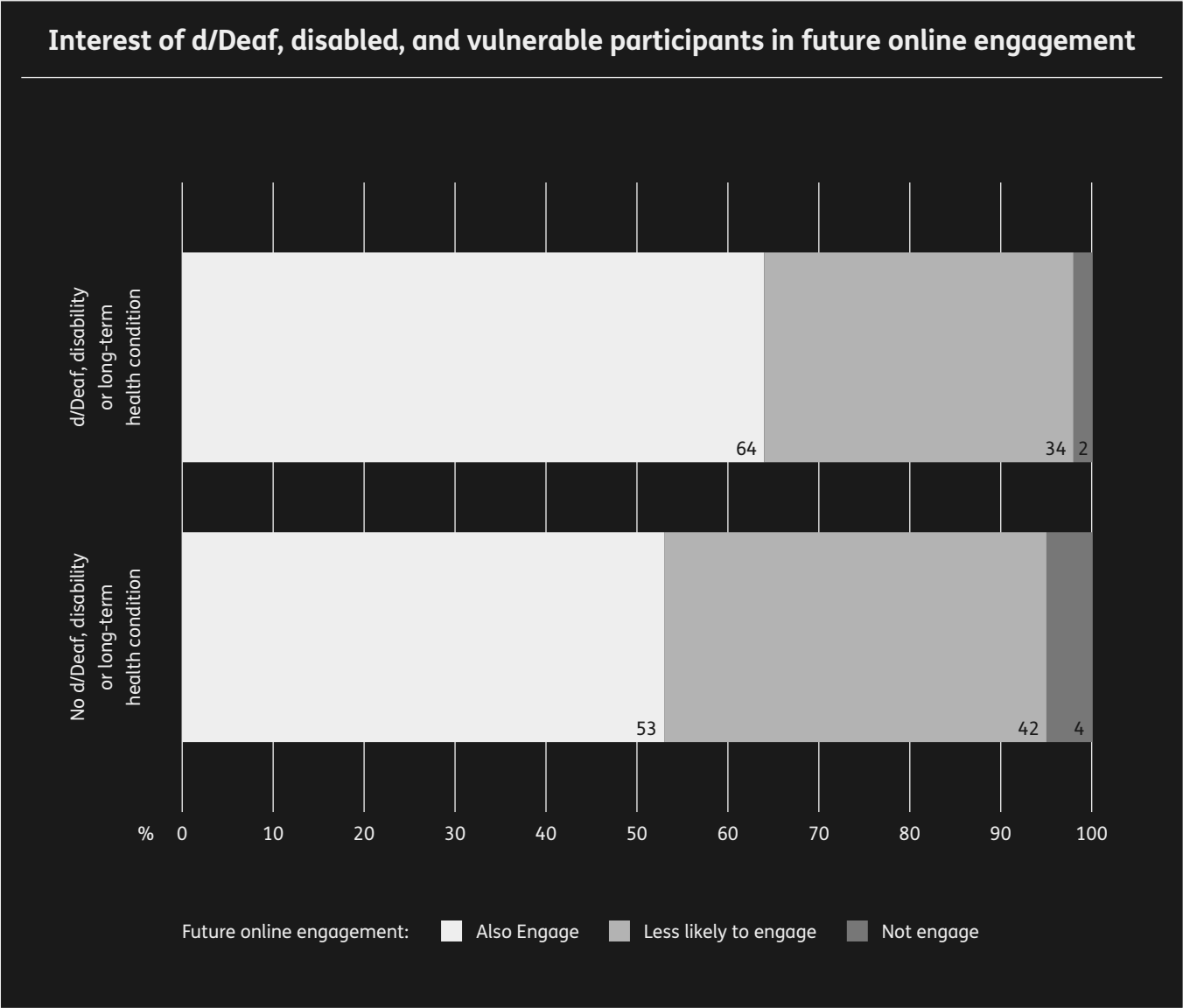
Interest of d/Deaf, disabled, and vulnerable participants in future online engagement

Figure 4. Question: 'Which of the following would most closely describe your attitude to online culture once you are able to attend a suitable variety of in-person experiences? (Please tick only one)' (grouped). Source: Own elaboration using data from Digital Experience Survey.

▶ Widened geographic access both nationally and internationally

Widened geographic access has also been a well-evidenced benefit of online arts and culture, and was acknowledged as a benefit by all (100%) of the arts and culture organisations that took part in our post-interview survey (Figure 1). It was also cited, together with improving accessibility, as the joint primary motivation for their online activity (Figure 5).
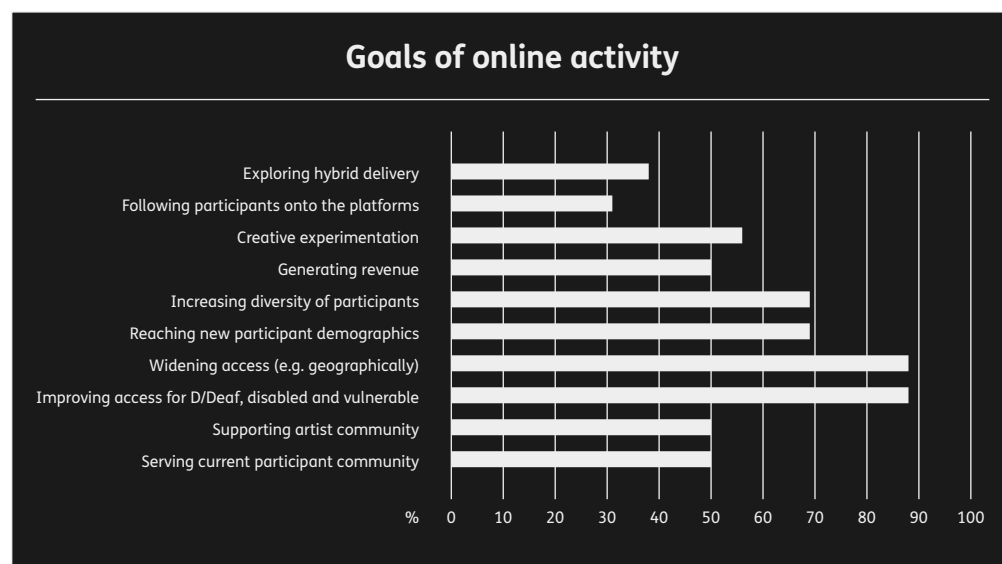

Goals of online activity

Figure 5. Source: Follow up survey (October-December 2021)

Our case study research also revealed that online participants to arts and cultural experiences were nearly always more geographically diverse than in-person participants.

The implications and potential benefits of reducing geographic barriers to participation vary depending on the type and scale of organisation. For high-profile organisations such as the Royal Opera House, it may mean selling content to global streaming platforms including Marquee TV, Digital Theatre, or even Netflix. For other organisations, it may mean achieving national reach through collaborations with broadcasters including the BBC and Sky. Meanwhile, regionally focused organisations may focus on engaging with their regional communities and reaching out to rural and geographically isolated participants.

Often these different goals mix. For example, Tony Currie, Senior Producer at Scottish Ballet, observes, 'Being able to reach people in the Outer Hebrides versus just the central part of Scotland has had a great impact… While it's important to think macro with a programme like SB Health [Scottish Ballet's wellbeing programme], thinking micro is also important because you could have a great impact on one person's life.'

Online, and in particular telepresent, cultural activities also allow participants to connect with each other in new ways - for example, as in the case of Opera North's From Couch to Chorus, by coming together to form an online chorus.

"I did this with my 85 year old mum. First time we have been able to do anything together for years due to living away. Easy with Zoom and so really special."

Opera North From Couch To Chorus participant

Publicity image for Double, by Darkfield. Image courtesy of Darkfield.

Widened geographic reach is achievable by, and can benefit, organisations of all sizes. For example, when Liverpool-based LGBTQIA+ arts and culture festival Homotopia pivoted online, they noticed in the ticketing data a large number of London postcodes. In this way, moving online allowed them to engage with the wider UK LGBTQIA+ community.

Various smaller arts providers, including audio-based immersive theatre company Darkfield, have even found that the international reach of their online content has led to whole new business models.

Case Study: Darkfield

Darkfield is a small immersive theatre company that specialises in 360 degree binaural audio performances that typically take place in darkness, inside repurposed shipping containers. When the pandemic forced them to stop touring, the team developed Darkfield Radio, a mobile app that allowed them to create new works that could be experienced in people's homes and easily accessible public spaces.

Darkfield Radio has so far included two seasons, with a total of six hybrid audio experiences, which have sold over 25,000 tickets globally. The shows have featured in over 20 (live and online) film festivals including Sundance, Venice, and Tribeca, and have been sold to international partners in the USA, Australia and Taiwan. Their latest show, **Paradise**, premiered at SXSW 2022 and could be experienced in-person or via the Darkfield Radio app.

The global availability of the Darkfield Radio app has helped Darkfield to access wider international markets, build a strong brand presence, and form various new international cross-sector partnerships.

Darkfield Radio broadcast mast. Image courtesy of Darkfield.

▶ Remote working and diversification in collaboration

"All arts organisations have discovered that you can work with international artists without having to worry about travel and visas."

Tadeo Lopez-Sendon, Online Producer, Abandon Normal Devices

The rise of video conferencing and other telepresent technologies can also lower barriers to engagement for artists – in particular d/Deaf and disabled, and clinically vulnerable artists, as well as international artists and those with caring responsibilities – and so facilitate more inclusive collaborations.

Two of the case studies in this report (**Museum of Austerity** and **Mystery Trip**) involved remote collaboration with disabled artists. Louise Mari, co-create of Mystery Trip, noted that remote collaboration was 'cheaper for us to make because you don't have to spend fortunes on travel and accommodation. It also means that we've been able to work with disabled performers that we wouldn't have been able to work with if we'd been in certain buildings. We've been able to work with much bigger creative groups of people over the same budget.'

Evidence from adjacent research projects suggests that remote working also provides opportunities for arts and culture providers to diversify their artist community – for example, a digital toolkit by Pascale Aebischer and Rachael Nicholas (2020) highlights how Big Telly Theatre Company were able to recruit a far more ethnically diverse cast than it would ordinarily have been able to do in Northern Ireland, where ethnic diversity is below the national average.

Case Study: Mystery Trip

Mystery Trip was a Lowry Digital Now! commission created between January and March 2022 by Nigel Barrett and Louise Mari, in collaboration with disability and welfare rights activist Kerry Underhill and a group of artists usually confined to their homes due to chronic health conditions.

The project used an adapted version of Zoom as a performance platform to provide a series of 'mystery trips' for online participants unable to travel. The process began with an open call on Twitter and through various disability-focused community organisations for potential collaborators. This resulted in a collective of 12 collaborators who co-created the project, plus 9 'guests' from locations including Mexico, Norway, China, and New Zealand, each of whom provided short guided tours of a chosen location where they lived – for example, a marketplace, a late-night bar, and a mountaintop.

The final work was presented as three live and gently interactive Zoom performances, with live captions and BSL translation.
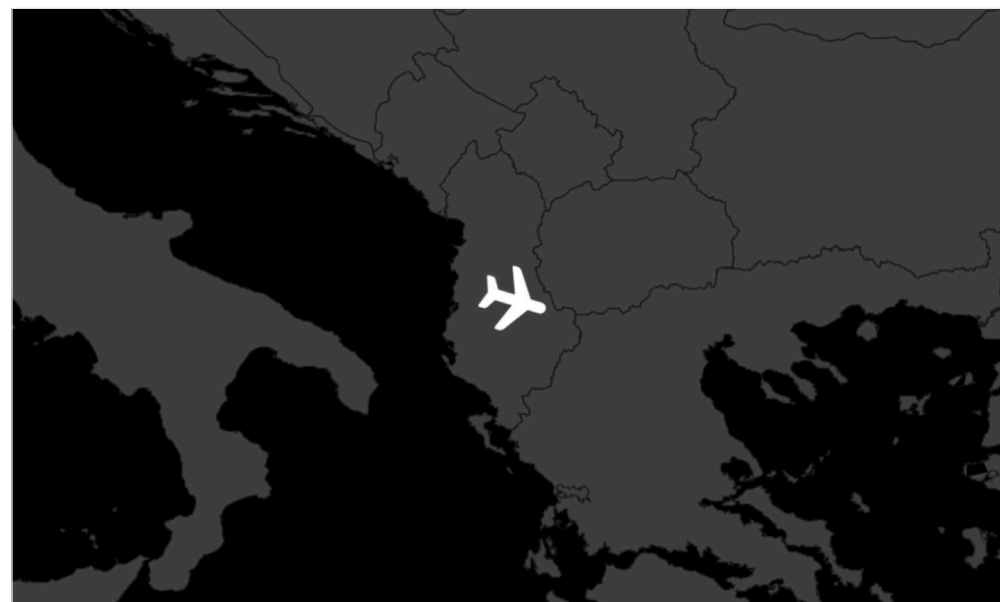
Screen captures of Mystery Trip Zoom performance, March 2022. Images courtesy of Jason Crouch.

A live composited scene with narratively-integrated BSL interpretation. Image courtesy of Jason Crouch.

Our survey of participants returned 35 responses. 75% of respondents cited cost as a barrier to engaging with arts and culture on site, and 46% cited distance from venues. 74% expected to engage with culture online and in person post-pandemic. Participants were significantly younger and more ethnically diverse than the average for arts and culture; 21% identified as d/Deaf and disabled, and 25% registered their income as 'a lot below average'. Among those who identified as d/Deaf and disabled, the accessibility options that they found most useful were, in order: accessible parking (80%), wheelchair access (67%), access schemes (50%), and online performances (50%).

"This is the first time in 10 years that I've been able to collaborate on a performance. Before this, I'd given up on ever having the chance again."

Kerry Underhill, disability and welfare rights activist

▶ Increased engagement with younger and older online participants

Our analysis of Indigo's **Digital Experience** survey data suggests significant potential for both younger and older participants to benefit from online arts and culture, though sometimes in different ways and for different reasons.

Younger participants

Young people participating in online experiences during the pandemic were most likely to be new to the cultural organisation with which they engaged digitally, but also most likely to have previous experience of online arts and culture than other age groups (Figure 6); and, on average, they were more satisfied with the digital arts and culture they experienced (Figure 7).

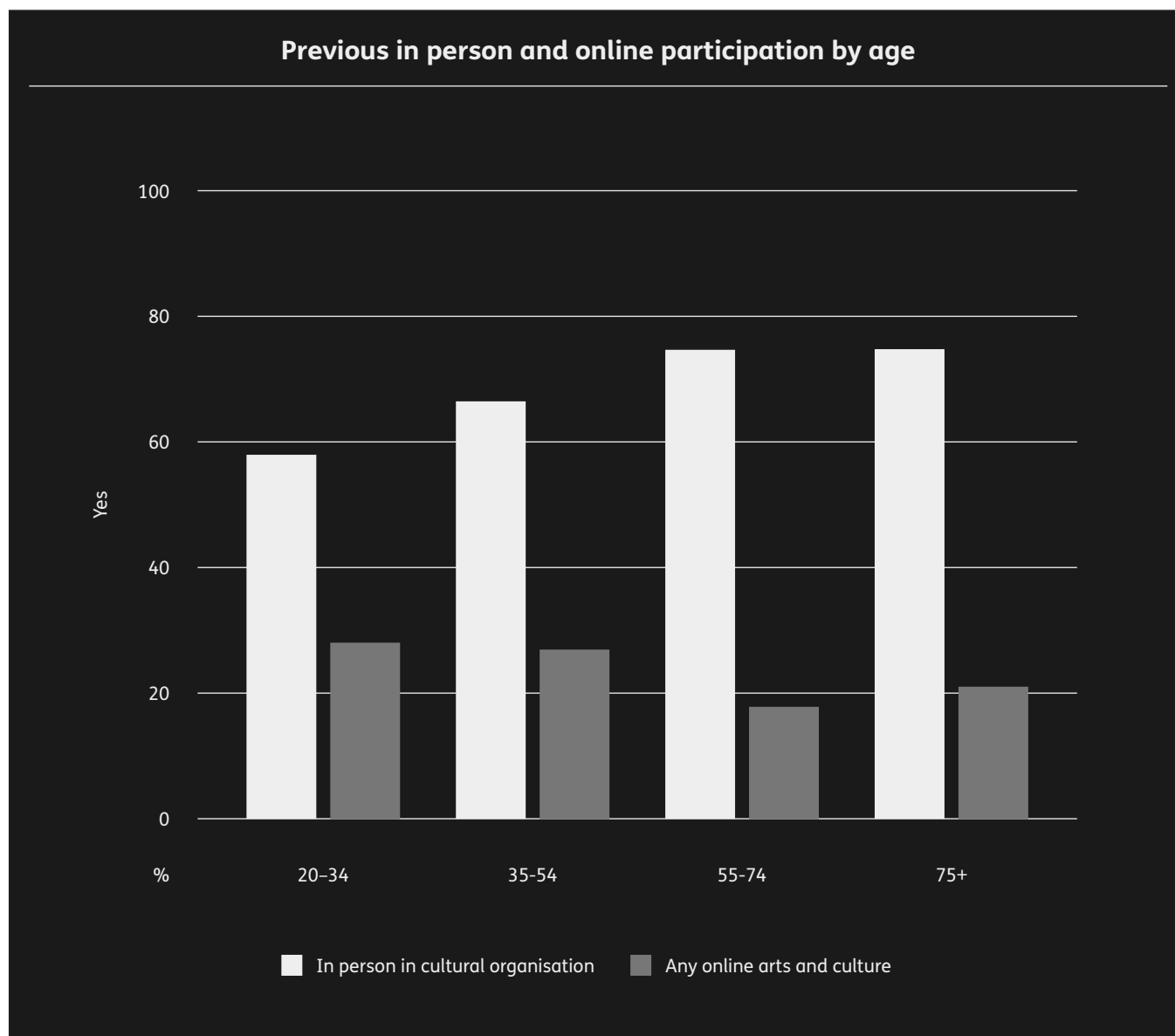**Previous in person and online participation by age**

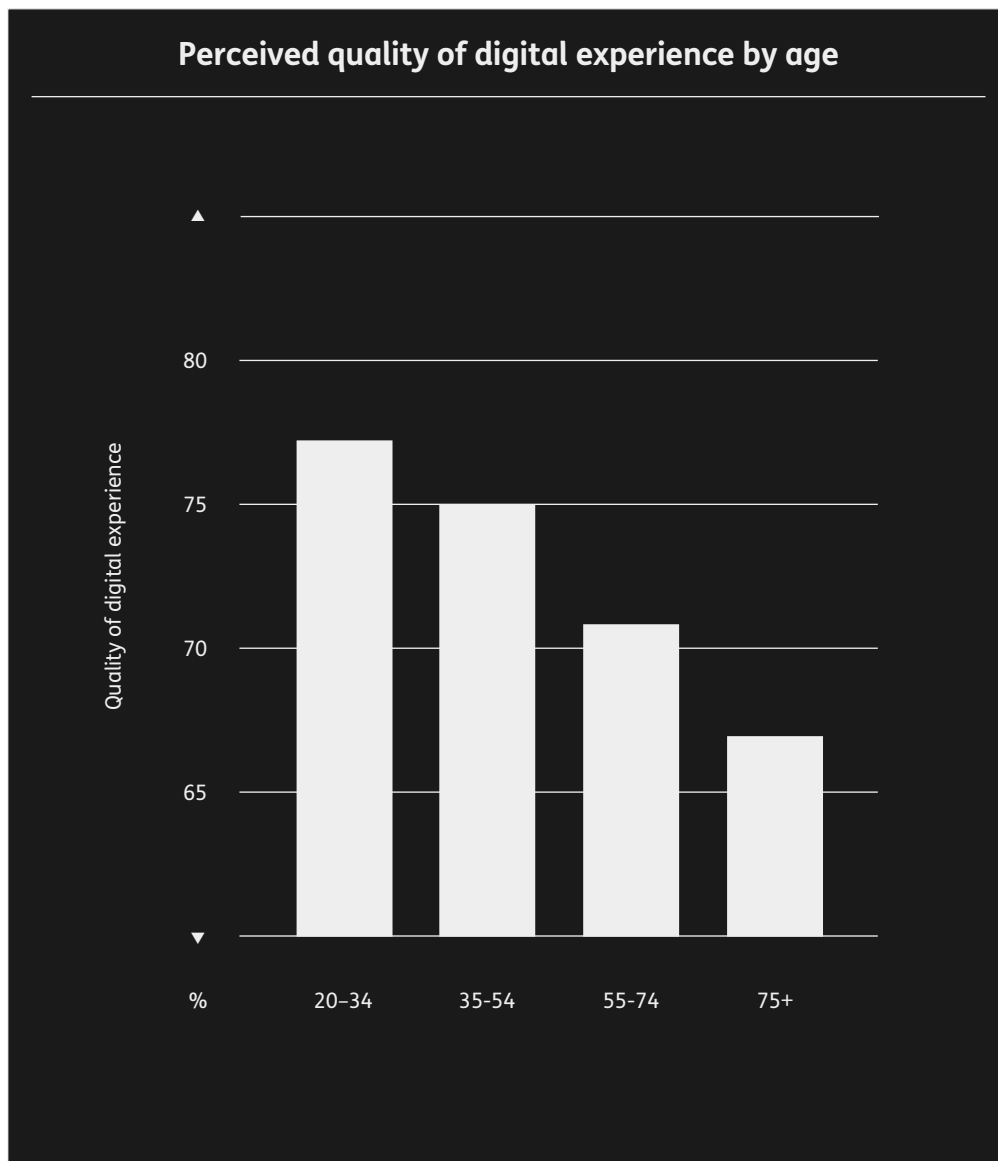Figure 6. Source: Own elaboration using data from Digital Experience Survey.

Figure 7. Source: Own elaboration using data from Digital Experience Survey. Figures based on an index of seven questions, summarising participants' expectations and experiences in response to digital content, as well as perceptions of its technical and artistic quality.
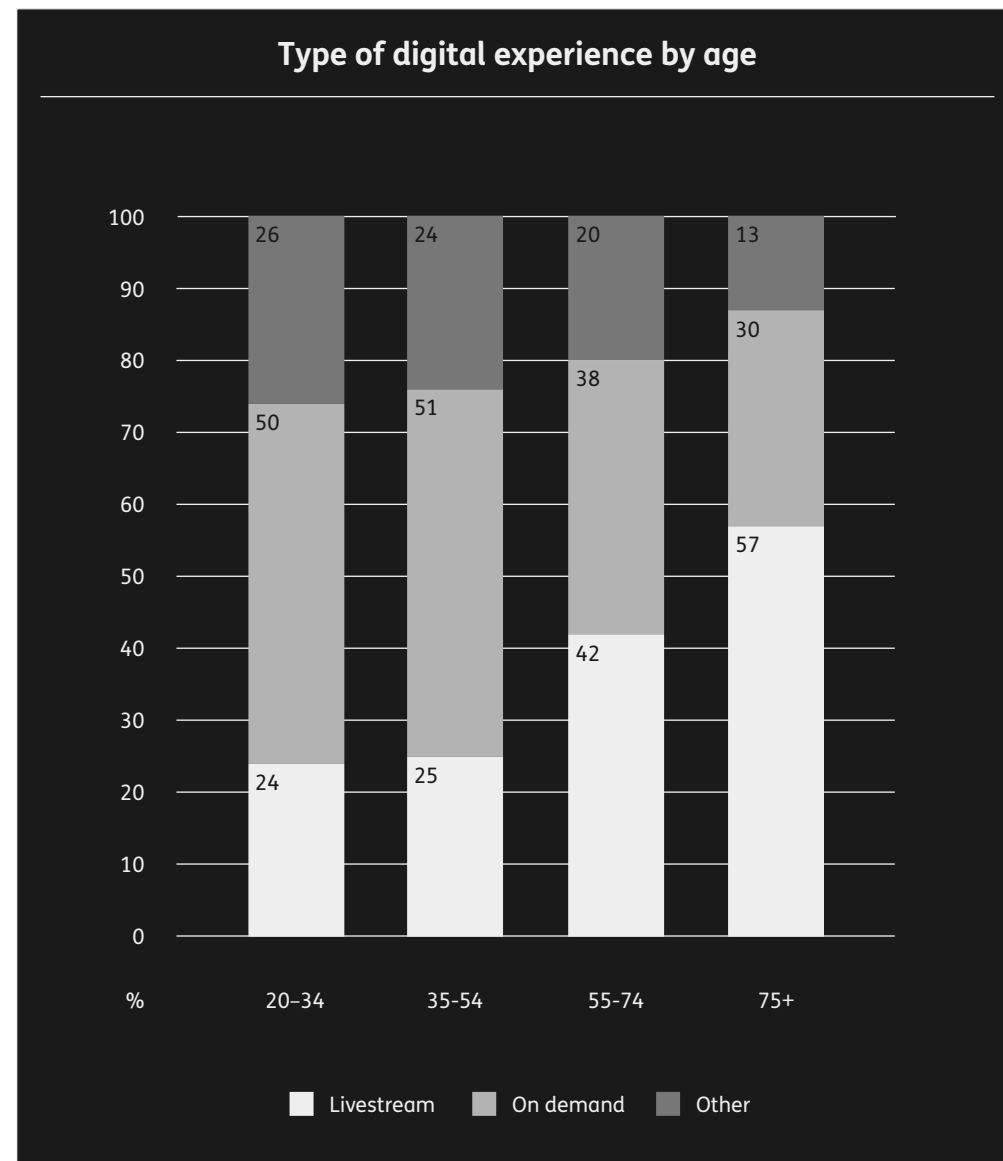

Figure 8. Source: Own elaboration using data from Digital Experience Survey

These combined findings suggest significant untapped potential for digital activity to play a key role in arts and culture organisations' engagement with younger participants. However, potential engagement also depends on the nature of the content. For example, young participants prefer on-demand and non-livestreamed content (e.g. social and immersive media), which reflect their wider digital tastes (Figure 8). Conversely, older participants prefer livestreams, which typically mimic the in-person experiences with which they tend to be more familiar.

Clearly, organisations cannot assume that online content will necessarily either reach or interest younger people. The types of digital content they create, and the platforms on which they distribute them, need to be responsive to the preferences of their target demographics.

A famous example of synchronicity between digital content and target demographic was the Black Country Living Museum, whose viral TikTok videos built brand awareness among a participant group (young adults) that they had previously had trouble reaching. Over time, inevitably, the videos' popularity waned as does that of all social media content. Nonetheless, extensive testimony from interviews, for example with Russell Maliphant Dance Company, provides evidence of well thought-through online content by arts and culture organisation finding resonance with young people.

"Digital is completely raising the profile of dance organisations, it's adding a lot of social and cultural capital, [and] it's allowing younger people, who can't afford, or parents who don't necessarily understand, the art to access and engage with what we've got. It's going to grow a whole new generation of audiences."

Martin Collins, Producer, Russell Maliphant Dance Company

Older participants

Older respondents to the Indigo surveys tended to haver a lower satisfaction level with digital content than did younger respondents – indeed, satisfaction levels steadily decreased with age (Figure 7). This correlates with recent research in adjacent disciplines that points to a generational divide around the quality of experience that results from engaging with technology (Hu and Qian 2021). It is not possible, however, from quantiative data, to explain why this is the case. Perhaps older users are more likely to see online culture as a 'second-best' to in-person experiences. Perhaps they are also more likely to encounter technological barriers to engagement, and so express their frustration in lower evaluations.

Our own study, however, also found positive evidence of how technology can facilitate engagement for older participants. When an arts and culture organisation invests time and effort into designing high quality user experiences, older participants' satisfaction can reach extremely high levels. In this respect, the example of Bournemouth Symphony Orchestra provides a useful corrective to the presumption that older participants tend to be resistant to digital experiences.

Bournemouth Symphony Orchestra: rehearsal of a socially-distanced broadcast, spring 2021

Outside broadcast of a concert at St. Giles House, Dorset.

Case study: Bournemouth Symphony Orchestra

Bournemouth Symphony Orchestra (BSO) has one of the most extensive and popular online concert programmes in the country. Between September 2020 and May 2022, **BSO@Home** streamed 60 concerts, sold over 58,000 tickets, and generated over £420,000 in revenue.

Together with BSO, we conducted a survey of in-person and online ticket holders, gaining 520 responses. 87% of the online participants were over 65, and 73% faced difficulty in travelling to the venue (figures which were given added, often very emotional, human context by respondents' comments).

Twice as many online viewers declared themselves disabled as compared to in-person participants. Perhaps surprisingly, despite their average age, 93% of respondents found the booking experience for the online broadcasts 'easy' or 'very easy', and 85% found them 'easy' or 'very easy' to access and watch online. 86% found the online experience 'very satisfying'.

In 2022/23, BSO plans to livestream 17 of the 23 performances that it will perform at its home in Poole.

▶ Potential for increased engagement with ethnic minorities

Despite the above achievements, the diversification benefits of digital activity during the pandemic seem to have been modest. Overall, the structural inequalities that traditionally affect the arts and culture sector have so far been replicated online (Walmsley et al. 2022). However, signs of hope emerge from our analysis of Indigo's surveys.

In particular, the **Missing Audiences** survey reveals that ethnic minority (excluding white minority) participants were somewhat more culturally active than white participants in autumn 2021, both online and in person (Figure 9).

This mildly positive statistic is strengthened by data from the **Digital Experience** survey, which reveals that digital participants from ethnic minorities (excluding white minorities) are more likely than white participants to participate subsequently in arts and culture, both digitally and in person (Figures 10 and 11). Institutional and psychological factors can form particularly significant barriers to engagement for people with minority and socio-economically excluded backgrounds, with physical venues often acting as symbolic and literal barriers to engagement; so the evidence that digital can form a gateway to in-person experiences for people from ethnic minorities is especially hopeful.
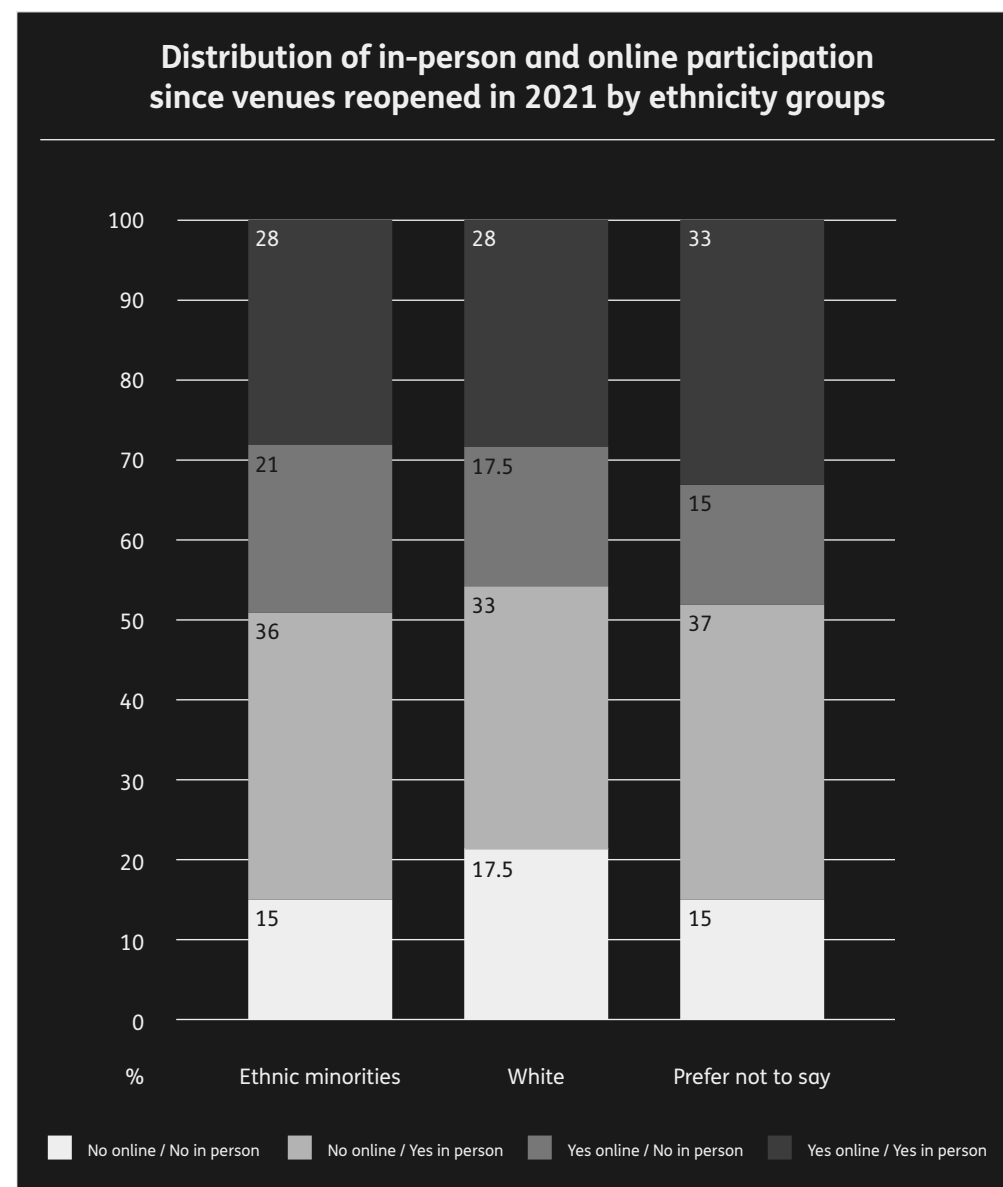

Distribution of in-person and online participation since venues reopened in 2021 by ethnicity groups

Figure 9. Source: Own elaboration using data from Missing Audiences Survey

Attitude to future online participation by ethnicity
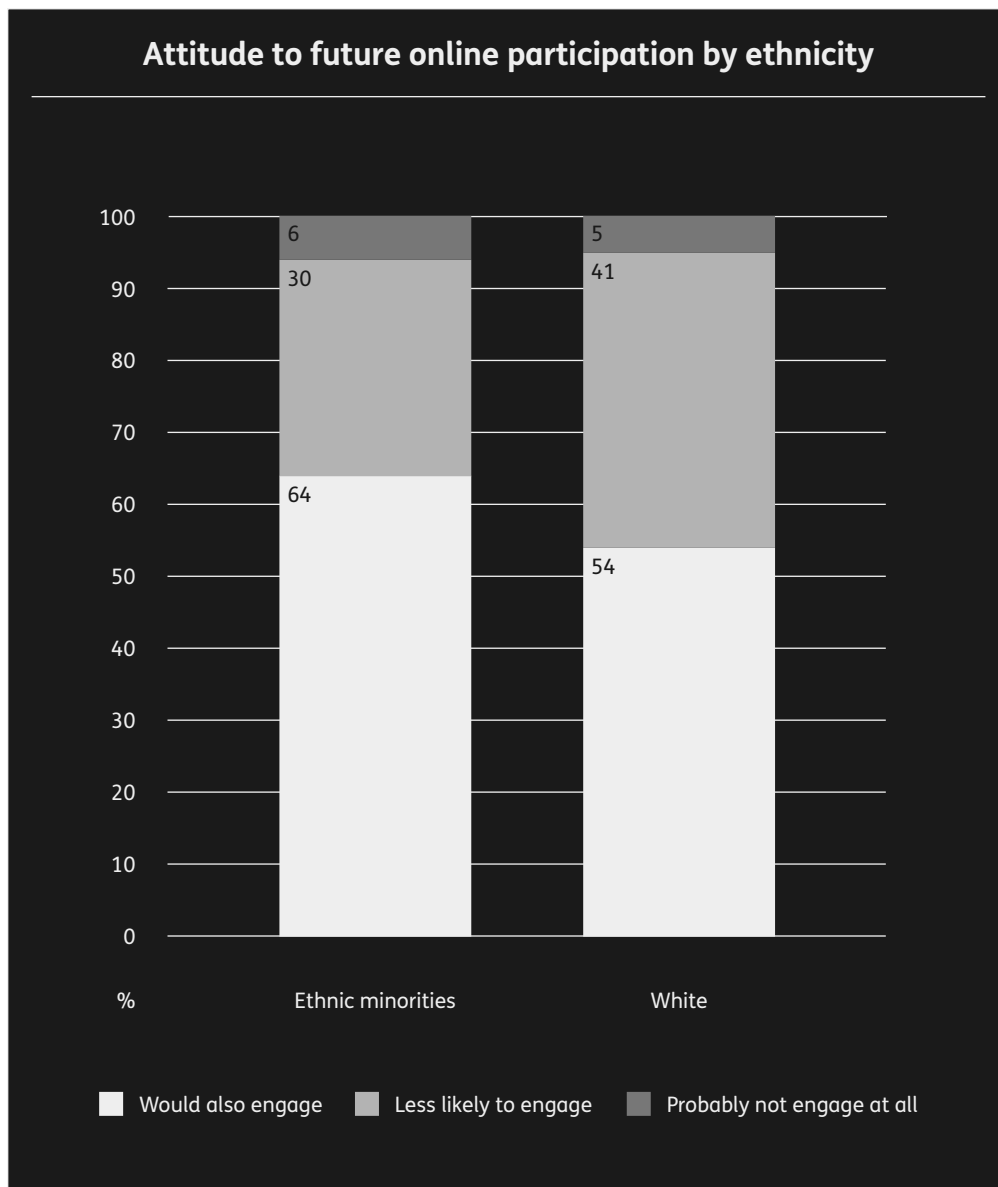
Figure 11. Source: Own elaboration using data from Digital Experience Survey

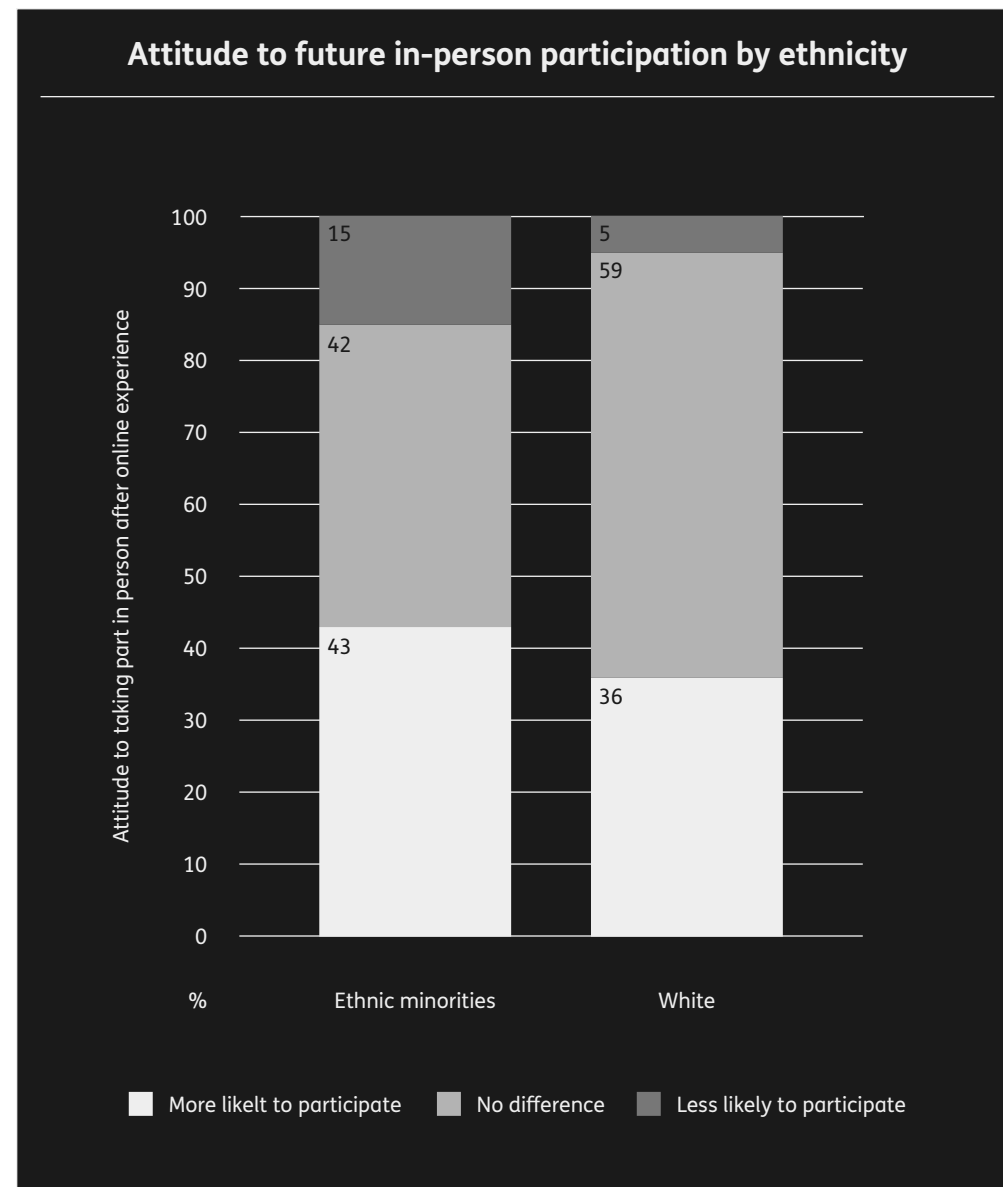## Attitude to future in-person participation by ethnicity

Figure 12. Source: Own elaboration using data from Digital Experience Survey

At the same time, Figures 10 and 11 also suggest that arts and culture organisations' digital activities have also put off relatively more people from ethnic minorities (excluding white minorities) from future online and in-person engagement. Clearly, there have been radically divergent qualities of experience taking place behind these statistics. The findings in Figures 10 and 11 together underline that there is great potential here for digital activities to overcome historic exclusions, but also that there is much more still to be done for this potential to be fulfilled.

A further caveat is that the above data says nothing about diversification of participation across the sector, as it is based on surveys of people who participated at least once in arts and culture. However, our interviews and case studies provided plentiful evidence of digital activity providing a gateway to participation for previously excluded people. For instance, after researching the profiles and comments of people who started following Black theatre company **Talawa** on social media during the pandemic, Marketing and Communications Manager Sanjit Chudha noted that they were significanlty more diverse than in-person participants: 'I can see they're statistically majority black, typically younger, largely female'.

"From my own experience I know that digital theatre has reached further and deeper into audiences who historically don't see 'theatre' as being for them."

Sanjit Chudha, Talawa (tweet, 12 October 2021)

As Dave O'Brien, Mark Taylor, and Orian Brook argue in their book **Culture Is Bad For You**, the goal of reaching new and more diverse participants is intertwined with the need to diversify organisations' workforce and the content that they create (O'Brien et al. 2020).

An example of diversification both of creatives and of participants is exemplified by our case study of the Royal Court, which also points to one potentially highly effective means of using digital performances as routes to diversification: ticket giveaways.

Case Study: Royal Court

In July 2020, the Royal Court theatre partnered with Black Ticket Project on **My White Best Friend (and Other Letters Left Unsaid)**, a small-scale Zoom performance. The ten shows involved Black actors reading letters written by ten Black writers 'that say the unsaid'. The performance was created by an in-house team, who also managed the virtual break-out rooms and an after-show Zoom room for Black participants to discuss the work.

Shows were ticketed and generated around £18,000 revenue. Tickets were £12 (£5 for low income participants); 80% of paying participants paid £12. 50% of the available tickets were offered free for Black people of all ages, through the Black Ticket Project, resulting in exceptionally high participation: demand for tickets exceeded the Royal Court's estimates by a factor of ten.

Online delivery allowed the team to expand the performance to meet demand; however, as the shows were on Zoom, sometimes they sold out, as the small team wanted to keep the logistics of using breakout rooms manageable. However, had this been a livestream, there would have been no limit on the number of tickets they could have given away, and no opportunity cost (no physical seats that could otherwise have generated income).

Does streaming video perhaps offer an untapped opportunity for upscaling the use of ticket giveaways as a route to greater inclusion?

6.2. The digital accessibility and inclusion benefits achieved during the pandemic risk being eroded

The above achievements, though significant, require qualification.

Firstly, though many organisations were highly effective in engaging participants with limited digital literacy, digital exclusion of course remains a persistent and significant inequality that often limits the potential inclusion benefits of arts and culture providers' digital activity (Good Things Foundation 2021; Mackey 2021).

Secondly, though there are still many digital 'best practices' taking place, the slide back towards in-person only programming that our project first noted among theatres in autumn 2021 continues. Despite strongly voiced concerns by many d/Deaf, disabled and vulnerable participants in particular, many of the institutional barriers to access that were lowered duing the pandemic by online provision have returned.

Finally, evidence from our research into theatres' digital activity during the pandemic seems to suggest that the disparity between many organisations' ability and/or willingness to embrace digital activity noted by the Culture is Digital surveys before the pandemic has continued since COVID-19 (DCMS 2019). This disparity is often connected to the size of organisations and the resources at their disposal. The result is a potentially vicious cycle: the disparity between arts and culture organisations' digital offerings is caused by, and in turn may exacerbate, inequalities between large, well-resourced organisations, and less well-resourced small to mid-sized organisations, leaving them ever further behind as society moves ever further towards hybrid work and leisure practices.

▶ Digital exclusion forms an on-going barrier to engagement

Though many of the organisations which we interviewed and with whom we collaborated more extensively were highly effective at using digital activities as tools for inclusion, the pandemic has also brought into focus the fact that digital exclusion remains pervasive, and forms a distinct but intertwined challenge for arts and culture organisations: even the most inclusive digital activities cannot benefit people who cannot use digital technologies.

The annually updated Digital Nation infographic by the Good Things Foundation highlights that 14.9 million people in the UK have very low digital engagement, and 10 million lack the most basic digital skills. This inequality is intersectional: limited users are one-and-half times more likely to be from ethnic minorities, four times more likely to be low income, and eight times more likely to be over-65.

Though the broader societal challenge of addressing digital exclusion falls outside the scope of our project, our research revealed extensive efforts by digitally active organisations to engage with digitally excluded people throughout the pandemic. For instance, in spring 2020 Pitlochry Festival Theatre launched **Telephone Club**, aimed at providing a connection between the theatre and digitally excluded and geographically isolated residents of the Scottish Highlands. With

financial help from Connecting Scotland, Dundee Rep introduced a technology loan scheme: laptops, iPads and dongles were sent to people who could not otherwise access their digital content.

Both organisations have continued to use digital activity as a tool for inclusion, and to incorporate it into a broader hybrid programme – understanding that exclusions need to be confronted from multiple directions at the same time. Jess Thorpe, Artistic Director (Engagement) at Dundee Rep, notes that her organisation does not hierarchise activities. They create work in-venue, in public spaces, online, or in combination: whatever best serves their core goal of community engagement.

"We engage with our community inside, outside, online."

Kris Bryce, Executive Director, Pitlochry Festival Theatre

However, while many organisations have put extensive work into using online activity as a tool for inclusion, there has been a significant disparity between the accessibility of different organisations' digital offerings: many organisations have incorporated accessibility best practices at every stage of the user experience, but others have approached digital accessibility in piecemeal fashion. As a result, the pandemic has also highlighted emergent forms of digital exclusion.

For example, over the course of this research project, the websites of several hundred arts organisations were accessed. Many featured high quality UX design, but various accessibility barriers repeatedly came up – for example, small text, no alt-text, insufficient contrast between text and background colours, and complicated navigation; ticketing processes that involved moving through 12-15 steps and required cutting and pasting access codes, and moving between different websites and apps; and videos that lacked closed captions.

Fortunately, not all accessibility improvements require significant resources. Ash Mann notes a number of quick fixes in a recent article for Arts Professional and ACE's Digital Culture Network offers a webinar by Roberta Beattie on how to make content accessible.

▶ Most theatres have defaulted back to in-person activities

Online research by our project into the autumn 2021 and spring 2022 programmes of UK theatres suggests a significant reduction in their online offerings since summer 2021. Evidence from interviews also suggests a similar retrenchment across the performing arts.

In the first 18 months of the pandemic, of the 219 publicly funded theatres and theatre companies in the UK, 123 (56%) streamed live performances, offered digitally native performances, or offered online workshops. For the autumn 2021 season, this figure went down to 60 (28%), and in the winter/spring 2022 season, this figure went down again to 35 (16%).

It seems that many organisations are, at least to an extent, leaving the digital experimentation of the last two or more years hanging in mid-air. Lucy Dusgate, Digital Producer at The Lowry, sees danger in this: 'We must resist the temptation to say 'that doesn't work''. This process [of digital experimentation] can take years – we need to give organisations the opportunity and time to develop, and figure out what will work. Let's not get too audience number focused.'

The dangers of this 'snap back' to in-person only activities are very real: older and d/Deaf and disabled people risk returning to the same
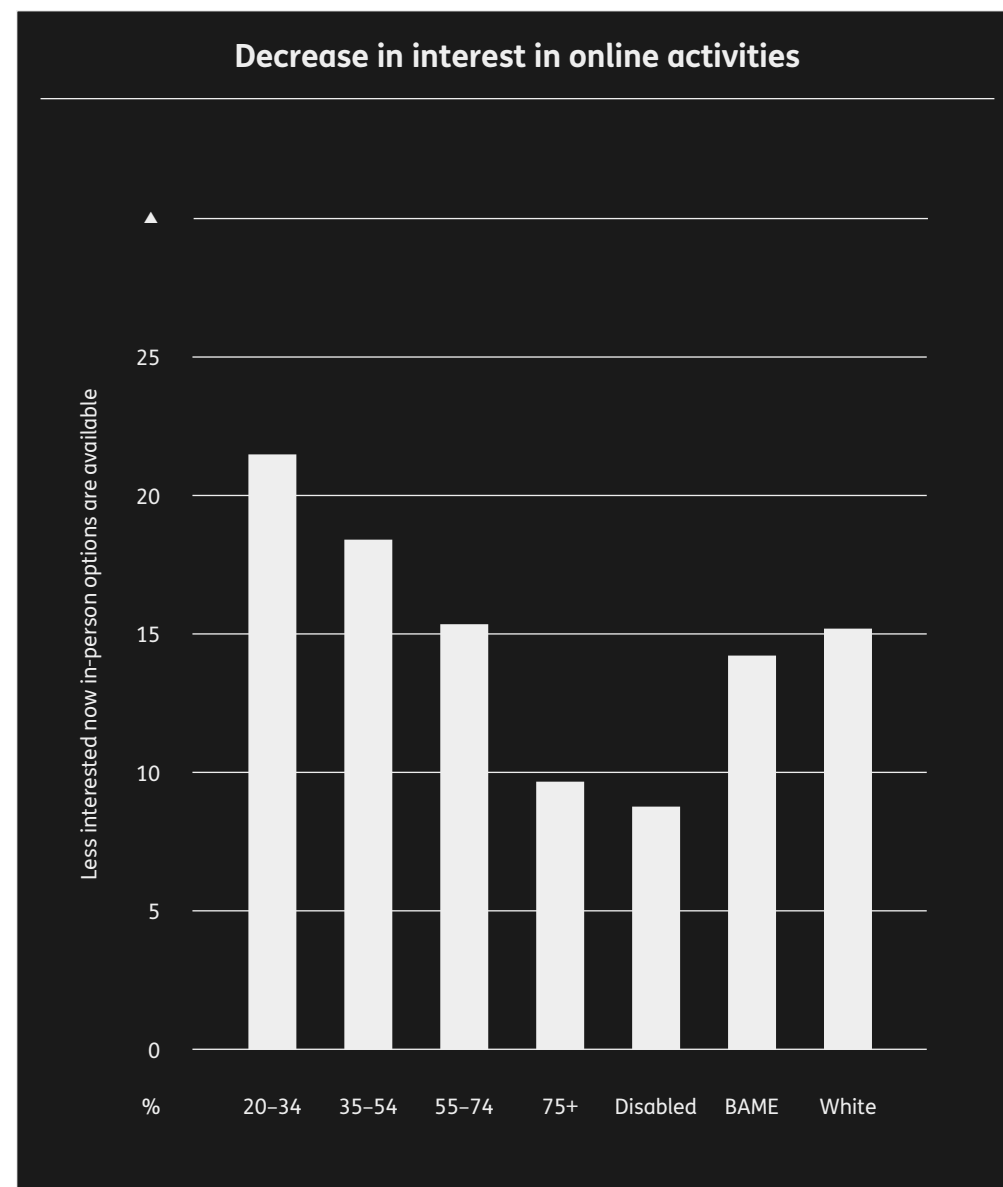

Figure 13. Source: Own elaboration using data from Missing Audiences Survey

level of exclusion that they experienced before the pandemic. Our analysis of Indigo's **Missing Audiences** survey reveals a sharp decline in interest in autumn 2021 for online activities among young people (Figure 13), many of whom were relatively quick to return to in-person activity. It also reveals sustained interest in online activities among older and disabled people. Yet this interest is not being mirrored by similarly sustained level of digital activity among arts and culture organisations.

As venues reopened in autumn 2021, disabled and older participants remained far more likely to stay away (Figures 14 and 15). There is, however, a silver lining to this data: even as arts organisations focused more on in-person programmes, an important portion of cultural participation remained exclusively online, or online combined with live – especially among older and disabled participants. Does this point to a gradual, tectonic shift in how we engage with arts and culture?
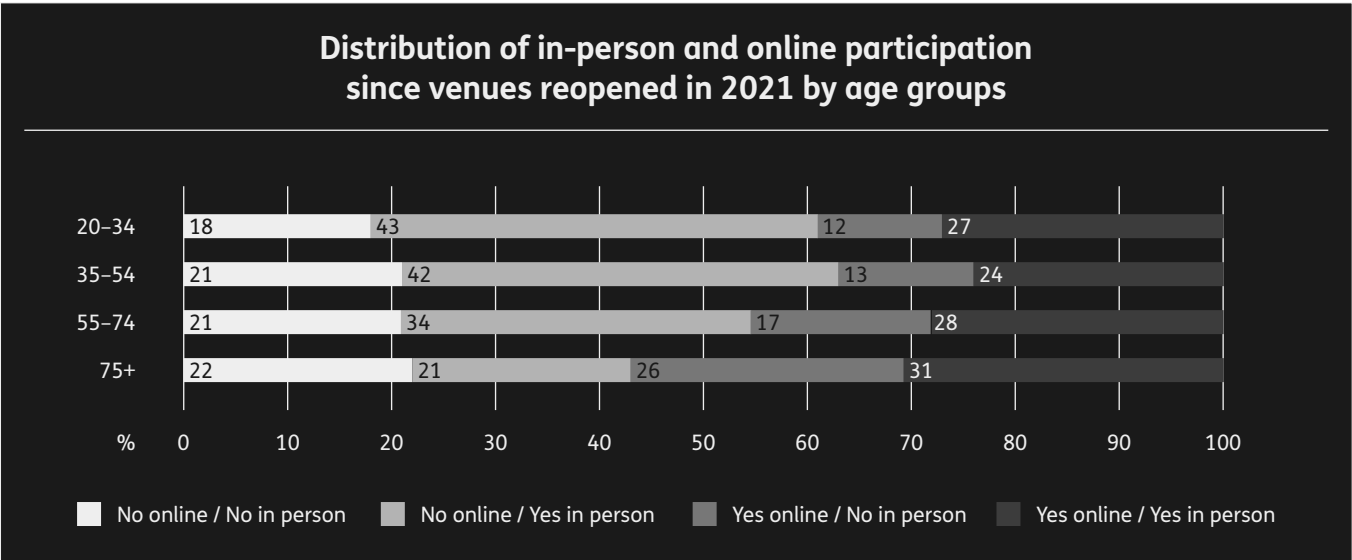

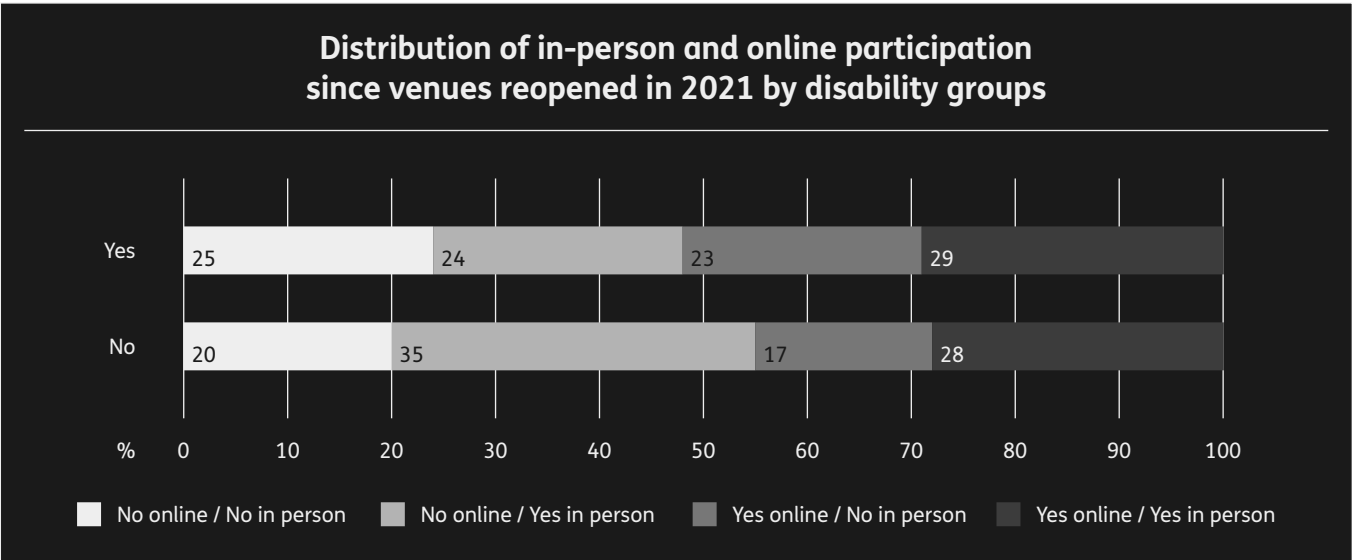Figure 14. Source: Own elaboration using data from Missing Audiences Survey

Figure 15. Source: Own elaboration using data from Missing Audiences Survey

▶ Digital exclusion also extends to arts and culture organisations themselves

Many theatres did not offer streaming content (e.g. livestreams, films, online performances, or workshops) at any time during the pandemic. Particularly concerning here is the disparity between larger organisations (receiving houses and 'producing theatres' with their own venues) and smaller touring companies: 55% of small and medium-sized theatres, but only 38% of large theatres, did not offer streaming content.

Of the theatres that did, a similar disparity is in evidence when looking at the return to in-person programming. In autumn 2021, 68% of touring companies that had previously offered streaming content were no longer doing so; for receiving houses the figure was 45% and for producing theatres 49%. In winter/spring 2022, 82% of touring companies that had that had previously offered streaming content were no longer doing so; for receiving houses the figure was 55% and for producing theatres 76%.

These statistics suggest that the degree to which theatres and theatre companies have been able and willing to offer, and continue offering, streaming content is at least in part related to their size and (by implication) level of funding. There is a risk here of a double exclusion: participants' digital access to arts and culture is itself restricted by many organisations' own lack of access to sufficient resources to develop mature digital programmes.

Unsurprisingly, our interview data revealed a huge disparity in digital maturity among arts and cultural providers. Whereas some demonstrated remarkable digital innovation and agility, others lacked access to even basic in-house digital resources or skills. The longstanding presumption among some organisations that digital is not for them, highlighted by Manninen et al. (2021), was also present in some of our interviews. For instance, a director of a mid-sized touring company noted:

'...we are very aware that some of the international festivals will be moving into hybrid programming in the future, combining live performances with live streaming or pre-recorded material. This will be a significant development for the whole sector in terms of international presentation, but as we do not create performance for proscenium arch presentation, which makes any form of digital capture extremely challenging, we remain unsure whether we are able to respond to this development.'

As society becomes increasingly hybrid, and as digitally mature organisations such as the Royal Shakespeare Company and the National Theatre engage ever more deeply with emergent technologies and the tech sector, many other organisations risk finding themselves left behind.

6.3. Lack of funding and low income generation are significant barriers to post-pandemic digital activities

▶ **Most digital activities have not been profitable**

This project does not aim to provide an exhaustive overview either of how arts and culture organsiations generate digital revenue or of the UK's current arts funding landscape. Nonetheless, these two factors have played a crucial role in shaping arts and culture organisations' digital activities during the pandemic, and have formed recurrent themes throughout our interviews and collaborations with them.

In this section, we therefore provide a brief overview of how these two factors have impacted on digital access during the pandemic, and how they may influence future digital activity.

As venues closed in March 2020, many arts and culture organisations rushed to repurpose whatever digital content they might have in their archives, or use digital platforms including Zoom to maintain engagement with their communities. In autumn 2020, as it became clear that the pandemic would not end soon, organisations increasingly shifted their focus to developing digital projects that were more creatively innovative and technically proficient.

This shift was facilitated by the government's £1.57bn Culture Recovery Fund (Bradbury et al. 2021). The result, as highlighted in the Boundless Creativity report (AHRC and DCMS 2021), was an operating environment for arts and culture that encouraged digital research and development.

Our interviews and post-interview survey suggest that this digital R&D focused mainly on generating social and health benefits, rather than revenue. The most commonly expressed goals of respondents' digital activities were improved accessibility for d/Deaf, disabled and vulnerable participants (88%) and widening geographic reach (also 88%); only 50% of respondents cited revenue generation as a significant goal of their digital activities (Figure 5).

Nonetheless, from late 2020 onwards, organisations increasingly began to charge for access to digital content, and to experiment

with various digital business models. Through our interviews, we identified a plethora of strategies including ticketed livestreams and pre-recorded curator tours, virtual workshops and classes, sales to commercial VoD platforms, and subscriptions to organisations' own digital platforms. However, echoing the Livestreaming Music Report (2021), our interviewees stressed that producing and distributing high quality digital content is not cheap and rarely profitable.

"Digital is really not a cash cow, and that is the problem."

Sales and marketing manager at a receiving venue

For example, for performing arts organisations, the kind of variable pricing typically practised in venues (£20 or less for upper balcony seats; £80 or more for stalls seats) is impossible: online, most consumers are willing to pay £5-15. Many organisations experimented during the pandemic with differential pricing, for example, adopting a 'pay what you feel' model (Cantrill Fenwick 2020). However, higher ticket prices were not linked to a more valuable product – they were simply opportunities for supporters to offer donations. Our case study with Bournemouth Symphony Orchestra demonstrated that despite high online sales, which in May 2022 remained buoyant at about 800 tickets per concert, per-ticket yield is typically only £8 to £9 – drastically lower than for in-person tickets.

Furthermore, much digital activity during the pandemic was based on workarounds. In particular, artists often worked for reduced (or no) royalties. This is no longer the case, but as there is no standardised digital licensing model for the performing arts, organisations still need to use individual agreements that can end up being time-consuming and costly. 50% of respondents in our follow-on surveys highlighted the need for an effective sector-wide digital rights framework. Work is currently taking place within the performing arts sector to develop a framework that ensures the value of digital cultural content is shared by all those producing and contributing to its creation, but the challenges are significant.

The above data suggests that the only way to generate a profit from streaming content is by reaching a mass viewership, something that only the very largest organisations with international brands can achieve. Even Opera North, a large organisation with a highly successful streaming service, aims only (and does not yet quite manage) to cover the costs of producing its livestreams.

In the absence of a clear route to profitability, it may be that organisations could instead perhaps learn from business models used in other – more lucrative – sectors of the creative industries. That is precisely what The Tank Museum has done.

Case Study: The Tank Museum

YouTube is currently used by 98% of 18-34 year-old internet users each month (Sweney 2022).

The Tank Museum joined the YouTube partner programme in 2018, and now looks to YouTube influencers rather than other cultural organisations for inspiration on how to generate revenue. Direct advertising yield from YouTube is relatively low (about £3,500 per year), but with over 380,000 subscribers, its videos provide a gateway to memberships, sponsorships, and online merchandise sales that typically generate about £160,000 income.

The Tank Museum also partners with video gaming company Wargames and has monetised content through their **World of Tanks** game. For example, for **Tankfest 202**0 the museum collaborated with Wargames to sell digital replicas of their famous Tiger 131 tank and 'camouflage bundles' from famous tanks that players could apply to their own avatars within the game. Over £57,000 was raised by selling these bundles.

Image courtesy of The Tank Museum

▶ Funding is crucial, but currently piecemeal and irregular

Respondents to our follow-on survey identified three key sources of funding for their digital projects: NPO or equivalent funding (75%), the UK government's Culture Recovery Fund (50%), and monetisation of digital content (44%).

In this context, it is unsurprising that following the end of the Culture Recovery Fund and the redirection of budgets back towards in-person programmes, the accelerated digital experimentation that took place during the first eighteen months of the pandemic did not last (Holcombe-James 2021). Indeed, a number of our interviewees referred to their digital activities of this period as 'unsustainable'.

It is worth noting, however, that the perceived unsustainability of digital programmes is typically premised on the expectation that they should break even: they are unsustainable because, so far, they cannot pay for themselves. Yet in a context where so many in-person cultural programmes require public subsidy to occur at all, to expect digital programmes even to break even is to judge their viability using different benchmarks to those used for live programming.

Touring programmes are typically subsidised in order to widen access to arts and culture beyond metropolitan performance and exhibition venues. The potential of digital distribution to achieve similar aims has been widely acknowledged throughout our engagement with arts and culture organisations: for example, accessibility-related answers dominate the responses to our follow-on survey questions asking what have been the main benefits of organisations' digital activities, and what the goals of these activities are (Figures 1 and 5).

Yet this widespread acknowledgement of the accessibility value of digital programmes seems not to be having a lasting impact on how organistions allocate their budgets.

Organisations of course have significant freedom in how much of their budgets to put into digital activity, so to some degree the onus is on them to fund their own digital access initiatives. But when faced with the fixed costs of buildings and the need to maintain in-person programmes to populate these buildings, it is unsurprising that digital programmes are vulnerable to being deprioritised.

So what can be done to encourage organisations to reprioritise digital access? Survey respondents cited three main obstacles: limited profit potential (81% agreed or strongly agreed), not knowing what digital activities work best (56% agreed or strongly agreed), and difficulty securing funding (50% agreed or strongly agreed).

In light of the fact that generating profits and creating high quality content may be a gradual process, perhaps funding can form an effective short-term means of incentivising digital accessibility.

This certainly seems to be what arts and culture organisations want: when asked what future digital support would be the most useful for them, 81% cited more funding. However, in the absence of increased funding, adjusting current funding structures in such a way that they further incentivise on-going digital programmes could also have positive results.

Currently, Arts Council England (ACE) allows the use of NPO funding for digital activities, but there are no formal requirements or expectations around this, beyond its requirement that organisations receiving over £250,000 provide digital policy reports. ACE currently also offers project grants for a range of digital activities including production of immersive works; artists' film, video, animation, and audio; digital distribution of live content; and digitally-enabled learning about creativity and culture. Various organisations including Garfield Weston, Jerwood Foundation, and The Space also offer funding for digital projects.

Many projects funded in this way end up online and benefit participants with accessibility needs. However, as Katie Moffatt recently noted (2021), one-off funding schemes cannot underpin sustained digital capacity building. It seems that, at present, it rests on individual organisations to restructure their finances if they want to prioritise digital access.

Yet to expect arts and culture organisations to prioritise digital accessibility themselves, in the absence of external motivators and at the cost of other activities, seems optimistic. For this reason, we believe there is good reason to accept our interviewees' arguments that funding is currently key to their future digital innovation.

6.4.   The future of arts and culture in hybrid

"Often digital is the answer to the question, which it didn't used to be."

Jo Taylor, Director of Audiences, Rambert

"Digital is not about marketing; it's integrated into all our activities – it's about sharing work and keeping audiences close like touring bands do."

Simon Parker, Digital Producer, Wise Children

The 2019 Digital Culture survey (ACE and Nesta) suggested that arts and cultural organisations were hesitant to embed digital technologies in their business models. Although the Internet was already commonly used for marketing in the pre-pandemic world, creative digital projects still at the time tended to be siloed within individual departments. Recent research (e.g. AHRC and DCMS 2021; Bradbury et al. 2021) provides preliminary evidence that the pandemic has accelerated digital transformation and digital business model innovation in arts and culture. Our research provides ground level confirmation of these findings.

Though unprecedented, the digital innovation that took place during the first two years of the pandemic was also starkly necessity-driven. That necessity has now abated, and so may the innovation. For this reason, in this final section we highlight a few fundamental lessons learnt from the many creative experiments we have been privileged to witness during this study. Together, these lessons point to the importance of continued R&D into how technology can be used to help achieve accessibility and inclusion goals. They also highlight the risk that, without this experimentation, emergent technologies may instead generate new barriers to engagement.

► The 'substitution effect' is a myth

In several interviews, we found evidence of anxiety among arts and culture providers about a perceived 'substitution effect' in which digital activities cannibalise in-person activities. For example, one high-profile touring theatre company performed a live show in autumn 2021 at receiving houses throughout the country, and also created an imaginative and technically sophisticated VoD version of the show. Their operations manager reported that most receiving houses refused to host the VoD version of the show on their websites; the few that did agree to do so did not publicise it widely. As a result, by the end of its three month tour, the VoD of this hugely popular live show had sold only 50 tickets.

Yet throughout our primary and secondary research, we have found no evidence either of a sector-wide substitution effect or of any specific examples in which digital engagement eroded in-person engagement. In fact, the opposite seems to be true: our analysis of data from Indigo's **Digital Experience** survey revealed that positive experiences associated with organisations' online offerings made participants overall more likely to engage with the organisation in person. This was particularly marked among young people (Figure 16).
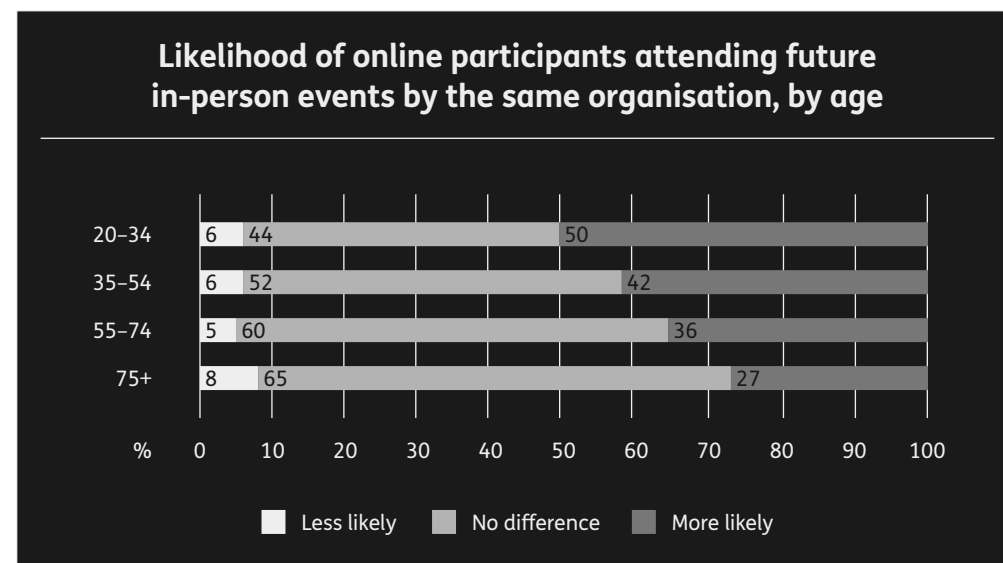

Figure 16. Source: Own elaboration using data from Digital Experience Survey

These findings suggest that, rather than competition between live and online arts and culture, there is complementarity. Figures 11 and 12 similarly suggest a ´complementarity effect´, in particular for participants from ethnic minorities. This data suggests that online content has the potential to act as a gateway for in-person engagement and can play an active role in organisations' strategies for bringing new and more diverse participants into their buildings.

▶ Hybrid arts and culture offers more routes to engagement

The pandemic has led to an unprecedented hybridisation of millions of people's working and leisure lives. Irrespective of the debates around digital activity taking place within the arts and culture sector, hybridity is already a fact on the ground. Unsurprisingly, the hybridisation of everyday life is already seeping into people's attitudes towards arts and culture. Figures 11, 12, and 13 all indicate that, across diverse demographics, a large proportion of people intend in future to engage with arts and culture both in person and online. Notably, the number of d/Deaf and disabled people who intend in future to engage with arts and culture either online alone or online and in person is double the number that intend to engage only in-person with it.

The future of arts and culture will not be digital or in-person, it will be both, in tandem. There is no zero sum game here. When we asked in-person attendees of **CripTic Pit Party** what accessibility features they most valued, 56% regarded online performances as 'essential' and a further 33% as 'desirable' – even though they had just attended in person. The lesson is simple: the more routes that exist for engaging with arts and culture, the easier it is to engage with, and the more inclusive it can become. In this context, it is worth echoing the point made by Jess Thorpe, Artistic Director (Engagement) at Dundee

Rep that there should be no hierarchies between on-site, outdoor, and online activities. All can provide valuable and unique routes to engagement, and all should therefore be integral to organisations overarching accessibility and inclusion strategies.

"Technology is a site of culture in itself"

Kay Watson, Head of Arts Technologies, Serpentine Galleries

▶ Inclusive design improves accessibility for all

Providing online content is not in itself sufficient to improve accessibility: crucial here is how technology is used.

One theme to emerge from our interviews is the need to develop new and more engaging forms of digital content that can compete with wider online culture. For example, Tadeo Lopez-Sendon, Online Producer at Abandon Normal Devices, notes that younger people want the same choice of when and how to engage with online art that they have with other media. He therefore sees hybridity as being most effective when it involves multi-format content, rather than just livestreams of venue-based events.

Another theme, whiich emerged from a webinar on accessibility that the project team produced with The Space, is that accessibility is intertwined with usability. Speaking in the webinar, Ash Mann (Managing Director of design agency Substrakt) noted that if an organisation makes content more accessible, it becomes more usable, so more people (including those who do not identify as having accessibility needs) can engage with it. He continued by noting that many people now engage with cultural content in sub-optimal conditions – on trains, outdoors, etc. – where screens may be small and audio may mix with ambient sound. Accessibility features can also improve the quality of these imperfect cultural experiences.

'Inclusive design' posits that designing for the widest range of people creates better design, and benefits more people. The lesson is clear: addressing the accessibility needs of users with protected characteristics has a positive ripple effect on everyone. But of course, doing so takes commitment and money, on which subject we leave

"Remote working has helped to remove inertia around access. Bringing BSL interpretation or captioning to streamed and archive work has never been easier, nor has its lack been more apparent. Artists working creatively with remote presence and audiences lapping up interactive experiences from home have allowed us access to creative works without the need for carbon-fuelled travel to inaccessible venues. The sector must hold on tight to these advances and work towards securing a regular budget line for these practices in every project. It is vital that this is not lost in a rush to get back to the real world, the old world with its own demands, where access is the first budget line to be cut. It's worth reiterating, a budget is a moral and political document."

Jason Crouch, Digital Dramaturg (from Svich 2021)

▶ **Technology-driven accessibility is coming to live arts and culture**

"It is crucial that anything online is accessible in terms of audio description and captions and signing."

Survey respondent, CriptTic Pit Party

One very specific, but hugely significant, accessibility advance of the last two years is the normalisation of closed captions. Once considered an 'add-on', captioning is now regarded as an essential element of all streaming video, not just film and television. Captions are routinely used by large numbers of arts participants: a recent survey for Stagetext suggests that 67% of people 'sometimes find it difficult to hear what is happening when watching TV or live performances'; 24% of people have captions switched on at home all the time, and a further 26% use them some of the time.

The normalisation of captioning has been facilitated by the fact that most major video platforms including YouTube and Vimeo now offer

AI-supported auto captioning, making the delivery of captions easier than ever before. Live captions still yield variable results, but even here the technology is constantly improving.

Venue-based captions are not as far developed. Though 67% of respondents to the **CripTic Pit Party** survey regarded captions as 'essential' and 33% regarded them as 'desirable', the vast majority of in-person arts events do not offer them.

With sufficient will, that could soon change. Recent technological advances in live captioning are just the start of what could become an accessible tech revolution. Mobile phones and wireless headphones are already frequently used for audio tours in museums, and the museum sector is also seeing a resurgence in the use of QR codes to provide rich content. The ability to use personal devices during in-person activities makes possible the use of the many accessibility features that are typically built into phones and tablets. With the emergence of AR headsets, a further phase of accessible tech is approaching, in which captions and BSL translation may become an option for all live performances.

To provide a taste of what is already possible, we conclude this section with a case study outlining the various accessibility options recently made available for English Touring Theatre's immersive AR installation **Museum of Austerity**.

Case Study: The Museum of Austerity

The Museum of Austerity is a mixed reality installation by Sacha Wares and John Pring, co-produced by English Touring Theatre, the National Theatre Storytelling Studio and Trial & Error, with creative technology by All Seeing Eye and Dimension Studios. It recounts the personal stories of disabled benefit claimants who died between 2010 and 2020, and invites participants to reflect on the human cost of austerity. Wearing HoloLens 2 mixed reality 'smartglasses', participants are able to walk around a room, encounter volumetrically captured images of individual victims of austerity, and hear their stories as told by surviving friends and relatives.

The experience features an extensive menu of innovative technologically-enabled accessibility features, which participants are able to choose from before the performance. Options include:

▶ Mental health safeguards, including the option to remove elements of the narrative that featured specific forms of trigger content.

Image courtesy of Trial & Error. Photo copyright Ellie Kurttz. Digital composition: Will Young.

▶ In-headset captions

▶ Audio description for blind and partially-sighted participants, that seamlessly integrates with the audio testimonies, and a spatialised soundtrack that responds to the participant's movement in space.

▶ Stationary and sighted guide versions for blind participants.

▶ Multiple options for controlling audio and integrating the installation with hearing aids, including the option of experiencing the work without background audio.

Crucially, all of these features are available throughout the exhibition, and are not mutually exclusive: individual users are free to choose whatever combination of features works for them.

Much of the technology is new, and industry standards around accessible XR do not yet exist, so the director applied for an ACE grant to enable extensive consultation and user testing.

Full details of the installation's 20+ accessibility features are available on the English Touring Theatre website.

7. Opportunities, challenges and recommendations

Opportunities

▶ **Online content can address multiple accessibility needs simultaneously.** Online, users can select closed captions, audio descriptions, and increasingly also BSL interpretation – individually or in combination. Digital accessibility features lead to benefits even for people who do not identify as having accessibility needs: for example, 50% of people use captions at home.

▶ **Online content is itself an accessibility feature.** Putting content online allows users to engage with it in a relaxed environment, and lowers material and cultural barriers to access associated with physical venues.

▶ **Digital features have the potential to radically improve the accessibility of on-site activities.** Digital accessibility is already feeding back into venues, for example through the use of QR codes in museums and AR glasses to provide captions. Could venues soon offer extensive menus of accessibility options that can be tailored to participants' individual needs?

▶ **Online participation can feed in-person participation.** The existence of a sector-wide 'substitution effect' is a myth. On the contrary, our research suggests the presence of a 'complementarity effect': digital engagement often encourages in-person engagement, especially among younger people and people from ethnic minorities.

▶ **Hybrid programming has the potential to achieve broader inclusion goals.** Programmes that include a diverse mix of live and online activities allow organisations to meet their communities wherever they are, rather than expecting people to come to them. Online participants are younger and more ethnically diverse than in-person visitors, which suggests huge potential for digital tools to engage new and more diverse participants.

Challenges

▶ **Accessibility features still have limited availability.** Specific accessibility features including BSL interpretation are often absent from in-person and online activities, while in-person acessibility options are usually offered selectively (for example, with features such as audio description or relaxed performances only available individually, and only for occasional specific events).

▶ **Online delivery is still often not regarded as an accessibility feature.** Though its access benefits are widely acknowledged, this acknowledgement has so far not translated into a sector-wide commitment to regard the availability of streaming content as an essential accessibility feature.

▶ **Many arts and culture providers still believe in the existence of a 'substitution' effect between live and digital activities.** Our research revealed evidence that various organisations, in particular producing theatres and receiving houses, still believe that digital activities 'cannibalise' live activities, and make programming decisions based on this presumption.

▶ **Digital content can generate new barriers to engagement.** Potential digital barriers include websites that are hard to read or navigate, or do not interact with users' accessibility tools; complex ticketing processes; videos without captions; hardware requirements (e.g. XR headsets); and lack of on-boarding for digital experiences.

▶ **Sector-wide inclusion and diversity gains from hybrid delivery remain latent.** The potential for hybrid live and online programmes to attract younger, historically excluded, and more ethnically and culturally diverse participants has so far only been achieved through specific projects. Sector-wide, online arts participation has tended to replicate in-person participation (Walmsley et al. 2022).

Recommendations: for arts and culture organisations

▶ **Incorporate accessibility best practices into budgets.** Accessibility is not an 'add on', and the delivery of features including captioning, audio description, and BSL needs to be fully resourced. Accessibility is not the place to cut corners.

▶ **Conduct extensive user journey mapping.** A cultural experience starts when we first hear about it and ends when we last think about it. Accessibility and usability need to be approached holistically, and to form an integral part of the design of any digital platform, process, or experience.

▶ **Address previously invisible accessibility needs.** The pandemic has revealed barriers to engagement for many people previously not perceived as having accessibility requirements – for example, those who are carers, who live in geographically remote areas, and who do not have easy access to transport.

▶ **Incorporate online provision into accessibility strategies.** Not everything can be offered online, but it is important to offer opportunities for engagement to people who cannot visit venues.

▶ **Use all available routes to engagement.** By continuing to work within their venues and out with their communities, in-person and online, organisations can develop a diversity of routes to engagement, as well as an ability to withstand future shocks if specific routes to engagement are again temporarily closed down.

▶ **Use multiple formats and platforms for digital distribution.** Diversifying digital routes to engagement can also significantly increase reach. For example, livestreamed performances are popular with older participants, while younger participants tend to favour on-demand and more technologically innovative content. There is no opportunity cost to offering both.

▶ **Experiment with new forms.** Livestreamed concerts and curator tours have become a mainstay of online arts and culture, and can provide high quality experiences. However, if digital activities aim only to replicate in-person experiences, they risk being regarded as 'second-best' options. It is important that organisations also expore the potential of emergent digital tools and platforms to deliver digitally native content.

Recommendations: for funders and policymakers

▶ **Stipulate digital as well as in-person accessibility requirements.** For example, closed captioning is now widely regarded within the creative industries as a requirement for all streaming video. Audio description and BSL interpretation are now widely regarded within the arts and culture sector as standard practice for online events including conferences and workshops, and increasingly too for online performances.

▶ **Require all NPOs and equivalent to report on digital accessibility.** All NPOs and equivalent should be required to produce digital policies as a condition of funding; these should also address how organisations' digital activities can contribute to their accessibility goals.

▶ **Ringfence funding for accessibility.** Could organisations be required to spend a certain proportion of their funds on accessibility? Among disability activists, a figure of 15% has been cited as a proportion of organisations' overall budgets that could reasonably be committed to accessibility (Hale 2021).

▶ **Incentivise digital capacity building.** Could the ways in which funding is currently provided for digital projects and digital R&D be adjusted to further inentivise long-term capacity-building?

▶ **Support R&D for digital accessibility tools.** Personal devices offer huge potential to facilitate individualised accessibility options for live and venue-based activities. Accessibility tech could be embedded more quickly as standard practice within the sector if policy makers and funders would highlight it as a priority, and facilitate collaborations with the tech sector to implement it.

▶ **Develop a framework for digitisation and diversification.** Recent research suggests that 'audience development' is not enough to diversify participation; organisational change also needs to be facilitated (Glow 2021). Frameworks such as Australia Council's 'Leading Change Audience Diversification Model' can support arts and culture organisations in diversifying their workforce, their programmes, and 'audiences'. Could such models be adapted to also facilitate inclusive digitisation?

8. Afterword

In the Good Thing Foundation's Digital Inclusion and Exclusion in the Arts and Cultural Sector report for Arts Council England, Jane Mackey (2021) warns that the financial crisis in the arts and culture sector might soon become so severe that organisations may be tempted to prioritise revenue generation over inclusion. She throws the ball to funders, and concludes that it is the responsibility of ACE and other national arts funders to ensure that organisations can continue creating inclusive digital experiences beyond the pandemic, and that monetisation goals do not compromise inclusion goals.

Our interview data did not show any evidence of arts and culture organisations consciously prioritising monetisation over inclusion. On the contrary, most research participants stressed the duty of their publicly-funded organisations to make their content as accessible as possible. Nonetheless, the reduction in streaming content evidenced within the performing arts over the last eight months suggests that Mackey's warning needs to be heeded.

We believe it is essential that the sector learns from and continues to develop the tentative steps taken by many organisations in the first two years of the pandemic towards a radical reimagining of accessibility as a multiplicity of options, available to everyone, for engaging with arts and culture on their own terms and according to their own needs. If our ultimate collective goal is that in the future there should be no barriers at all to engaging with art and culture, then let us take every route possible to reach that destination.

9. References and appendices

Appendix: list of organisations/individuals interviewed

Pitlochry Festival Theatre

Open Inclusion

Crossover labs

Dundee Rep

Blast Theory

Talawa Theatre Company

Deafinitely Theatre

Black Country Living Museum

Tank Museum

Paraorchestra

Tickets for Good

Shunt

Homotopia

English Folk Expo

Open Sky Theatre

Russell Maliphant Dance Company

Serpentine Galleries

Scottish Ballet

Abandon Normal Devices

Nofitstate Circus

Darkfield

[Anonymised]

Substrakt

Wise Children

VOV/Outset

Royal Court

Opera North

Rambert

Battersea Arts Centre

Bournemouth Symphony Orchestra

Imitating the Dog

Substrakt

Jamie Hale

English Touring Theatre

CogDesign

The Lowry

Jason Crouch

References

ACE (2020) LET'S CREATE - Strategy for 2020-2030, Arts Council England. Available at: https://www.artscouncil.org.uk/sites/default/files/download-file/Strategy 2020_2030 Arts Council England.pdf (Accessed: 3 March 2022).

ACE and Nesta (2019) Digital Culture 2019. Available at: www.artscouncil.org.uk (Accessed: 3 March 2020).

AEA Consulting (2016) From Live-to-Digital, Understanding the Impact of Digital Developments in Theatre on Audiences, Production and Distribution. Available at: https://www.artscouncil.org.uk/sites/default/files/download-file/From_Live_to_Digital_OCT2016.pdf (Accessed: 23 May 2022).

Aebischer, P. and Nicholas, R. (2021) Digital Theatre Transformation: A Digital Toolkit – Big Telly. Available at: https://big-telly.com/uncategorized/annabelle-tempest/ (Accessed: 23 May 2022).

AHRC & DCMS (2021) Boundless Creativity report. Available at: https://www.gov.uk/government/publications/boundless-creativity-report/boundless-creativity-report (Accessed: 17 March 2022).

Beattie, R. (2021). How to make your content accessible. https://digitalculturenetwork.org.uk/knowledge/webinar-how-to-make-your-content-accessible (Accessed: 17 March 2022).

Becker, H.S. (1982 [2008]). Art worlds. University of California Press, Berkeley.

Bolter, J. D. (2006). The desire for transparency in an era of hybridity.

Leonardo, 39(2), 109-111.

Bourdieu, P. (1993) The Field of Cultural Production: Essays on Art and Literature. Columbia University Press. New York.

Bradbury, A. et al. (2021) The Role of the Arts during the COVID-19 Pandemic. London.

Brook, O., O'Brien, D. and Taylor, M. (2020) Culture is bad for you: inequality and the cultural and creative industries. Manchester University Press.

Camilleri, F. and Kapsali M. (2020) On Hybridity, Performance Research, 25(4), 1-6. Couchot, E. (2002) Digital Hybridisation: A Technique, an Aesthetic. Convergence, 8(4), 19–28.

Cantrill Fenwick, R .(2020). What can - and should - you charge digital audiences? Arts Professional. Available at: https://www.artsprofessional.co.uk/magazine/article/what-can-and-should-you-charge-digital-audiences (Accessed 5 June 2021).

DCMS (2019) Culture is Digital. Available at: https://www.gov.uk/government/publications/culture-is-digital (Accessed: 18 May 2020).

Ebrey, J (2016) The mundane and insignificant, the ordinary and the extraordinary: Understanding Everyday Participation and theories of everyday life, Cultural Trends, 25(3), 158-168.

Finkel, R., Sharp, B., Sweeney, M. (eds.) (2018) Accessibility, inclusion,

and diversity in critical event studies. Routledge. Abingdon.

Finkel, R. and Dashper, K (2020) Accessibility, Diversity and Inclusion in Events. in S.J. Page and J. Connell (eds.). The Routledge Handbook of Events (pp. 475-490). Routledge. Abingdon.

Good Things Foundation (2021) Digital Nation UK 2021. Available at: https://www.goodthingsfoundation.org/insights/building-a-digital-nation/ (Accessed: 23 May 2022).

Glow, H., Kershaw, A., Reason, M. (2021) Leading or avoiding change: the problem of audience diversification for arts organisations, International Journal of Cultural Policy, vol. 27, no. 1, pp. 130-148, doi: 10.1080/10286632.2019.1709060.

Griswold, W. (2008). Cultures and societies in a changing world. 3d ed. Thousand Oaks. Pine Forge, CA.

Haferkorn, J., Kavanagh, B. and Leak, S. (2021) Livestreaming Music in the UK: Report for Musicians. Available at: https://livestreamingmusic.uk/report.

Hill, A. (2021) 'Virtual contact worse than no contact for over-60s in lockdown, says study ', The Guardian. Available at: https://www.theguardian.com/world/2021/jul/26/virtual-contact-worse-than-no-contact-for-over-60s-in-lockdown-says-study (Accessed: 25 May 2022).

Holcombe-James, I. (2021) 'Digital access, skills, and dollars: applying a framework to digital exclusion in cultural institutions',

Cultural Trends. doi: 10.1080/09548963.2021.1972282.

Hu, Y. and Qian, Y. (2021) 'COVID-19, Inter-household Contact and Mental Well-Being Among Older Adults in the US and the UK', Frontiers in Sociology, 6, p. 143. doi: 10.3389/FSOC.2021.714626/BIBTEX

Indigo Ltd. (2021a) Culture Restart Toolkit. Indigo Ltd. Available at: https://www.indigo-ltd.com/culture-restart-toolkit (Accessed: 25 May 2022).

Indigo Ltd. (2021b) Missing Audiences. Indigo Ltd. Available at: https://www.indigo-ltd.com/research-programmes/missing-audiences (Accessed: 25 May 2022).

Leguina, A., Mihelj, S., and Downey, J. (2021). Public libraries as reserves of cultural and digital capital: Addressing inequality through digitalization. Library and Information Science Research, 43(3).

Mackey, J. (2021) Digital Inclusion and Exclusion in the Arts and Cultural Sector. Arts Council England. Available at: https://www.artscouncil.org.uk/publication/digital-inclusion-and-exclusion-arts-and-cultural-sector (Accessed: 23 May 2022).

Manninen, K. et al. (2021) 'Digital Business Models for Performing Arts', in British Academy of Management Conference 2021. Available at: https://cdt-students.wp.horizon.ac.uk/wp-content/uploads/2021/11/DigitalBusinessModelsForPerformingArts.pdf (Accessed: 23 May 2022).

Macfarland, C., Agace, M. and Hayes, C. (2020). Creativity, culture and connection. Responses from arts and culture organisations in the COVID-19 crisis. Common Vision. London. Available at: http://covi.org.uk/dev4/wp-content/uploads/2020/09/Creativity-Culture-and-Connection_Common-Vision-report_September-2020.pdf (Accessed: 25 May 2022).

Mann, A. (2021). Making Content Fully Accessible. Available at:

https://www.artsprofessional.co.uk/magazine/347/feature/making-content-fully-accessible (Accessed: 9 April 2022).

Merendino, A. and Meadows, M. (2021) The Museums Sector: Be Digital to Be Strategic. Coventry, UK. Available at: https://www.coventry.ac.uk/globalassets/media/global/08-new-research-section/cbis/projects/museums-sector_be-digital-to-be-strategic_online.pdf (Accessed: 9 September 2021).

Mihelj, S., Leguina, A., and Downey, J. (2019). Culture is digital: Cultural participation, diversity and the digital divide. New Media and Society, 21(7), 1465–1485.

Moffat, K. (2022). Paying for digital. Arts Professional. https://www.artsprofessional.co.uk/magazine/article/paying-digital (Accessed: 24 April 2022).

MTM (2018a) Arts Council England: Canvas programme evaluation. Available at: https://www.artscouncil.org.uk/sites/default/files/download-file/Canvas (Accessed: 22 April 2022).

MTM (2018b) Live-to-Digital in the Arts. Available at: https://www.artscouncil.org.uk/sites/default/files/download-file/Live-to-Digital in the Arts Final Report 25 05 18.pdf (Accessed: 23 May 2022).

Ortega, É. (2020). Media and cultural hybridity in the digital humanities. PMLA, 135(1): 159-164.

StageTEXT (2021) Hidden Hard of Hearing Community Revealed by Lockdown Captioning . Available at: https://www.stagetext.org/news/hidden-hard-of-hearing-community-revealed-by-lockdown-captioning/ (Accessed: 24 May 2022).

Svich, C. (2021) Toward a Future Theatre: Conversations during a Pandemic. Bloomsbury. London.

Sweney, M. (2022) Channel 4 strikes deal to air 1,000 hours of hit shows for free on YouTube , The Guardian. Available at: https://www.theguardian.com/media/2022/may/11/channel-4-strikes-deal-to-

air-1000-hours-of-hit-shows-for-free-on-youtube (Accessed: 25 May 2022).

The Audience Agency (2022) Cultural Participation Monitor. Available at: https://www.theaudienceagency.org/evidence/covid-19-cultural-participation-monitor (Accessed: 25 May 2022).

Torreggiani, A. (2021) 'Win-win for disabled arts-lovers and the sector', Arts Professional. Available at: https://www.artsprofessional.co.uk/magazine/article/win-win-disabled-arts-lovers-and-sector (Accessed: 24 May 2022).

UK Parliament (2022). The impact of digital technology on arts and culture in the UK. UK POSTNOTE The Parliamentary Office of Science and Technology, Number 669 May 2022. Available at: https://researchbriefings.files.parliament.uk/documents/POST-PN-0669/POST-PN-0669.pdf (Accessed: 25 May 2022)..

Walmsley, B (2019) Audience engagement in the performing arts. A Critical analysis. Palgrave Macmillan. London.

Walmsley, B. et al. (2022) Culture in Crisis Impacts of Covid-19 on the UK cultural sector and where we go from here. Available at: https://www.culturehive.co.uk/CVIresources/culture-in-crisis-impacts-of-covid-19/ (Accessed: 4 February 2022).

Webster, L. (2021) '"We know they can do it when it suits them": theatre became more accessible during Covid. Will it last?', The Guardian. Available at: https://www.theguardian.com/stage/2021/oct/15/we-know-they-can-do-it-when-it-suits-them-theatre-became-more-accessible-during-covid-will-it-last (Accessed: 24 May 2022).