Please Don't stop the music

UK Music Festival Sustainable Action Plan

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Case Background

Music festivals are an ever-present part of modern life; even during the global financial crisis in 2008, notable ticketing site LiveNation suffered no slowdown (Ashdown, 2010). With the UK falling into recession, there may be no better time than now to focus on nurturing the growth of sustainable music festivals to prosper both the industry and the planet (Ziady, 2024). Research highlights numerous benefits of music festivals; engagement with music in a festival fosters a sense of community, binds group members together as part of a shared culture, and creates an environment to engage in social activities (Frith, 1996). On an individual level, music festivals offer opportunities for attendees to be introspective by defining, developing, and reflecting on personal understandings to cultivate new expressions of self-identity (Karlsen & Brändström, 2008; Matheson, 2005).

Festivals are unique as they enforce a sense of community amongst attendees, where one's identity can be shared and celebrated (Karlsen & Brändström). Additionally, they mark the passing of time and give people an opportunity to strengthen their social network (Brennan et al., 2019). They also act as a platform to spread political messages and preserve social capital, which serves as the framework to facilitate the actions of individuals (Mair & Laing, 2012). Although efforts have been made to promote the social pillar of sustainability, issues become salient when attention is exclusively localised to portable communities, thus the traditional evanescence of music festivals (Richardson, 2018). The neglect of the local community is a gap in the literature, which the current paper aims to address.

Music festivals are often identified as the key drivers of local economies, either through direct contribution or by enhancing a city's image and appeal. It gives the host city a sense of identity and self, a cultural imprint which is identified to be essential in urban development and survival (Ashdown, 2010). Taylor Swift's "Eras" tour boosted the local economy of every host city, e.g. $97M in Cincinnati (Cain, 2023). Although the economy may be reaping the rewards, large-scale music festivals are causing negative externalities that the planet cannot afford. Air New Zealand was required to add 14 more flights to accommodate an extra 3,000 attendees travelling to the concert (Dolsak & Prakash, 2023.). Yard (2024) found

Taylor Swift to be the biggest polluter, with her annual CO_2e being 1,184.8 times more than the average person's. Hence, it is apparent that the hedonistic consumption encircling music festivals carries both negative and positive consequences. To begin solving this Wicked problem, music festivals need to be better understood (Voss et al., 2003; Lönngren & van Poeck, 2021).

Demand for sustainable music festivals is driven by attendees who have an increased awareness of environmental sustainability and expect a certain level of sustainability from the organisers (Mair & Laing, 2012). Consumers are increasingly displaying pro-sustainable behaviours at music festivals; 62% of attendees are pushing for improved recycling facilities (Strout, 2019). Although the industry is thriving, attendees are vigilant of its contribution towards overconsumption of non-renewable resources and air pollution (Wang et al., 2014). Instead, perceptions of a festival's green status is directly correlated with attendees' intentions to behave sustainably (Martinez-Vazquez & Bird, 2014).

1. Introduction

"Burning Man, in a burning world" encapsulates the present reality of music festivals (Foster, 2023). Flash floods, extreme heat and bushfires are just some examples of the devastations endured at music festivals as a result of anthropogenic climate change; 75,000 attendees were trapped in mud in the Burning Man incident in 2023, resulting in fatality (Deliso & Hutchinson, 2023). In the last decade, over a million attendees gathered at music festivals in the UK, and with this came an immense volume of waste and consumption. Research shows that a music festival of more than 40,000 people will produce 2000 tons of CO_2e, and in 2020 Reading Festival hosted approximately 105,000 attendees (Ashdown, 2010; Walker, 2022). This highlights a growing requisite for implementing sustainable measures to secure the future of music festivals.

1.1 Rationale

Music festivals are, for visitors and locals, a temporary phenomenon, fast-paced and short-term, exploiting natural built and sociocultural resources (Smith, 2012). Conversely, sustainability is defined as development which meets the needs of today without compromising the ability to meet the needs of the future generation; it is an enduring and resilient form of development (International Institute for Sustainable Development, 2024; Smith, 2012). It is imperative to note the juxtaposition of sustainability and the transient nature of music festivals which becomes the basis of the present study's rationale. As such, these recommendations aim to redesign music festivals to increase longevity through the triple-bottom-line framework (social, economic, and environmental pillars). They also seek to analyse pain points (see Appendix 1) and complex stakeholder relationships to identify where motives interact along the festival journey and strengthen the social pillar through community-focused interventions (Alhaddi, 2015). Analysis and interventions will be rooted in psychological theories and frameworks such as Installation Theory (Lahlou, 2017), Gamification (Pelling, 2011) and Systems Thinking (Meadows, 2008) to transform music festivals into long-term and sustainable events which foster economic, social, and environmental growth.

2 Analysis

Installation Theory and Problem Outline

The greater the disagreement and discrepancy in the understanding of stakeholders, the more Wicked the problem becomes (Lönngren & van Poeck, 2021). Installation Theory (see Table 1) and Activity Theory (see Table 2) are implemented (Lahlou, 2017) to identify where stakeholder motivations align and what reward or currency can be exchanged between parties.

Installation theory has been successful in changing people's behaviour within industries using its three components (affordances, embodied competencies, and institutions). It is important to note how, in installation theory, behaviour change is best targeted at the time and place where the activity is performed - the 'point of action'. This is where activity theory plays a crucial role. Activity theory divides a behavioural sequence into segments, with each segment representing a task completed in pursuit of a subgoal, with subgoals being driven by an overall motive. In

this case, activity sequences are developed for each stakeholder. At each step in the activity sequence, the relevant installation is then considered. The use of activity theory provides a robust framework for breaking up complex behaviour into manageable units of analysis. Each stakeholder is considered, in turn, to manage interrelating motives (both aligned and unaligned) and relevant power dynamics. Installation theory is especially useful in understanding how social and environmental structures channel cooperative behaviour, which is imperative in shaping sustainability. Furthermore, installation theory's flexibility and pragmatic focus make it a strong analytical fit for understanding and changing behaviour in and around music festivals.

Who	Action	Connectivity Motive	Installation - Physical	Installation – Competence	Installation – Regulation
Host org	◆ Ticket sale & Promotion ◆ Organisation	Stakeholders' support Unique brand positioning	E-mail platform, social media use, navigating fanbase, ticket purchasing platforms including external providers (ticket master, live nation)	Ticket giveaways, communicating with other stakeholders, sending reminders to previous attendees, incentivize social sharing	Coordination of everyone involved, organizing information forums, FAQs,
GOV	◆ Ensure safety + Regulation	Communicate with the public	E-mail and other platforms for communication with stakeholders, laptop/devices	Help host organisation promote ticket sales,	Regulation on re-sell laws, marketing tickets, GDPR on customer details
Locals	◆ Promotion ◆ Set up	Celebrating & exchanging culture	Social media, community, noticeboards, email, other locals, posters Tables, chairs, stage equipment, social media platform, messaging platform	Marketing and persuasion skills, economic sensibility Ability to set up, technical knowledge, tech savviness, views towards volunteering	Social norms around persuasion and privacy volunteering / helping norms, festival regulation

Table 1. Problem analysis of installations *(see Appendix 2 for full table)*

Activity step	Motivation	Expected Contribution	Rewards
Evaluate budget and provisional expenditure (separating operational costs and charitable).	Profit	Successful execution of festival both operationally (entertainment as promised) and financially (ROI).	Profit for the host Personal fulfilment
Consider avenue for income including ticket sales, partnerships, marketing.	Bring attention to a charitable cause or partnership (if intended) Boost local economy and tourism Unify the local community and individuals with a shared interest	Safe environment for all stakeholders present Favourable reputational impact for affiliated parties. Compliance to relevant laws through procuring necessary permits and abiding the law.	Continuation of festival Increased positive exposure Increased desirability (more artists want to perform, more attendees, more volunteers etc.) Increased networking opportunities (partnerships and sponsorships)
Consider an appropriate location and date for festival to take place.			
Liaise with external entities to organize insurance coverage, food, entertainment, volunteers, staff and security.			
Liaise with performers.	Promoting musical talent including popular and emerging ones		

Table 2. Example of Activity step analysis (Host Organisation**)**

2.1 Stakeholder relations and motive

2.1.1 Festival Stakeholders

The foundation for connecting stakeholders is dependent on the outcome where the benefits of collaborations will outweigh the costs (Salancik & Pfeffer, 1978). The following stakeholders have been identified as central to a music festival's operations: host organisations, government authorities, local communities, visitors, volunteers, artists, sponsors, and staff (contractors).

2.1.2 Stakeholder Key Motives

Informal norms of reciprocity are involved where stakeholders contribute to gain reward. This includes self-interested profit motives (e.g. host and staff) as well as fostering social connections (e.g. volunteers and visitors) and broader non-financial motivations. All stakeholders possess a varied group of motives for involvement. For example, the local community may leverage the festival to generate revenue, celebrate, socialise, and foster community pride (Yolal et al., 2016). Accordingly, we have identified key stakeholder motives, including the currency they value and exchange with, as well as their push and pull factors (see Table 3).

Host organisation	Authorities	Local community	Visitors	Volunteers	Artists	Sponsor
Support and loyalty, standing out in the market	Opportunity for political communication	Cultural celebration and exchange	Novel experience, Meeting new people	Meeting like-minded people	Interaction, building relationship with future fans	Building customer relation
All stakeholders are seeking economic or/and non-economic opportunities through connection						

Table 3. Stakeholder motives

2.2 Festival timeline and intervention opportunities

2.2.1 Timeline

Re-formulating the festival timeline as a year-long process rather than a brief one-time affair provides many intervention points. The festival timeline was produced using activity theory to capitalise on this benefit. (see Figure 1)

2.2.2 Windows of opportunities

The respective stakeholder touchpoints and current platforms are further explored through the stakeholder journey map (see Figure 2). A touchpoint refers to points of interaction between multiple stakeholders, and a platform refers to a digital or physical location/place which facilitates said interactions. Four windows of opportunity were identified and informed by the activity timeline and journey analysis. This was constructed considering differences in stakeholders' interests, contributions, and engagement throughout the festival timeline. Key actors (stakeholders) and windows of opportunity are defined below; further analysis is detailed in the solutions section.
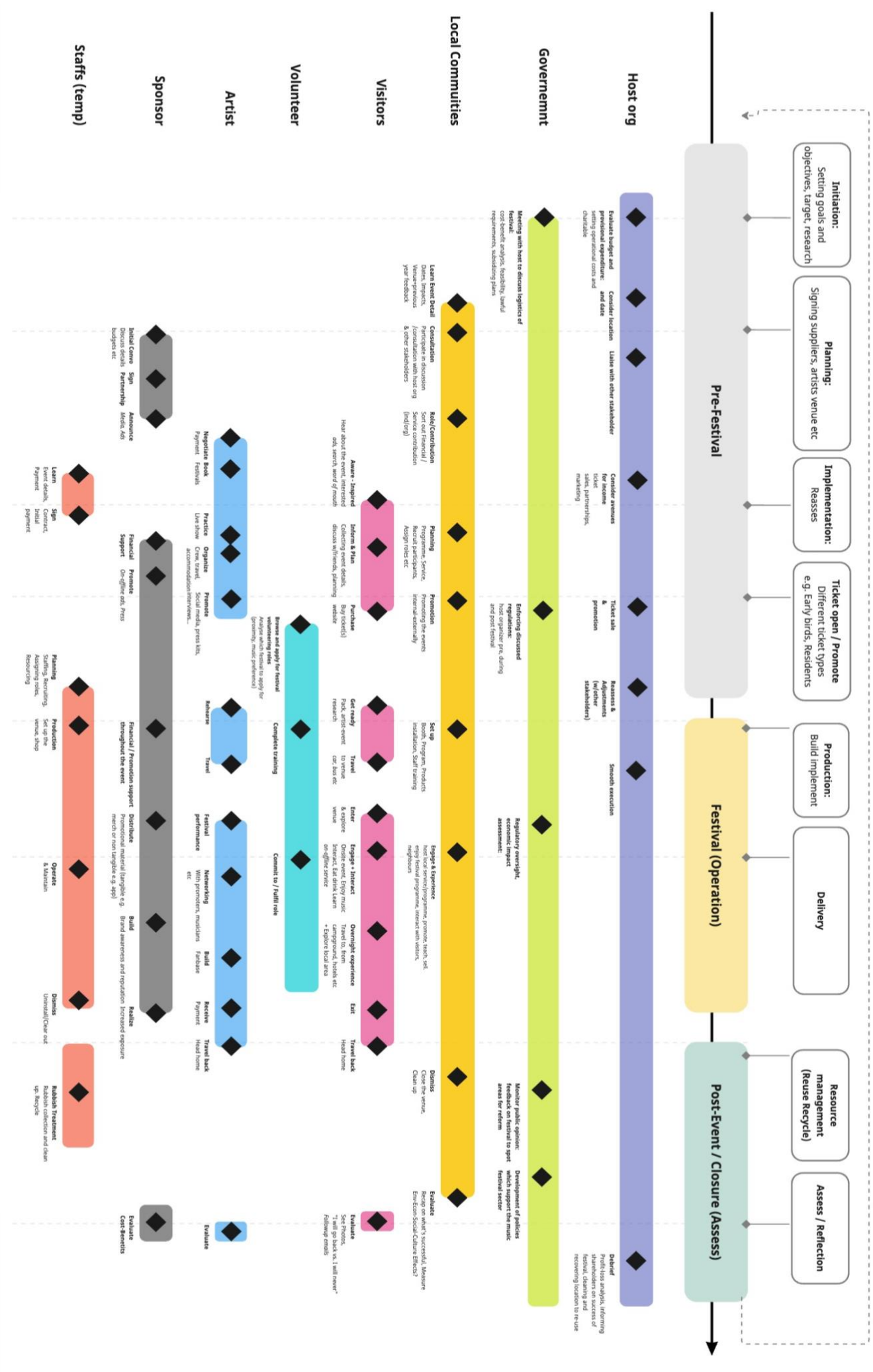
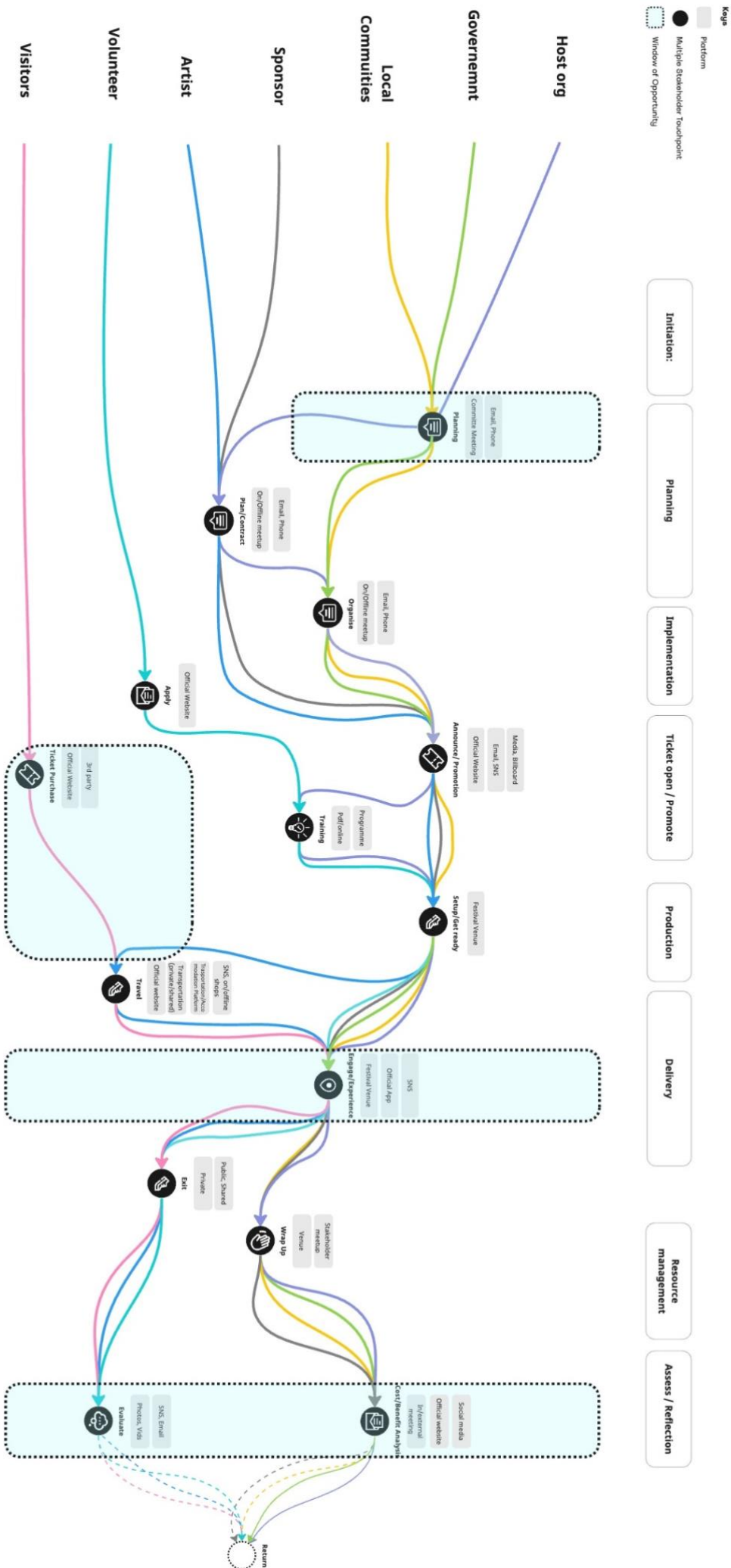**Figure 1.** Festival Timeline

Figure 2. Stakeholder Journey map

Window 1: *Planning phase*

Window 1 concerns the planning phase of the festival. This is the first stage of the 12-month process in which the fundamental aspects regarding festival operations are decided, including budgeting, logistics and marketing (Eventbrite, 2023). Concerns identified here include social and financial support for the host. As such, for a successfully sustainable festival, it is essential to intervene during planning. Further, to manage the risks and benefits and ensure the festival is an overall positive for locals, engagement during planning is necessary. Getz & Jamal (1994) highlight how getting cooperation from the local community is essential to running a successful festival, and Mair & Laing (2012) identify the level of commitment of locals to be integral in deciding the sustainability of a festival. Engaging early with locals allows surplus time to organise the festival to meet their needs and ensure a sustainable experience. We acknowledge interventions at this window do not address the above-mentioned financial concerns for the host, but earning preliminary social support from stakeholders may go a long way in mitigating these concerns, presenting a scope for further research. Both limitations and directions for future research will be discussed.

Window 2: *Pre-festival after ticket purchase*

This window consists of the ticket purchase stage, alongside the time between ticket purchase and the festival. At ticket purchase, attendees have displayed high levels of interest and are already engaged with the music festival. Despite this, there is a stagnation in activity between ticket purchase and the festival date, thus a missed opportunity to leverage this excitement. This period of stagnation can span as long as seven months (Glastonbury Festival, 2023). Accordingly, this window is best placed to design interventions to rectify this. Furthermore, this missed opportunity signifies the transient nature of a festival reduced to three days as opposed to seven months and beyond. Resources from other stakeholders such as artists, sponsors, and locals remain to be leveraged to utilise this intermedial time. This point of action represents optimistic avenues for shaping sustainable behaviour even before the festival takes place (Lahlou, 2017).

Window 3: *Operation and engagement*

Window 3 is where the operation and engagement of the music festival takes place; all stakeholders are engaged and involved during this stage. Interventions here are on the event itself, rendering it significant and perhaps one of the most effective windows in achieving sustainable goals. Accordingly, the bulk of the negative externalities associated with the festival occur in window 3 (see Table 4). On the other hand, the number of problems involved allows for a wide range of possible Interventions.

	Problem for Visitors	**Problem for Local Community**	**Problem for all**
Environmental	Environmental conditions	Infrastructure, waste, resource strain	Travel emissions, energy use, water use
Social	Drug misuse, spiking, assault, crowd crushes, accessibility, dehydration	Noise, overcrowding, disorderly behaviour, poor treatment of employees/volunteers, lack of access to space lack of engagement	'Responsibility holiday' behaviour (Brennan et al., 2019)
Economic	Ticket cost	Resource depreciation	

Table 4. Problem Analysis for W3

Window 4: Evaluation

This window is where the evaluation of the music festival occurs; all stakeholders are involved and will be corresponded with during this stage. The focus, however, will be on the locals, visitors, and volunteers. Customer retention is a crucial interest of the host at this stage, and this window seeks to tackle that alongside improving next year's sustainability. Interventions placed in this window will determine which stakeholders will continue affiliation in the next year of the music festival, thus directly determining longevity. Further, interventions should focus on leveraging the momentum of the festival itself and focus on the restoration of the local environment per the social pillar of sustainability. Festivals are often considered a temporary one-day affair due to the fact there is no engagement or connection sustained once the event is finished. Instead, successful evaluation and post-festival engagement allow

attendees to consolidate the festival experience, whether it be sustainable learning or socially enriching experiences (Brown et al., 2019). Designing interventions in the evaluation stage may help overcome the unsustainability emerging from regard festivals as a 'one-day affair' (Brennan et al., 2019).

3. Solutions

3.1 Theoretical backgrounds

3.1.1 Gamification and Self-Determination Theory

Gamification (Pelling, 2012) is growing increasingly prevalent to incentivise user engagement through badges such as "top contributor" and rewards, both of which are being employed in the proposed interventions (Easley & Ghosh, 2016). Reward-based gamification has been useful in achieving short-term goals in environments where participants have no personal connections or intrinsic motivations, but it does not sustain long-term change; for this, intrinsic motivation is essential (Nicholson, 2015). Self-Determination Theory (Deci & Ryan, 2004) explains that intrinsic motivation is associated with mastery, autonomy, and relatedness. Accordingly, whilst the level two interventions of gamifying litter collection in exchange for rewards elicit engagement, it is the level three interventions which will foster intrinsic motivation for long-term change. The sustainability app aims to direct attendees on a map on a pathway of their choosing (autonomy), where they will encounter workshops teaching skills in gardening and water conservation (mastery), all of which will be done with other people, whether old friends or new (relatedness) (Nicholson, 2014).

A successful implementation of this proposed intervention was at Mountain Music Festival in West Virginia, where they hosted multiple workshops alongside the main stage music. The workshops range from learning about plants native to the venue and how to grow/ care for them at home, discovering plant remedies for common festival wounds such as blisters and bug bites, Yoga class, painting rocks to take home or leave as homage in festival site (Mountain Music Festival, 2024).

3.1.2 Integrating Digital Channels into the festival experience

Mobile applications (apps) can be effective in augmenting the on-site experiences of multiple stakeholders. For attendees, it allows for the curation of convenient and personalised information and provides avenues for gathering data insights for hosts. Official festival apps have been widely used by numerous festivals in the UK and globally (Glastonbury, Reading/Leeds, Parklife, etc) (see Figure 3). However, developing and maintenance of these apps can be expensive, and hosts may have to rely on sponsors for financial support. Additionally, issues of longevity persist as festival apps have a shorter life span compared to others on the market. Thus, interventions will explore methods of extending utility and engagement beyond the festival period.

Figure 3. App screens from Glastonbury, Parklife and Wireless Festival

3.2 Solutions Overview

Solutions are stratified according to feasibility, in accordance with the trifecta of innovation, with level 1 being high feasibility and level 2 being low (Orton, 2023). Theories, particularly installation theory (Lahlou, 2017), have been utilised to inform and facilitate the development of interventions.

Intervention point	Key Stakeholders	Solution (Higher/Lower Feasible)	Rational/Theory/Concept
Window1	Host, Authorities, Locals	"Proudlylocal" communication	Self-determination theory

		Building Long-term stakeholder partnerships through commitment	
Window2	Visitors	Sustainability communication	
		Pre-festival social platform	
Window3	All stakeholders	Wayfinding system & signage at the point of action Green currency exchange	Gamification, Omni channel customer experience
		Themed routes and programmes "Festivity": Integrated Digital Journey	
Window4	Visitors, Volunteers, Locals	Follow up communication Festival recap	Gamification Social identity theory
		Reward and re-engagement Restoration projects	

Table 5. Solutions overview

3.3 Breakdown

3.3.1 Window 1

Higher Feasibility: "ProudlyLocal" communication

Boosting local community spirit can be achieved through "Proudlylocal" branding of the local community's support. Suseno & Hidayat (2021) found positive effects of local pride on the consumption of locally produced sneakers; this can be replicated and applied to music festivals. For instance, this could be achieved by a #proudlylocal campaign on social media, raising awareness of the local community's contribution and connection to the festival. Local businesses and suppliers can use "proudly local" as a communication and marketing tool during the pre-festival period; this can be through wearing #Proudlylocal badges and placing banners/labels at their shopfronts. This intervention aims to engage multiple stakeholders, strengthen

community pride and boost both social and economic sustainability pillars. This intervention aligns with self-determination theory, specifically relatedness. Humans are inherently social beings who yearn for connection; fostering community spirit and extending it beyond the festival period can have a crucial impact on its sustainability (Nicholson, 2014). This can be achieved through a "brand story", where a brand is presented in a storytelling format (Woodside, 2010). This is supported by Cronon (2013), who emphasises the significance of storytelling in the human experience occurring at various levels of society. It should be noted that in the case below, the storytelling aspect is more abstract, with some background given for visitors and locals to construct their own story from.

Design 1. #Produlylocal Stickers

Design 1 illustrates a mock design for a sticker distributed in the fictional community of "Little Hangleton" created for this paper. The intention is for local businesses to hand out #proudlylocal stickers alongside their goods with a short story about who is behind it. An existing example of a similar initiative involves a multi-purpose venue in Ballina/Killaloe, Ireland, where the area is repurposed as a market every Sunday. Stalls include local farmers selling produce or craftspeople selling artisanry creations. When a product is purchased, the customer receives a sticker stating, "I love Ballina/Killaloe" as a token of gratitude, which doubles as an advertisement for the local community (Lough Derg, 2014).

Additionally, it is crucial to invite the local community to the festival decision-making process to warrant support and engagement from early on. We tackle this through a local committee. This allows for open discussion with who is best informed about the

festival's negative impact (noise pollution, litter, and resource constraints) and, thus, how to mitigate them (Yolal et al., 2016). Further, locals should be consulted to ensure that they get the most positive impact out of the festival – for example, by discussing which local businesses to partner with.

Lower feasibility: Building permanency through infrastructures and legislation

This approach involves repurposing and reusing festival materials/resources to benefit local communities. Viola (2022) outlined the importance of reusing materials to mark community engagement and its benefit to stakeholders. This intervention, therefore, proposes that long-term festival resources such as permanent toilets, sewage systems, infrastructure or energy generators can be reused for future festivals and events. This is a particular asset to the local community's resources and has been found to boost well-being and resilience (McCrea et al., 2015). Although the limitation surrounding government mediation and financial support this intervention demands is acknowledged, the long-term benefit of permanent and reusable infrastructures benefits multiple stakeholders and consumes fewer resources in the long run.

Permanent infrastructures can also build long-term partnerships between stakeholders. For example, the host and local council may enter a ten-year long-term contract for a festival site. This provides a broader economic incentive for the host to invest in long-term resources. However, it is worth mentioning that short-term contracts are often preferable for flexibility (Macho-Stadler et al., 2014).
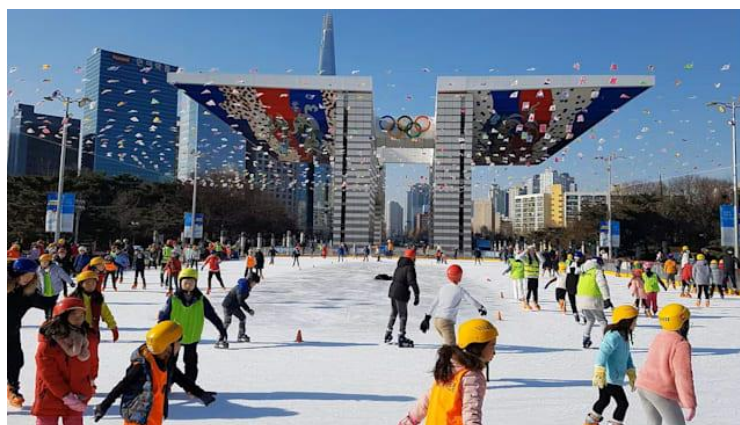

Figure 4. Olympic Park, Seoul (Permanent venue from Olympic Legacy 1988)

3.3.2 Window 2

Higher feasibility: <u>Sustainability communication</u>

Sustainability communication can empower participants with the awareness and tools to make sustainable decisions. This intervention includes targeting the embodied cognition layer of the installation (Lahlou, 2017) by instilling attendees with the knowledge required to be sustainable at festivals. Sustainability can be communicated via existing social media and E-mail platforms in text or multi-media format. Practical and informative tips can be circulated through email newsletters. For example, taking your tent home with you, using correct bins, bringing your own water bottles, consideration of travel or reducing plastic use (Shambala, 2018). Social sustainability can also be promoted in this way; however, it goes without saying that most socially unsustainable behaviours, such as spiking or harassment, are not tolerated. Thus, an alternative approach could focus on perpetrators, i.e. "don't be a d*ck" or "treat people with respect" posters. A more engaging approach includes the involvement of artists or celebrities to promote sustainable behaviours (Perlman et al., 2013). Artists such as Coldplay are already attempting carbon-negative tours and promoting them on social media (Bennett, 2023). This strategy targets the social layer of the installation through the influence of somebody in a position of admiration.

Lahlou (2017) suggests interventions are most effective at the point of action; thus, targeting travel choices at the point of action, i.e. buying the ticket, would be most effective. Another proposed intervention, therefore, is a "Rideshare sign-up" scheme at the point of ticket purchase, which would promote experiential connection with other visitors as well as cost savings as motives to sign up (Davidson et al., 2018). Sign-up can also be available for the use of a 'Big Green Coach', endorsed by Reading Festival, or rail tickets. This can help reduce visitor travel emissions, which are generally the largest contributors to music festival emissions (Bottrill et al., 2010). These interventions facilitate engagement with the festival during the stagnant period between ticket purchase and festival, encouraging pre-planning for festivals and instilling visitors with sustainable behaviours, promoting a sustainable festival experience.
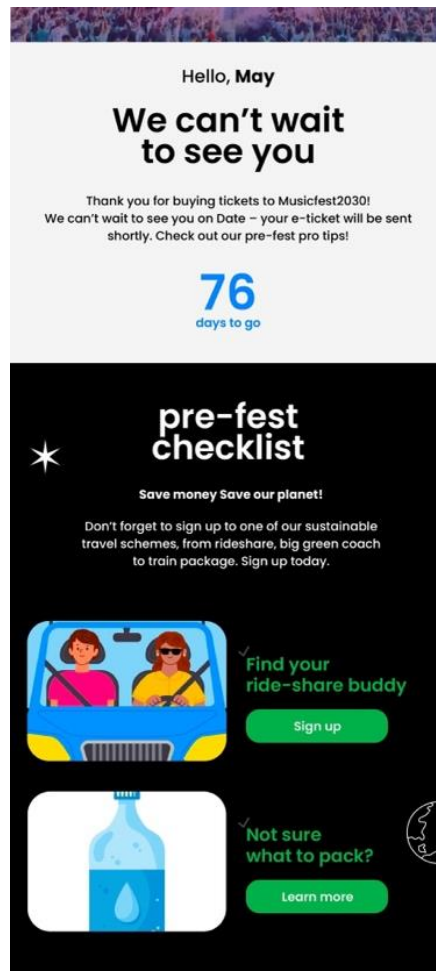
Design 2. Newsletter

There are, however, some limitations to these interventions. Social media posts promoting festival sustainability could easily backfire by choosing artists who do not 'walk the walk' and act sustainably themselves. i.e. backlash against Taylor Swift given her large carbon footprint, risking sending the wrong message (Voss et al., 2003; Lönngren & van Poeck, 2021). Moreover, it is uncertain how effective these messages will be as they do not fundamentally alter people's values or goals, which is necessary for effective systemic change within the systems thinking approach (Abson et al., 2017). People need to be interested in sustainability for them to listen, as it is likely that people may look to take a 'responsibility holiday' instead (Brennan et al., 2019). Furthermore, people may forget advice that is only transmitted on social media and e-mail due to the short interaction time.

<u>Lower feasibility:</u> <u>Pre-festival Social platforms</u>

Using activity theory (Lahlou, 2017), we identified a shared motive for connection between visitors, which is currently overlooked within the stagnation period between ticket purchase and festival (refer to figure 2). Therefore, the intervention includes an online visitor connection where visitors are directed to download a festival app after ticket purchase. Once downloaded, visitors are asked to select a few acts they are excited to see performing and some stalls and sustainability schemes they are especially excited about. The app then links like-minded visitors together for discussion and networking.

Additionally, there are in-person visitor connection opportunities, which direct app visitors to pre-festival meetups. Here, people can meet friends they have made online or new festivalgoers. These events can be sponsored to help manage costs and build sponsor involvement. Furthermore, these events can be paid to help fund local artists and support the community. The social layer of installation theory is utilised here, as sustainability is promoted through engagement with sustainably minded individuals, establishing a social norm. By integrating paid events, this intervention not only enhances the customer experience but also supports local talent and sustainability initiatives.

This has a twofold effect. Firstly, it is predicted to help stimulate long-term well-being by spreading festival values and socialisation factors across a longer timeframe (Tan et al., 2020; Crompton & McKay, 1997). Secondly, engagement with other festival goers can help promote sustainability either through discussion with like-minded people or getting inspiration from others (i.e. how they are preparing for a sustainable festival and what stalls they want to visit) (Manning, 2009; Lahlou, 2017). However, there are some limitations, such as uncertainty of the extent to which visitors are willing to pre-meet with others; there may well be only a small number who wish to meet. Furthermore, organising pre-festival meetups and in-app social functionality may be straining host finances and resources when festival preparation is underway. To mitigate this, sponsors could be used to fund meetups in exchange for brand exposure.

3.3.3 Window 3 – Operation and Engagement

Higher Feasibility A: Wayfinding system and signage at the point of action

Signs prompt people to access the relevant action representation that they already possess and activate it at the right time, in the right context (Meis, J., & Kashima, Y, 2017). In this intervention, social-environmental signs are aimed to be displayed at the point of action to signal participants of desired behaviours. Eco-labels and signages may be strategically placed in high-traffic areas using visual cues and icons.
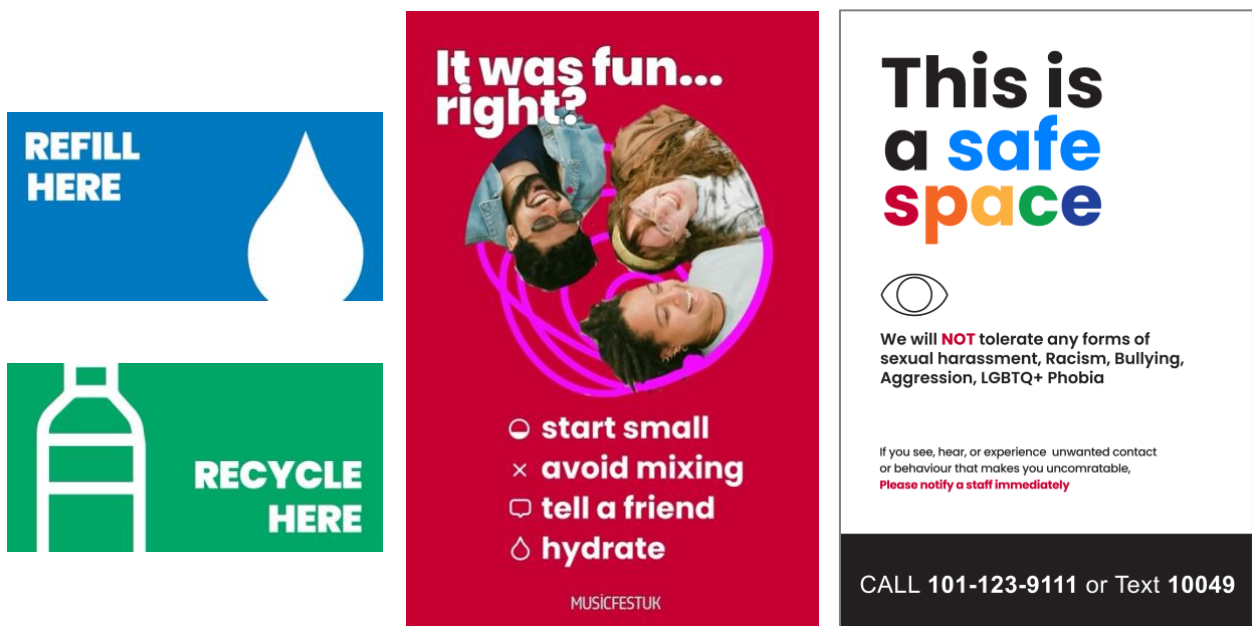
Design 3. Eco-Station signage & Safe space posters

Also, targeted signs and posters that list actions against harassment can be placed in the performer space. Safe space posters can be used to mark areas throughout the festival venue to promote safe interactions, respect, and a safe festival culture. In the neighbourhood, "Psst, thank you, visitors, for being quietly awesome!" using illustrations of homes and people to remind personal relationships and kindness rather than laws/regulations. Another intervention would include the notion of "Greenway" wayfinding lanes to navigate participants to nearby recycling points, water refill stations, and green venues/events (see Design 4). Through clearly labelled waste sorting stations and displays, along with volunteer guides to facilitate proper waste disposal, Greenway can encourage sustainable participation.
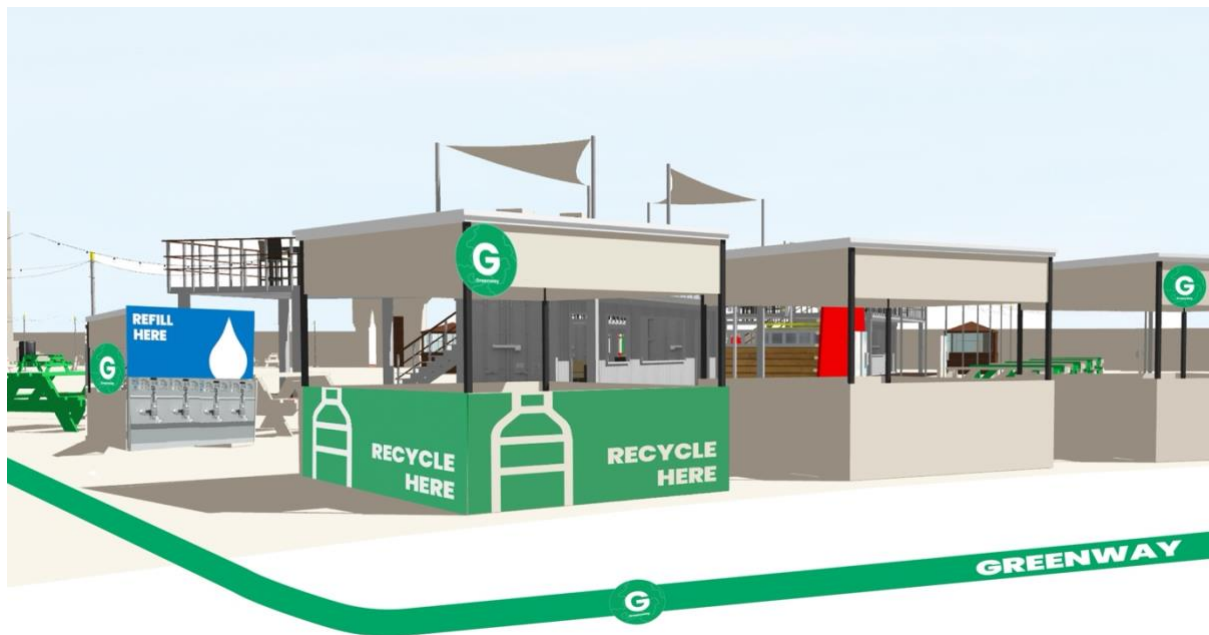
Design 4. Greenway

This would increase the chances of behaviour change by alerting people at the point of action. Wayfinding systems are easy, cost-efficient methods of providing information and gently guiding people to eco-friendly options. Furthermore, it also enhances the festival experience of stakeholders as it provides attendees with a clear direction and guide for decision-making, thus potentially reducing social conflicts. The challenge posed by this intervention is that too much signage can be confusing and risks cognitive overload- visitors may feel overwhelmed by the responsibility of strictly being a sustainable citizen when initially they are seeking fun (Fox et al., 2007).

Higher Feasibility B: Green currency exchange

This intervention is inspired by the Coachella Recycling store: 10-For-1-Water (Coachella, 2024). This initiative encourages visitors to return bags of recyclables in exchange for goods. For example, a small bag can earn fresh water, while a large bag can be traded for festival merchandise and other items. This intervention gamifies pro-sustainable behaviour through incentives (Easley & Ghosh, 2016). Further on, badges or recognition boards can be introduced to label individuals as "Green Ambassadors," reinforcing positive behaviour. Additionally, real-time displays of green currency exchange activities and collections can be introduced to encourage participation.
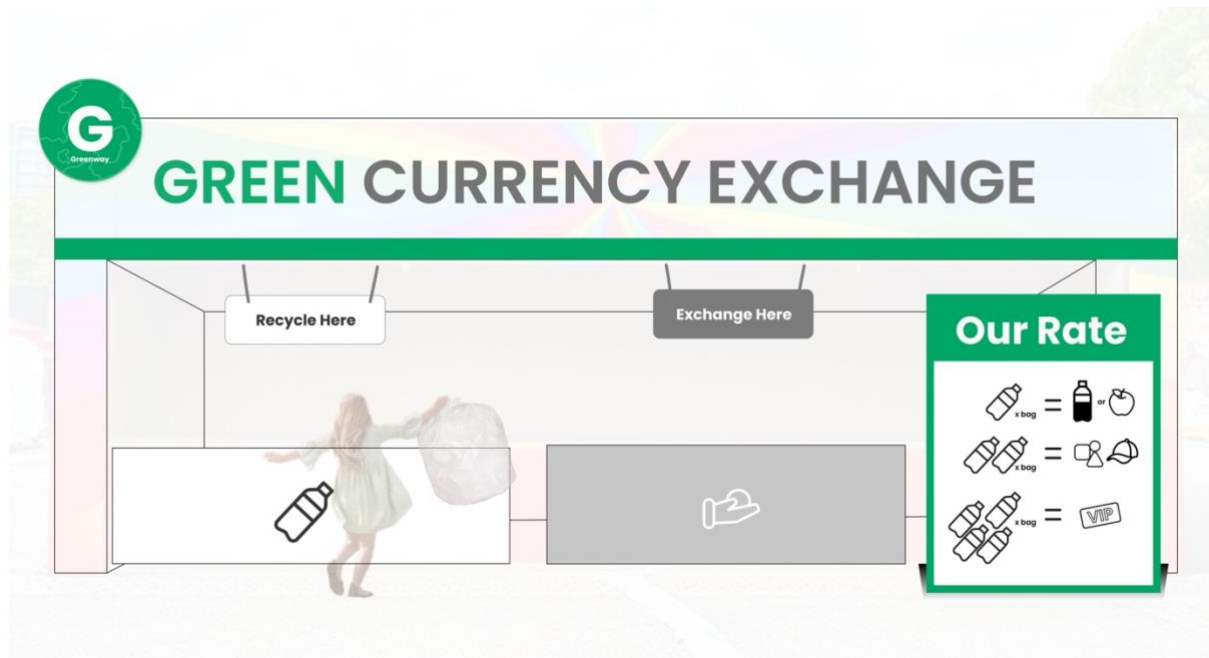
Design 5. Green Currency Exchange

Design 6. Green Ambassadors Badge

Lower Feasibility: Sustainability-themed programmes and connecting routes

This intervention is focused on the design and integration of sustainability programmes into multiple themed routes, with touchpoints for different attendees to meet, learn, and socialise. These themed routes inspire ideas for activities and spaces to explore (see Design 4). The path will include local markets, workshops (local arts, history, skills), NGO booths, new skills workshop (vegan cooking, grow your vegetables), scheme sign-ups (sharing economy, time banks), space for socialisation, and artists meetups (see design 4). All these ideas resonate with degrowth literature, in encouraging the shift towards a communal sufficiency-based

economy (Cosme et al., 2017). In this sense, this intervention can embody visitors with the competencies required for long-run sustainable living within degrowth paradigms (Lahlou, 2017). Finally, a "People's Day" is also suggested. This day makes socialisation, learning, and the local community central to the experience, as opposed to the artist line-up. This day would be especially inclusive of the local community, who are invited to attend for reasons of empowerment and socialisation through various festival-themed activities.

Festivity App

The design illustrates the integrated digital journey through an app we have named "Festivity." This intervention takes the form of a digital app featuring the abovementioned routes and programmes with a focus on sustainability. It aims to enhance the user experience and increase engagement and motivation through fun on-offline interaction. Gamification strategies that align with stakeholder goals and user interests are employed, such as a points system, badges, and quests. Festivity could be a single app utilised by multiple festivals to share costs.


Design 7. Festivity App-Themed Routes

3.3.4 Window 4 - Evaluation

The interventions placed during this post-festival evaluation period will predominantly focus on evaluation and retention to ensure longevity and, thus, the future of sustainable music festivals. To approach this from an economic standpoint, retention is more cost effective than acquisition, and although this notion is commonly applied

to customers only, it is applicable to all stakeholders previously identified (Kumar, 2022.)

Higher feasibility A: Follow-up communication

Personalised thank-you notes are a low-hanging fruit in the context of showing gratitude to stakeholders and evaluating performance. For host organisations, volunteers, the local community, artists, and sponsors in particular, post-even communication can incorporate quantitative evidence of a profitable relationship through a combination of personalised thank-you note, post-event reports, feedback requests and debrief meetings. In-depth feedback can be sought from visitors, staff, locals, and artists to improve the festival experience and sustainability next time.
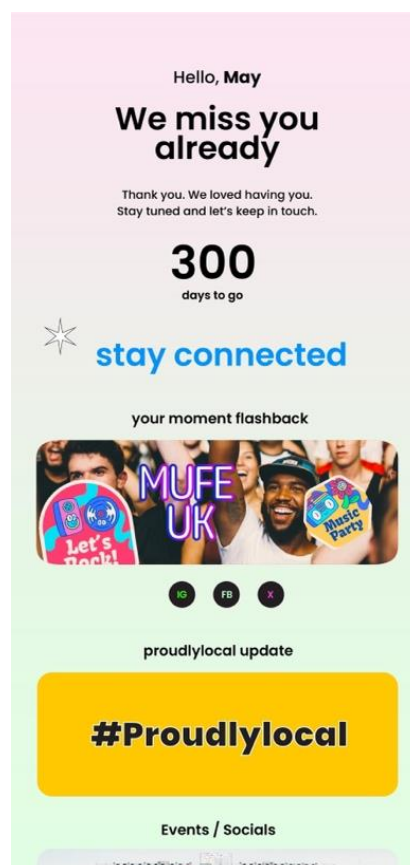
Design 8. Follow-up Newsletter

Higher feasibility B: Recap

For stakeholders with experiential motives (visitors, local community members, volunteers), their festival experience can be extended beyond the event date by redelivering a curated presentation of their memories. This can be in the form of

hashtags and social media prompts to encourage engagement with content purposefully timed with the early-bird release of tickets for the upcoming year. We aim to leverage the nostalgia created by this engagement as motivation for purchasing tickets (Schwarz, 2009).

Another intervention is an app feature which acts as a disposable camera minus the waste. As you are unable to scrutinise the photo in the moment, it allows attendees to be detached from technology and social media to fully immerse in the festival experience (McKay, 2024). Advertently, this function fulfils the present study's rationale of strengthening the social pillar, as detachment from social media presents the opportunity to foster and strengthen social connections organically (Herren Wellness, 2021.)The time it takes for photos to finish 'developing will be timed with the early-bird release of tickets to encourage sales by leveraging nostalgia and, thus, customer retention. This reflection could also further reinforce sustainable information consumed, or activities participated in, encouraging long-term sustainable behaviour outside of the festival (Brown et al., 2014). Photos taken on the app will garner points, which will be explored below.


Design 9. SNS Recap Prompt

Lower feasibility A: Festival rewards and re-engagement events

As illustrated by Easley & Ghosh (2016), gamification can be used to incentivise user engagement. This reward system has been successfully implemented by

McDonald's, where the MyMcDonald's app exchanges 100 points for every £1 spent, which can either be donated to charity or spent on food items. Our intervention adopts this to incentivise pro-sustainable behaviour to acquire points instead of spending (see design 6). Building on this, excess points can be transferred onto the next visit; this requires participants to return the following year to claim rewards, ensuring customer retention. MyMcDonalds is a strong example of how effective such schemes can be; 60% of sales are attributed to this digital channel, and it is predicted to soon become the world's largest loyalty programme (Valentine, 2022).
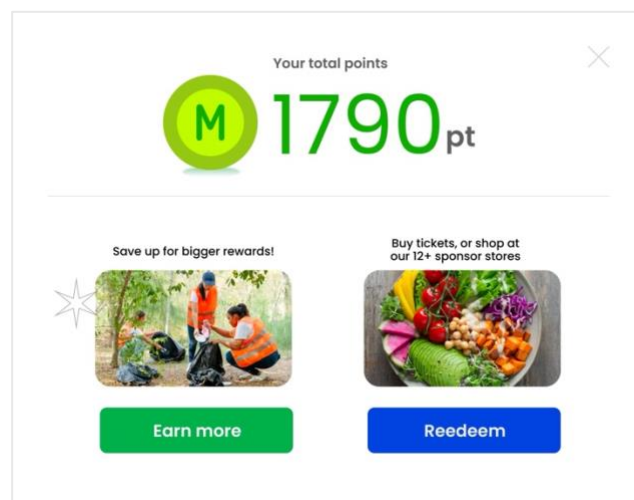
Design 10. Point redemption (Website)

Lower feasibility B: Project Restoration

The destructive contribution of music festivals to environmental and wildlife degradation is by now alarmingly evident (Brennan & Collinson-Scott, 2019). Accordingly, our proposed intervention suggests large-scale environment restoration projects such as revegetation, habit enhancement and remediation, with community engagement as a focal point (Vaughn et al., 2010).) Environmental Migration Portal (2024) emphasises the importance of the community "to support ecosystem restoration". Integrating the local community in the restoration projects motivates individuals in the same group (community) to work towards a common goal, which, as informed by the Social Identity Theory, strengthens group cohesion and social bonds (Tajfel & Turner, 1979). The restoration campaigns can be financed through a partnership with Restore Our Planet (2024), which is a charity that invests in the protection and restoration of natural habitats in the UK. Another suggestion for financing is through corporate social responsibility from the host/sponsors or

subsidies from the government; both suggestions come with limitations, which will be explored next.

Repercussions of anthropogenic climate change, which music festivals undoubtedly contribute towards, are being experienced now and require immediate action (United Nations, 2024). The suggested low-feasibility interventions, although valuable, are costly and may require considerable time to be trialled, funded and launched. Furthermore, the displacement of accountability from the government and corporations to individuals, and the pursuit of capitalist profit, hinders access to the charitable donations and subsidiaries required to finance our proposed interventions.

4. Conclusion

The lack of sustainability surrounding music festivals during this climate crisis is severe and must be addressed. This redesign comes at a pressing time to shed light on key areas which demanded reconstruction, with interventions formulated on the framework of a thorough stakeholder analysis. Windows of opportunity have been identified using Installation theory (Lahlou, 2017) where its' respective interventions are placed. Power differences amongst stakeholders have been assessed using the power-interest stakeholder matrix (Mendelow,1991) to target solutions more concretely. The triple bottom line, discussed as pillars, was employed to address all aspects of the music festival, aiming to increase longevity. This paper highlights that support from the local community is crucial in fostering a sustainable music festival, albeit this is scarcely addressed by existing literature. The most tangible solutions are present in Window 3 as it is concerned with the festival itself and, thus, holds the greatest prospect of real-world application.

4.1 Limitations

Due to the scope of this paper, it was not successful in addressing all issues, stakeholder motives, or interventions thought possible. Thus, we were unable to develop each solution enough for real-world implementation, giving rise to feasibility levels. This redesign intended to target the broad, unsustainable aspects of music festivals, and not one. Future research may be wise to narrow focus and consider specific factors unique to an area or case study. It has been difficult to find data and

literature as festivals are yet to adopt sustainable measures, which again
emphasises the need for future research in this area. This contributed to a general
level of uncertainty regarding the accuracy of our stakeholder analysis; future
research may wish to consult individuals in the industry to confirm or modify our
findings. Finally, our interventions have yet to be tested. Interventions in practice
change complex webs of interrelated activities and motives, and unintended and
unforeseen consequences are possible (Hayek, 1978). Lewin (1946) argues that to
understand a system, you need to try and change it, and without testing, this study's
present interventions lack certainty in effectiveness. Considering this, it is again
necessary to emphasise the need for sustainable approaches to music festivals to
be implemented immediately.

The best thing for the environment, obviously, is not to run the festival at all, isn't it?

– Michael Eavis, Glastonbury cofounder

There's nothing like a music festival. People are ready to have a good time

– Gary Clark Jr., Guitarist and Singer

Please Don't stop the music

UK Music Festival Sustainable Action Plan

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6. Appendix

Appendix 1. Pain points analysis per the triple bottom line.

Appendix 2. Problem analysis of installations - Window 1

Actor	Task	Motivation	Contribution	Rewards	Installation Physical	Installation Competence	Installation Social
Host	Event planning & organising: Liaise with other stakeholder	Stand out in competition, Profit, Earn support	Festival planning & execution knowledge	Support & backing	Online/Wireless communication (email, phone, fax), Offline planning committee meetings	Know logistics about the event (budget, timeline, plans), Can organise meetings between planning stakeholders, Can communicate verbally on-offline	Responsibility /social expectation as a host, Inclusion/safety measures and criteria, previous years' feedback
Authority	Meeting with host & local to discuss logistics of festival	Public Safety, Political communication, Cultural & Econ development	Moral assistance / Financial contribution	Exhibition of political authority, positive public acknowledgement	Online/Wireless communication (email, phone, fax), Offline planning committee meetings	Know economic-environment-social goals, Know how to regulate/support, Know where to get resources, Can communicate using current platforms (email, mail, community meetings)	Social perception of the government, Social expectation of government participation and responsibility, Social Inclusion

Local s	Learn about Event detail, Consult & sort out role and contribution	Generate revenue, Sense of community, Cultural celebration	Local knowledge, Support(financial, service)	Social, Economic, Environmental benefits	Online/Wireless communication (email, phone, fax), Offline planning committee meetings, Local billboards	Knowledge about local resources and people, Can communicate needs and contribution to other stakeholders, Can examine loss and benefits, Can communicate internally using platforms (billboard, messenger), Have role specific knowledge(accommodation, service etc)	Social norms & Local rules, Power dynamics, Laws and government regulations

Appendix 3. Problem analysis of installations - Window 2

Actor	Task	Motivation	Physical	Competence	Social
Host	Ticket sale & Promotion - Organising with different stakeholders	Connect with all other stakeholders -> for festival branding and smooth operation	E-mail platform, social media use, navigating fanbase, ticket purchasing platforms including external providers (ticket master, live nation)	Ticket giveaways, communicating with other stakeholders, sending reminders to previous attendees, incentivize social sharing	Coordination of everyone involved, organizing information forums, FAQs,
Locals	Promotion - Setup - Community Engagement	Self actualisation, wellbeing, utility, exercise, ideology, altruism	Social media, community, noticeboards, email, other locals, posters - Tables, chairs, stage equipment, social media platform, messaging platform - Community, workshops, community centres, apps, social media, shops, communal areas	Marketing and persuasion skills, economic sensibility - Ability to set up, technical knowledge, tech savviness, views towards volunteering - Ability to engage in community activites, will/need to engage in activities, communication skills, empathy/sympathy	Social norms around persuasion and privacy - volunteering / helping norms, festival regulation - social norms around helping, local government rules and reg, community spirit
Volunteers	Browse and apply for festival roles - Training	Connect to other volunteers, Connect to locals and visitors	Volunteer website, Physical & digital ads - On/Offline space for training, Booklets/Pdf of the programme, Badge-Uniform	Have role-specific skills or knowledge to share, Know how to access to volunteer portal -- Read/listen understand the training, physical ability(if needed)	Positive view(?) towards volunteering, Volunteer platform system, Volunteer group's culture and roles - Training guidelines and plan, Festival rules and guidelines, Roles and responsibilities, Training programme
Visitors	Visitor Purchases ticket - Visitor prepares for travel	Desire to see artists, experience events, socialise, strenghten relationships	Website, email platform, bank card, phone/tech, Social Media Ads, online shopping, Physical ticket package, Popup events - Transportation booking platform,	Tech savviness, google search skills, frugality, ability to search for desired items, shopping in person, tactful use of online queues - Can find and arrange booking, Can expect and	Host rules and procedures, festival rules and regulation, ticket tout rules / ticketing platform rules - "green transportation", Parking, Booking system policies and regulations

Actor	Task	Motivation	Physical	Competence	Social
			Transportation(car, coach, plane), tents, accessories, food and drink, physical shop	plan what to pack, Search for the accommodation	
Auth ority	Enforcing re gulations & ensuring safe operati on on all other sta keholders	Boosting local and national econom y - Adherence to re gulations - Public safety	E-mail and other platforms for communication with stakeholders, laptop/devices,	Help host organisation pro mote ticket sales,	Regulation on re- sell laws and purchasing from trusted websites, marketing tickets, GDPR on customer details
Artis ts	Announce (PR) - Get ready (rehe arse..)	Connect to potential/curre nt fans, Maybe Spo nsors?	Social media platform, phone/ tech, shopping for prop, costumes and set décor, camera, … - Studio, instrument, recording technology, transportation,	Tech savviness, correspon dance, adherence to social norms - Can plan out the performance based on event (time, style etc), awareness of visitor desires, commercial sensibilit y, perform as expect ed, travel arrangements	Festival PR Guide, Artist/Agency branding or PR guideline, marketing laws, marketing trends / norms ---------- Music and performance trends, Cultural awareness/ap propriation
Spo nsor s	Announce s ponsorship(PR)	Connect to new audience, Media coverage	Social media, Local/online newspape r, Street ads, Product Packaging (if applicable), Promotional vouchers	Know the marketing strategy for the target audience group, Kn ow festival event details, Know customer needs	Following the market rules and guidelines, Social resistance towards ma rketing/manipulation, S ocial pressure to be green

Appendix 4. Problem analysis of installations - Window 3

Actor	Task	Motivation	Physical	Competence	Social
Host org	Smooth execution	Profit, reputation, corporate social responsibility, bring wellbeing to others, USP Pull factors: cost, safety risks, rep risks, logistics, attendance	Office/working space, stages, music equipment, audio equipment, dance floor, amenity stalls, signs, directions, merch, products on sale (e.g. water bottles), clothing	Organisation, logistics, liaison with various stakeholders, contract negotiation,	visitor expectations, standard practice for festivals, health and safety law, land law, noise pollution law, contract law, other law,
Locals	Set up / staffing - Engage & Experienc e	Self actualisation, wellb eing, utility, exercise, id eology, altruism	Community areas, infrastructure, stage, dancefloor, stalls, signs, local streets, roads, cars, clothes (high vis) - mobile phone, water bottle, clothes, accessories, dancefloor, food stalls, stage, speakers	physical ability, festival knowledge, specialist knowledge, economic knowledge, knowledge of festival behaviour from others, social skills, food/drink skills, following instructions - letting go, phsyical ability, how to pay, where to go, what to do, festival layout/map, cultural knowledge	visitor expectations, festival social norms, volunteer norms / practice / script, government laws and regulation, food and drink regulation - social norms, government law, drug law, festival rules, festival norms

Volunteers	Complete training - Commit to / fulfil role	upskill, perform job properly, rules and regulation - social value, self expression, altruism, kindness, free ticket, experience festival	Website, festival site, off site / contractor premises, email, phone, social network, post - mobile phone, clothing (high vis), equipment (walkie talkies), bar, bar equipment, festival site, stage, mixing desk	social skills, bar skills, resourcefulness, general ability to perform tasks, physical strength, kindness, specialist knowledge	visitor expectations, festival social norms, volunteer norms / practice / script, government laws and regulation
Visitors	Travel to - Enter - Engage / Interact - Explore local area - Travel home	socialisation, self expression, self actualisation / realisation, cultural exploration, entertainment, see music acts, alcohol use, drug use, memory making, experience, camping, food/drink, talks, intellectual stimulation - Tourism, cultural value, entertainment, socialisation	Social media, Email, Photos and videos from the festival, souvenirs	Can reflect and evaluate goods and bads, Can use social media/email, Know how to connect and communicate with people/organisation	Role and responsibilities as a citizen, Any applicable contracts and rules from host organisation, Individual/Social ethics

Appendix 5. Problem analysis of installations - Window 4

Actor	Task	Motivation	Contribution	Rewards	Physical	Competence	Social
Host	Debrief & evaluate the event	Profit, Customer loyalty and reputation	Smooth execution of the festival, Foster safe & inclusive environment, Bring attention to social cause	Profit, Customer loyalty, Reputation	In/external meeting (online, offline), Communication methods (phone, message, email, mail), SNS, Official website, Track/record of the event	Know how to measure earned or expected values and losses, Can communicate with other stakeholders, Know how to communicate with visitors using social platforms, Can relect and learn from the mistake, Know how to archive(written, video, photo) the data	Responsibility as an event organiser, Inclusion/safety measures and criteria, Laws and guidelines, Expectation and pressure from other stakeholders, Competitors' practice
Locals	Evaluate the experience & loss and gains	Generate revenue, Sense of community, Cultural celebration	Local knowledge, Providing support (goods and service)	Economic development, Source of income, Togetherness / social identity empowerment	In/external meeting (online, offline), Communication methods (phone, message, email, mail), SNS, Community billboards	Know how to talk and gather thoughts and opinions, Can calculate loss and earns, Know which communication platform to use, Know expectation/goals and the result,	Social norms & Local rules, Role as a organising committee, Power dynamics, Laws and government regulations, Social contracts between members or with outsiders
Visitors	Evaluate the experience	Social motive (connection), Novelty seeking	Build communities and unique festival culture, Brand loyalty, promote culture	Self-expression, Novel experience, Social satisfaction	Social media, Official website and email, Photos and videos from the festival,	Can reflect and evaluate goods and bads, Can access photos and videos of the festivals, Can use social media/email	Role and responsibilities as a citizen, Individual/Social moral standards

					MDs/souveniers		
				39			
Volunteer	Evaluate the experience	Social value, Identity building, Experience	Quality festival experience, Education/Promotion, Industry specific skills and knowledge	Experience, Network & Career development, Financial benefits (tickets, freebies)	Social media, Email, Photos and videos from the festival, souvenirs	Can reflect and evaluate goods and bads, Can use social media/email, Know how to connect and communicate with people/organisation	Role and responsibilities as a citizen, Any applicable contracts and rules from host organisation, Individual/Social ethics

Appendix 6. Key stakeholder analysis

Stakeholder roles and motives - collective analysis

"Stakeholder" contribute _____ to earn _____

Host Organisation
For-profit organisation that hosts festival

Government / Public sector

Local residents / Community

Employees / Vendors / Contractors

Participants / Visitors

Sponsors

Volunteers

Artist