CONSIDERING THE POTENTIAL FOR INCREASING SUSTAINABILITY AT UK MUSIC FESTIVALS BY MONETISING ICT-ENHANCED CONTENT TO FUND REDUCTIONS IN OVERALL ON-SITE CAPACITY

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Introduction

Deployment of information communication technologies ('ICT') is increasingly influencing audience experience at music festivals, where improved sustainable practices are required. New business models which utilise environmentally sound ICT to deliver live content may have the potential to significantly reduce on-site environmental impacts of live musical performances. However, potential enhancements to sustainability require consideration of viability, negative impacts of digital consumption and perceptions of what constitutes an authentic live experience at music festivals.

This chapter analyses existing literature and builds on previous research to inform a view-point article, which can involve 'one practitioner offering an engaging and perhaps provocative opinion on a topical issue' (McCloskey 2017: 2). It considers concepts relating to sustainability, ICT-enhanced performance futures for music festivals and 'liveness'. Using Glastonbury Festival ('Glastonbury') as an exemplar, it responds to the suggestion that UK music festivals could improve their sustainability by growing online attendances to fund reductions in on-site capacities (Bossey 2022) and addresses the following questions:

- Could music festivals feasibly increase sustainability by reducing physical operating capacity?
- Could music festivals develop new business models to monetise ICT-enhanced content derived from on-site performances to increase overall income?
- What effect might perceptions of liveness in music festival experiences have on the successful uptake of ICT-enhanced content?

Literature review

Music festivals

Music festivals are 'large seasonal event(s)' with unique musical programmes intended to produce festivity (Holt 2021: 161). The importance of music, entertainment and added value are all crucial in audience member's overall music festival experiences, regardless of

socio- demographic characteristics (Brown & Sharpley 2019: 715). Nationally, audience motivation to attend outdoor music festivals has been strong and they are now an 'integral part of the British summer' (Anderton 2019: 1). as reflected by 35.3 million visits to UK outdoor music events in 2018 (Jackson, Blake and Hibbert 2019: 1). In 2019, the largest music festival in the world was Mawazine with an audience of 2,750,000 while Pol'and'Rock was the largest Europe with 750,000 attendees (Statistica 2022). In 2019, Glastonbury had the largest capacity in the United Kingdom at 210,000 people with Download second at 110,000 (Statistica 2021). Previously, Glastonbury increased attendance numbers incrementally over time, from 1,500 in 1970, through 70,000 in 1992 and 140,000 in 2002 (Glastonbury Festivals Ltd 2002). This exemplifies growth as the music festival sector became 'big business' (Mall 2020: 2) with higher audience capacities increasing the environmental impact of UK music festivals.

The climate emergency

Climate change is the 'defining crisis of our time' (United Nations 2022). In response, sustain- ability is 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (Brundtland 1987: 7). To advocate for change, over 11,000 world scientists 'clearly and unequivocally' declared a climate emergency in 2019 (Ripple et al. 2020: 1). To date, 409 UK Councils have formally declared a climate emergency (Climate Emergency UK 2022) as part of a global trend whereby declarations have been made in 2279 jurisdictions across 39 countries (Climate Emergency Declaration 2022). In doing so, jurisdictions have acknowledged their need to act on the causes and impacts of cli- mate change within their operations and sphere of influence. In the United Kingdom, local councils are the designated licensing bodies for music festivals (Department for Digital, Culture, Media and Sport 2015) with powers to decline applications. Mendip District Council is the designated licensing authority for Glastonbury and declared a climate emergency in 2019 (Mendip District Council 2019).

Designated licensing bodies and other relevant stakeholders will increasingly stipulate requirements and articulate preferences to increase the sustainability of music festivals.

Sustainable music festivals

Despite the wide range of excellent work being carried out in parts of the live music sector, the sheer scale and complexity of the challenge means that unfortunately 'there are no easy solutions to greening live music' (Brennan 2021: 129). In addition to the

moral need to address sustainability, music festivals must also respond to commercial considerations relating to consumer demand for unique experiences (Mintel 2019) and legislative requirement. The three 'ubiquitous' 'pillars of sustainability' (Purvis et al. 2018: 1) can be used to consider sustainability at music festivals. Selected elements of environmental, social and economic factors are explored below.

Environmental

While many music festivals ''still struggle to meet easily achievable environmental standards' (Hazel and Mason 2020: 2), UK music festivals are investing to increase their sustainable practice. Factors impacting sustainability for music festivals include procurement, power, materials use and circularity, food and beverages, water use and sanitation, behaviour and communications, transport, local community and ecological impacts, health and wellbeing, equality, diversity and inclusion and CO2 analysis (AGF 2022). Strong support and encouragement to implement change is available from a range of organisations including A Greener Future ('AGF'), Julie's Bicycle and Music Declares Emergency.

Although music festivals must continue to reduce their on-site impacts, they exercise relatively limited influence over audience travel, which accounts for 80% of an individual music festival's known CO2 emission (Johnson 2015: 2). Transport is the largest carbon dioxide emitting sector in the United Kingdom (Department for Business, Energy & Industrial Strategy 2022) and access to private transport is not equal across society. Local authorities making licensing decisions for UK music festivals must consider overall capacity and take factors relating to transport (including congestion and parking) into account, in addition to on-site factors (e.g. waste and water).

Glastonbury regularly wins awards for sustainable practice, including with AGF from 2007 onwards (AGF 2019). Glastonbury has a wide range of green policies and has been very active in implementing sustainability initiatives. For example, the festival banned plastic bottles in 2019 encourages recycling and installed a solar farm and anaerobic digester, which uses bacteria to decompose organic waste (Glastonbury Festival 2022). Environmentally, the festival aims to make 'incremental improvements year by year' (Glastonbury Festival 2022) however, Glastonbury was fined £31,000 in 2016 for polluting a local river and killing wildlife (Environment Agency 2016).

Social

UK music festivals must abide by The Equality Act 2010 to protect against discrimination in relation to age, disability, gender reassignment, marriage and civil partnership, race, religion or belief and sex and sexual orientation (Her Majesty's Stationary Office 2010). However, music festivals may generate social exclusion (Duffy, Mair and Waitt 2019) by preventing access to some sections of society, for example people who are deaf or disabled, which high ticket prices may exacerbate. Discrimination can be magnified 'when a person belongs to several different groups, each of which is subject to discrimination' (Steinfeld, Maisel, and Levine, 2012: 183) and poverty is often a shared factor between groups.

Over time, the cost to audience members of physically attending UK music festivals relative to inflation has increased substantially (Base 2018), despite growth in overall capacity within the sector. Currently, high ticket prices for commercial music festivals can exclude 'certain parts of the local community' (House of Commons 2021: 17) 'pricing out' working class people from live music (Jones 2022). 'Dynamic ticket pricing', which varies with demand, could further inflate prices (Rackham 2022). Any lack of inclusion is a self-defeating barrier to format innovation, as it reduces the potential for music festivals to co-create audience experiences, by excluding some individuals who contribute to co-creation as the so-called 'meaning-makers' (Robinson 2015: 8).

Glastonbury has stated that it's ethos is to maintain accessibility for members of the general public (Glastonbury Festival Events Limited 2017: 3). In 1982, Glastonbury was licensed for 25,000 attendees with tickets costing £8 (Glastonbury Festival 2022). In 2022, it had a 'cumulative maximum attendance for each event of up to 210,000' (Mendip District Council 2018: 12) with tickets costing £285 including booking fee. Although 2022 figures are not yet available; UK inflation averaged 3.5% per year between 1982 and 2021 meaning that £8 in 1982 was worth £30.04 in 2021 (Bank of England 2022). The £254.96 differential may be partly explained by significant rises in production costs for music festivals, driven by factors including stricter licensing requirements, it pays significantly less in performer fees than other major festivals (BBC 2017). While Glastonbury delivers secondary, less expensive, events targeting the local community, it's high-ticket prices never-the-less exclude poorer members of society, whose ability to participate is impacted by economic disadvantage (Davies et al. 2023: 52).

Economic

Where possible, music festivals should seek to procure products and services locally to ensure a sustainable local impact of their activities. Music festivals create economic impact through direct spend of festival attendees and may 'increase the visibility of host communities' (Pereira et al. 2021: 1520) in an economically beneficial manner. Music festivals create increasingly significant hire income for local authorities and park services (House of Commons 2021). Furthermore, music festivals can proactively contribute towards advocacy organisations by raising money for charity. COVID-19 lockdowns stimulated observable growth in demand for on-line music content from UK audiences which has partially sustained (Walmsley et al 2022). However, the live music sector generally was extremely adversely affected by COVID-19, prompting uncertainty around the future (Khylstova et al 2022) which persists. This insecurity, combined with effects of the 'cost of living crisis', challenges the economic sustainability of music festivals.

Prior to COVID-19, Glastonbury generally reported a healthy profit emphasised that ticket price increases increased 'solely to try and ensure sufficient profits were generated to preserve the working capital levels after making full payments to the core charities' (Glastonbury Festival Events Limited 2017). Post-COVID-19, the festival is again profitable (Glastonbury Festival Events Limited 2022). Glastonbury is a driver of cultural tourism and regularly supports three joint charities, Oxfam, Greenpeace and Water Aid (Glastonbury Festival 2022), as well as raising money for local charities. In 2019, Glastonbury raised £3 million for charity (Warrenger 2019) generating £409,000 for Water Aid (Water Aid 2020) as a significant economic impact. Additionally, profits from television contribute towards Glastonbury's charitable aims (The Television Company 2023) with the potential for growing income from filmed content through ICT.

ICT-enhanced futures

ICT incorporates a wide spectrum of technological resources or tools 'used to transmit, store, create, share or exchange information' UNESCO (2019) including live and recorded broad- casting technologies. The music industry has enthusiastically adopted ICT displacing previously dominant physical formats (Askin and Mol 2018). Potential ICT enhancements for live music performances include social media, enhanced production, live streaming, holographic performances, virtual reality ('VR') and augmented reality ('AR') (Van Winkle and Bueddefeld 2020, Bossey 2020). However, there is a risk that inherent accessibility issues within ICT- enhanced content may create new instances of exclusion at music festivals (Bossey 2020).

In a 2019 survey, 61% of respondents who were aged 16+ and internet users who had been to a music event or festival in the last 12 months reported that they had used a smartphone app designed for a festival and 54% had shared content from a music event on social media (Mintel 2019). These behaviours utilise ICT to build or enhance feelings of belonging and 'communitas' (Turner 1969: 94) which has been considered important to audiences while on- site at music festivals. This supports Radbourne et al. (2014) who identified that audience expectations for, and emotional engagement with, live music are changing as new technologies develop.

For some audience members, the experience of live music performance is 'not simply and only dependent on an individual actually "being there"' (Burland & Pitts 2014: 175). This aligns with Auslander (2008) who suggested that live performances are generally produced to create media content, for example a televised performance, and subsequently proposed that 'liveness' can no longer be defined in terms of geographically co-located human interactions (Auslander 2012: 6).

Auslander's position contrasts with Phelan's notion of 'classic liveness' (1993: 146) which argued against ICT enhancements, because 'performance's only life is in the present (it) can- not be saved, recorded (or) documented'. Phelan's traditional view of the live music experience being created during a 'face-to-face meeting between artist and fan' (Bennet 2015: 3) persists among industry 'gatekeepers' (Bossey 2020) while conversely, mediatisation of music festival performances is also increasing simultaneously.

The obvious tension here is magnified by the importance of a sense of authenticity in satisfying most audience members' perceptions of a successful live music festival experience (Girish and Ching-Fu 2017: 1551). 'Existential authenticity' (Wang 1999: 352) is based around emotional response to an experience and appears crucial to the perceived validity of ICT-enhanced performances at music festivals (Bossey 2022). It follows that the extent to which audience members consider an ICT-enhanced performance to be authentically 'live' will likely impact on their engagement with it.

Glastonbury was first televised by Channel 4 in 1994 with the highlights show '4 Goes to Glastonbury' (John Peel Wiki 2022). The BBC commenced terrestrial coverage in 1997 and by 2016 the audience for Glastonbury had reached 18.9 million people (BBC 2017: 4). In 2021, the BBC launched a 'watch with friends' service on BBC i-Player to enable synchronous viewing of 50 archived performances (BBC 2021). Watch with friends also enabled viewers to access the 2021 pre-recorded live-stream version of Glastonbury, 'Live

at Worthy Farm', which was described as 'superb' (Petridis 2021: 1) despite experiencing 'technical issues' (ITV News 2021: 1) and having tickets priced at £20.00. The BBC introduced live streaming in 2013 (Challis 2013) and by 2022, Glastonbury was streamed 34.1 million times on BBC i-Player, including 23 million live streams, and played 2.3 million times on BBC Sounds (BBC 2022).

Impacts of digital consumption

Adopting sustainable approaches requires optimising the use of resources and implies the acceptance of alternative, environmentally sound strategies and technologies (UN Environment Programme 2020). It is difficult to ascertain the overall carbon footprint of digital consumption processes for live performances at music festivals. Globally, digital consumption processes generate 3.7% of greenhouse gas emissions (ClimateCare 2021) and cloud-based data centres storing and processing music use enormous quantities of resources and power (Brennan and Devine 2019).

Efficiencies are possible, for example Spotify decommissioned six of its seven data centres by transitioning to the Google Cloud Platform, claiming a reduced carbon footprint of almost 1,500 tonnes (Spotify 2018: 22). Despite this, some academics warn against 'digital solution- ism' whereby ICT is presented as an 'environmental saviour' (Kuntsman & Miyake 2022: 129) while 'hard-wired' environmental and social harms remain un-recognised or obscured.

Methodology

This chapter analyses existing literature and builds on previous research to inform a view-point article, which presents a summary and critical analysis of an issue of strong current interest. It is initiated by the author(s) and does not need to be accompanied by other perspectives providing differing views of the topic (Pugh 2012: 1). A viewpoint article can be potentially provocative (McCloskey 2017: 2) and is expected to present an accurate, scholarly summary of the topic, which is sharply focussed rather than comprehensive (Pugh 2012: 1). Viewpoint articles may focus on current advances or future directions of a topic and contain personal opinion, usually written by 'experts in their field' (Editage Insights 2020).

The research builds on earlier abductive research which supplemented knowledge with literature reviews and quantitative research 'to form and evaluate' explanatory hypothesis (Thagard & Shelley 1997: 413). The author has personal and professional

experience of Glastonbury, having attended regularly from 1982 to 2002, managed 1992 main stage head- liners Carter USM and watched terrestrial TV coverage annually. Furthermore, the executive produced ICT-enhanced 'networked performances' to public audiences at Falmouth University, from artists including Elton John and Pussy Riot.
The research constructs a conceptual framework to consider sustainability, ICT-enhanced performance futures for music festivals and 'liveness', against the 'three pillars of sustainability'. It considers UK music festivals generally, with Glastonbury, as a specific case study. The approach taken responds to Wilson, Arshed, Shaw and Pret (2017: 206) who recommended that 'festival studies embrace greater methodological diversity' and has been approved through institutional research ethics process. The research does not include identifiable respondents and focusses on ethical considerations involving UK music festivals. limitations of this chapter include a restricted scope in terms of art form and event format.

Discussion

Many negative environmental impacts of music festivals are directly proportional to the number of attendees, so reductions in on-site capacity will reduce impact. Furthermore, physical capacities at major festivals are intrinsically limited where audience demand exceeds ticket availability. This drives higher prices via secondary ticketing or dynamic pricing which 'fuels' exclusion as a significant social impact, where 'face value' ticket prices combined with trans- port and on-site spending already create financial barriers to inclusion. Limited physical capacities on-site affect elements of economic sustainability by limiting income potential for organisers from ticket sales through traditional pricing structures or on-site commercial activity. Potential financial benefits for charities supported by on-site music festivals are effectively 'capped', while conversely, on-line music distribution has almost unlimited audience capacity to monetarise.
Given the climate emergency, achieving greater reductions to the environmental, social and economic impacts of music festivals can be seen as a moral imperative. Furthermore, it is feasible that future licensing decisions from local councils regarding music festivals could potentially include requirements to reduce capacity as a response to the impact of transport on the climate emergency. Adopting a proactive approach to 'voluntarily' reducing physical audience capacities at larger music festivals would both further address

the moral issue of harmful impacts and create powerful advocacy messages for individual music festivals when applying to designated licensing authorities.

This chapter does not attempt to specify any set proportion by which physical capacities could/should be reduced, although an ambitious approach is encouraged. Using Glastonbury as an exemplar, a 10% reduction in capacity will be considered in this discussion. While Glastonbury does not represent a 'typical' music festival in terms of brand awareness/global reach, it could potentially lead the sector through innovation in this regard. Sustainability in relation to reduced capacities and enhanced ICT content is therefore discussed in relation to the three 'pillars of sustainability' using Glastonbury as a case study.

Environmental pillar

Once best practice mitigations have been put into place, many remaining negative environmental impacts of music festivals can be seen to be directly proportional to the numbers of attendees at any given music festival. It therefore follows that reducing physical audience capacities at music festivals will further reduce impacts relating to, for example, transport, waste and power.

Glastonbury has a 210,000 capacity for 2023 (Mendip District Council 2018) which was set in 2018 and is not time limited. Were Glastonbury to voluntarily adopt a 10% reduction in capacity to 189,000 for all future iterations post 2023 and apply the 21,000 reduction pro-rata across all attendee types, it could effectively reduce the impact of audience travel by 10%. If audience travel accounts for 80% of an individual music festival's known CO2 emission (Johnson 2015: 2), then this would equate to an 8% reduction in Glastonbury's overall CO2 emission, which would align with the stated aims to make 'incremental improvements year by year' (Glastonbury Festival 2022).

If the reduction was targeted at the most damaging types of audience travel, for example single use car journeys, then overall savings in CO2 emission would be proportionally more pronounced. Other savings should also be achievable at approximately 10% across most site-based impacts (for instance, those relating to power, materials use and circularity, food and beverages and water use and sanitation). These savings should supplement existing progress Glastonbury is making to increase sustainability, which should continue, by, for example, reducing waste.

Social pillar

Conceivably, enhanced ICT content may provide one potential solution to exclusion caused by substantial increases in cost, relative to inflation, to audience members physically attending music festivals (UK Parliament 2021). Utilising reasonably priced, accessible and interactive ICT-enhanced formats for music festivals could drive format innovation by increasing co-created audience experiences. This could include more co-creators (Robinson 2015) and aligns with recommendations that music festivals should attempt to advance inclusion through accessible digital experiences for people who are deaf or disabled (Bossey 2020).

Given that more than half of respondents surveyed by Mintel (2019) had shared content from a music event on social media, it is likely that 'communitas', as envisaged by Turner (1969), is being generated in on-line communities linked to music festivals. A growth in live streaming is evident across major UK commercial music festivals with Reading & Leeds (Moss 2022) and Wireless (BBC 2022) being live streamed by the BBC in 2022. While BBC coverage is 'free', it is possible to envisage 'pay per view' models. In some instances, it may be possible to adopt a 'hub and spoke' model whereby supplementary 'livecasts' (Baker 2013: 9) are introduced at cinemas/external venues. This could reduce exclusion to festival experiences engendering site-based 'communitas' by generating additional communal music festival experiences for local audiences, while drastically reducing audience travel. It is feasible that cost- efficiencies at additional locations would enable cheaper access for audiences compared to the main festival site.

Tickets for Glastonbury 2023 cost £335 plus a £5 booking fee (Glastonbury Festival 2022) so, in a simplistic 'worst case scenario', a 10% cut in capacity exclusively comprising full-price ticket sales would equate to a £7,035,000 reduction in gross income. Glastonbury already has a very significant digital reach, so is in an excellent position to innovate. With 23 million live streams generated at Glastonbury 2022 (BBC 2022), the entire £7,035,000 could be earnt back with an additional income of £0.31 per individual live stream. Indeed, it may be possible to further grow income utilising ICT and if so, Glastonbury could potentially reduce ticket prices for physical attendances, hopefully improving social sustainability.

Economic pillar

Adopting and monetarising an inclusive and accessible ICT-enhanced offer has the potential to 'democratise' access to significant commercial music festivals, simultaneously increasing both remote audience numbers and revenues received. A healthy business

model to monetarise ICT-enhanced content for iconic festival brands should be capable of more than making up for income lost from a 10% cut in physical audience capacity. Using an exemplar from another event sector, the English Premier League football clubs didn't achieve the majority of their significant growth in overall income between 2014 and 2022 from building exponentially bigger and bigger football stadia to grow matchday attendance. They did so by growing broadcasting income globally from remote audiences, which then helped justify increased sponsorship and merchandising incomes (Statistica 2022).

If monetarising ICT-enhanced content grew overall income above any 10% loss of ticket income for physically attending the festival, this could be deployed to increase charitable donations and economic sustainability. In a scenario where Glastonbury generated 23 million live streams, each additional £0.01 of income per individual live stream would generate £230,000. At this rate, an additional £0.27 per live stream would double charitable donations Glastonbury raised in 2019 (Warrenger 2019). The $7.99 monthly subscription for Disney Plus, which live streamed Glastonbury 2023 headliner Elton John's final US show (Muhammad 2022), further underlines the potential to transform Glastonbury's charitable fundraising.

Considering liveness

The scale of on-line and TV audiences for Glastonbury can be seen to support arguments that some audience members enjoy experiencing live music performance without actually 'being there' (Burland & Pitts 2014: 175) and that 'liveness' can be achieved remotely (Auslander 2012). It would therefore appear that targeting and further monetarising a growth in remote audiences watching live content remotely with friends should be a viable strategy for Glastonbury and other large commercial music festivals.

Recent research on 'liveness' at music festivals which piloted test liveness scales to 164 respondents identified 'traditional' amplified performances to on-site audiences as being considered the most authentic form of live performance and watching live content remotely with friends as the most authentic ICT-enhanced format (Bossey 2023: 14). This broadly supports suggestions that audience engagement with live music is changing (Radbourne et al. 2014). Furthermore, the respondents considered being an on-site audience member in a crowd of 500–5000 people was a more authentic live audience experience at a music festival than being in an audience of 50,000 (Bossey 2023: 15). This may imply that a greater sense of liveness/ authenticity for audience members could be

achieved by reducing on-site capacities at music festivals, or individual stages/arenas therein.

Impacts of digital consumption

While ICT does create very significant 'hard-wired' environmental and social harms (Kuntsman & Miyake 2022), which may be hard to accurately apportion to specific UK music festivals, these may be reduced over time through innovation (UN Environment Programme 2020). Therefore, given the significant current environmental impacts of UK music festivals, which increase with increased scale, the author believes that achieving immediate benefits by reducing physical audiences facilitated by monetarising enhanced ICT content is a valid and justifiable strategic approach.

Conclusion

Given that there are no easy solutions to making live music sustainable (Brennan 2021), more radical actions will be required once existing best sustainable practices have been applied at music festivals. Reducing on-site capacities may feel like an anathema to music festival promoters; however, during the climate emergency, no measures should be 'off the table'. Such reductions are achievable operationally and may become a pre-requisite of future licensing decisions. In the author's opinion, voluntarily reducing the capacity of larger commercial music festivals is a sensible, proportionate and achievable approach to further reducing negative environmental impacts.

There is observable evidence that nascent business models which enable increased monetarisation of ICT-enhanced 'live' content from music festivals are already emerging. Initial models are likely to focus on audiences watching live content remotely, including with friends, as this is currently the most successful ICT-enhanced format. Individual music festivals could increase overall income by further monetising ICT-enhanced content derived from on-site performances.

Further growth in provision and uptake of ICT-enhanced content at music festivals will in part require continued growth in acceptance from audiences and industry 'gate-keepers'. Positive increases in perceptions of liveness relating to ICT-enhanced content are already occurring at an early stage, particularly around viewing content remotely with friends. Levels of acceptance around other ICT-enhanced formats currently remain low, although this may change over time. Positive perceptions of liveness in music festival experiences may have a very significant effect upon the successful uptake of ICT-enhanced content.

Ensuring environmental and social harms of digital consumption (Kuntsman & Miyake 2022) are addressed or mitigated will rely on solutions emerging through acceptance of alter- native, environmentally sound technologies as envisaged by the UN Environment Programme (2020). Commercially, increasing audiences for acceptably 'live' monetarised ICT-enhanced content could facilitate reduced on-site audience capacities.

Glastonbury is a useful exemplar. After a 10% reduction in physical on-site capacity, Glastonbury would remain by far the largest UK music festival and would potentially save up to 21,000 car journeys and other on-site impacts. Glastonbury has an iconic brand, sells out rapidly 'in advance' and was live streamed 23 million times on BBC i-Player in 2022 (BBC 2022). It is considered reasonable that Glastonbury could potentially earn back, or even exceed, a £7,035,000 fall in income following a reduced on-site capacity by increasing the monetarisation of authentic ICT-enhanced content.

It is hoped that this paper will help stimulate an objective discussion of this option for the future of sustainable music festivals among both academics and live music industry professionals. There is significant potential for further research around sustainable ICT-enhanced futures for music festivals and liveness in relation to music content. Given that adoption of ICT is displacing previous music industry formats (Askin and Mol 2018), it is likely that a significant element of the future of study lies in these areas.

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