The Sustainability Dance:

Evaluating Perceptions on Sustainability within Europe's Electronic Dance Music Sector

by

Danial Johan Lissborg

da3532li-s@student.lu.se

Cultural sectors increasingly constitute a larger part of any country's economy and as such, should be included into sustainability research and analysis. A rapidly growing industry within the cultural sector, this paper examines Europe's electronic dance music sector as a case study. 13 actors from the sector were interviewed to determine the extent of sustainability's integration into the norms of the electronic dance music regime from the perspective of sustainability niche actors. Thematic analysis revealed three primary perceptions of sustainability in regards to electronic dance music, namely: Sustainability as unclear, sustainability as incompatible, and sustainability as weak. Further evaluation of the data utilising Geel's (2002) multi-level perspective framework showcased a weak integration of sustainability into the sector due to sustainability's incompatibility with economic incentives present in current infrastructure as well as a lack of economically viable solutions from the niche level.

1 Introduction

Service and cultural industries have increasingly come to the fore within the developed world, with sectors falling under this category constituting increasingly massive commercial entities within global economic systems (Oakley & Banks, 2020). Despite this, sustainability literature nevertheless demonstrates a tendency to focus on analysis of industrial or economic sectors, with cases linking cultural sectors to sustainability tending to be relegated more often towards the periphery of academia. This paper provides a case study to add to discourse encouraging more balanced inclusion of informal and cultural sectors (Klein, 2020), understanding the potential value these sectors have to actively engage individuals into general discourses of sustainability (Packalén, 2010) cannot be overlooked.

Electronic dance music has emerged out of relative obscurity to witness a prolific surge in popularity over the last two decades into a widely-adopted and majorly economically viable industry. Festivals and club nights securing themselves as part of the canon of mainstream leisure activities (Conner, 2015), with a report by the Wall Street Journal cites that Berlin was able to draw €1.48 billion from club tourists alone in 2017 (Bender, 2020). A 2018 IFPI report which surveyed 19,000 individuals aged 16-64 in 18 countries on their listening habits found that dance music ranked as the third most popular listening genre behind pop and rock, ahead of the zeitgeist of hip-hop. The report in which the survey data was presented also valued festival and clubs at roughly worth $4.4 billion in 2019 (Watson, 2019.) As listenership increases and these events balloon in size, there is a growing impetus to analyse their environment impact and the wider influence they may have on consumer behaviour.

However, most papers on sustainability in the dance music sector tend to focus exclusively the environmental degradation associated with larger-scale events (ie. music festivals). Festivals however constitute a small minority of the activities and actors operating under the banner of electronic dance music. Weekly club nights, raves, as well as the production and distribution of the tracks (in the form of physical vinyl or digital releases) that these events are based around constitute a host of logistic actors and behavioural norms that influence the functioning of sector as a whole. Strict focus on festivals may more easily fit within the constraints of academic analysis, yet it however precludes considerations of these general conceptualisations of sustainability within the sector.

1.1 Research Problem

This paper explores how mainstream perceptions towards sustainability and environmental issues have manifested in the contemporary manifestation of Europe's electronic dance music sector, aiming to highlight the host of heterogenous issues affecting the implementation of sustainable practices within the industry. It seeks to clarify interactions between smaller innovators and the wider cultural and economic forces that guide that electronic dance music sector today, through the following research question:

What are the major sociocultural factors affecting sustainability practices within the European electronic dance music industry in 2021?

This paper utilises semi-structured interviews with actors fulfilling various roles within the electronic dance music sector throughout Europe. Thematic analysis is done with the gathered data to determine key concepts which are then evaluated through the conceptual framework of the Multi-level perspective (Geels, 2002). The structure of this framework allows for the categorisation of actors to distinct conceptual levels (ie. regime and nice) which simplifies analysis of the socioeconomic forces guiding normalised practices and the integration of sustainability within the sector. By contextualising the (counter-) cultural value of electronic dance music's origins and tracing its development into an economically successful industry within the MLP framework, the forces influencing the implementation of environmentally sustainable norms are made explicit and their ideological underpinnings understood.

1.2 Aim and Scope

Recent years have seen an increase in the research papers exploring sustainability within the dance music sector. Examples include: Analog Backlog (Palm, 2017), examining the implications of the vinyl's sector dramatic growth on the sustainability of its supply chains as well as its decoupled relationship to modern formats of corporatised music consumption through an analysis of record store day; Music and Sustainability (Kagan & Kirchberg, 2016), taking a transdisciplinary approach in examining the subjective experience of music, exploring how aesthetics of complexity present within such listening practices may inform a more nuanced approach to cultures of sustainability that require an acceptance of ambiguities and contradictions; Do music festival communities address environmental sustainability and how? (Brennan et al., 2019), examining the constructions

of music festivals using Scotland as a case study and interviews constituents to understand their behaviours regarding environmental sustainability. While these examples as well as other papers within the field cover a broad range of topics, in general they tend to limit their scope towards either evaluating explicit sustainability measures being taken by music events (eg. Brennan et al., 2019) or aim to draw more conceptual links between the experience of music and attitudes of sustainability (eg. Kagan & Kirchberg, 2016).

While valuable in and of themselves, such research tends to downplay the linkages that exist between those infrastructural arrangements and sub-cultural norms to individual decision making. that motivate such behaviours in the first place. Through the use of research methods that emphasise subjective experiences of actors specialising in sustainability within the dance music industry, this paper will the gap in establishing an understanding of the socio-cultural norms affecting motivations around sustainability that exist within the sector, either pushing for or against more sustainable practices.

This paper therefore contributes to current literature by offering a unique exploration on the implicit motivators informing conceptualisations of sustainability within the electronic dance music industry and how it influences the actions of sustainability innovators within the sector. Given the limitations created through a lack of previous research, as well as the scope of the thesis format, this will ideally serve as an introduction into the topic from which future research can leap off of. It will thus opt for a clarification of the various forces influencing mainstream conceptualisations of sustainability, rather than offering a 'one-size-fits-all' solution for the integration of sustainability along all fronts.

Such an approach obviously comes with several limitations. The MLP framework limits the ability of the paper to define concrete solutions, it may not acknowledge all the accessory issues surrounding the sustainability of practices within the sector and may limit the study to wider considerations. However, given the breadth of the topic, such limitations aids in focusing the material to provide a necessary introduction to the relevant forces guiding actors responses to questions of sustainability within the sector. While ultimately more abstract in nature, this study nevertheless should serve as an entry point for examining the development of more sustainable practices within the dance music sector within the near future.

1.3 Outline of Thesis

The next section will go explain the MLP framework that will be used to situate the analysis of the data gathered in the study. Then a brief summary of the cultural and economic development of the electronic dance music sector in Europe will be given to contextualise current socio-economic pressures influencing the behaviour of both mainstream actors and sustainability innovators within the industry. Once this background has been established, the paper will present the data gathered from the semi-structured interview process before analysing it in reference to the primary framework and literature review.

2 Background
2.1 The Multi-Level Perspective

Without a doubt, the guiding paradigm of 'economic development' has been shown to be severely lacking when accounting for alternative values that are equally (or more) important to determining how society operates, and has lead to the environmental crisis we found ourselves in today (Hawkes, 2001). To counteract this, Throsby (1995) proposed that a whole-systems view of economics and culture should be taken, within which interaction and feedbacks are explicitly acknowledged and the multi-disciplinary interconnections are taken into account with any policy decision (Throsby, 1995). This viewpoint mirrors the ontological underpinnings taken in this paper as well as its usage of the Multi-Level Perspective (MLP), to join an economic understanding of governing systems within a cultural space (dance music) and how the two influence and react to one another.

Initially created by Rip & Kemp (1998),but later refined and solidified by Geels in his 2002 paper, the Multi-level perspective (MLP) has become a key analytical framework within sustainability transitions literature. Standing as a bridge between 'materialist' (considering prices, market selection, investments) and the more 'idealist' theoretical schools of analysis (more concerned with interpretations, cultural symbols, and framing intergroup struggles), it offers a broad, flexible structure with which to interpret actors, their motivations and interlinkages. Merging concepts from evolutionary economics and technology studies (Geels, 2002; Geels, 2008) into a middle-range appreciative theory (Geels, 2010), it is highly suited for studies that are more transdisciplinary or exploratory in nature, ideal for the exploratory nature of this paper.

This has been exemplified in its usage across a wide variety of academic fields as a way to integrate more holistic perspectives into any sort of evaluation. This ranges from papers in Agriculture and agro-food sustainability transitions as in El Bilali (2019), the integration of ECRS in Management Education at the university level (Setó-Pamies & Papaoikonomou, 2013), and theoretical discussions on innovation processes as in Mumford et al., (2008). The common theme between these papers is their usage of the MLP framework as a way to fill in the discrepancies between disparate research trends in a field (e.g. El Bilali), or as a means towards more effective approaches to action based planning that requires the consideration of a a multitude of complex interdependencies (Setó-Pamies & Papaoikonomou; Mumford et al.). This paper utilises the MLP to utilise both of these strengths, filling the gaps left within sustainability literature in the dance music sector to provide a more nuanced understanding of normative and infrastructural influences to more accurately guide future decision making.

2.1.1 Structuring

As the name implies, the MLP takes a 'nested-hierarchy' approach towards interpreting any given system. Analysis occurs at three levels: *niche*, *regime*, and *landscape*. The (socio)logic of the three levels is aimed at appreciating how different aspects of a sector's structuring influence local practices (Geels, 2005). Each level functions as a heuristic reference towards a heterogenous configuration of elements, with increasing levels of institutional stability as one precedes from the former to the latter (Geels, 2002; Geels, 2005; Geels, 2010) in terms of number of actors and degree of alignments between those elements (Geels, 2011). The paper would narrow its focus to the *niche* and *regime* levels with regards to club culture, aiming to identify cultural cognitions and economic considerations within the sector occurring at the regime level. The analysis sector of the paper would then aim to further understand how sustainable innovations at the niche level aim to alter these cognitions of the socio-technical regime of dance music at the transnational level within Europe.

Each level acknowledges the multi-dimensional nature of socio-technical transitions and includes socio-cultural aspects beyond just the technologies involved. This wide breadth can make it difficult to draw definitional boundaries between these levels and Geels therefore specifies that they should not be taken as ontological descriptions of reality, but rather as analytical heuristics to aid in making sense of the exceedingly complex dynamics behind any transition (Geels, 2002). The levels of the MLP are defined as follows.

Landscape

At the top of hierarchy stands the *landscape* level. This contains the heterogenous set of macro-scale, non-technological factors that serve as the external structure that facilitates interactions between actors of a system (Geels, 2002). These factors include events such as political developments, shifts in cultural values, or environmental problems. As the broadest scale of analysis, factors at the landscape level are the most stable and slowest to change since such changes imply societal and cultural shifts rather than technical transitions.

For the dance music industry this would include wider perceptions of the general public towards dance music, its symbolism at that broader scale, approaches to governing legislation by policy makers, as well as more general developments in a given society. The perception of dance music in particular at the landscape level has gradually shifted over the years from being an underground, counter-cultural activity towards more widely-accepted forms of consumption.

Regime

At the meso-scale exists the *regime* level. This is the primary level of analysis within MLP literature since it denotes the system *as is,* and is the target for any kind of socio-technical transitions that are being analysed (Geels, 2002; Geels, 2005).

The regime concept covers the set of 'semi-coherent' rule structures (Geels, 2002) that are sociologically embedded in a complex of production practices, product characteristics, and methods of interaction carried out by different social groups. This heuristic concept captures the meta-coordination between different sub-regimes (Geels, 2005), with their alignment stabilising the 'deep structure' of the regime that they compose (Geels, 2011). In other words, the regime describes the dominant technological and socio-economic norms guiding a system and its actors within all social and production groups (Geels, 2005). For dance music this can be seen in the way events are run (be they club nights or large scale festivals), what can of experience is expected at these events, as well as how consumers expected to behave in attending these events.

The semi-coherent rules that emerge out of the structure are both medium and outcome of action, in what is referred to as the 'duality of structure' (Geels, 2010; Geels, 2011). Actors are not seen as 'cultural dopes' upon whom norms are imposed but in fact *actively* conform. They are boundedly-rational actors subject to landscape pressures and internal belief structures, that continuously reproduce and intentionally enforce these norms through their own actions and networks. Actors therefore both form and *are* formed by the regime norms that exist (Geels, 2011).

Such actions results in the emergence of a 'regime rationality', whereby conceivable means-end rationalities are legitimated and defined through this co-evolution and normalised socio-institutional practices (Fuenfschilling & Binz, 2018). These dominant cultural-cognitions serve as the base principles informing further action. These cognitions (or regime rationalities) are subject to constant contestation by involved actors and are continuously socially constructed as actors, institutions and technologies reformulate their own interactive processes.

A key aspect of the MLP is the recognition *of* and emphasis *on* these linkages existing between the elements of an analysed system. It acknowledges that there is a wide-array of socio-institutional factors co-evolving along with a given technology or set of practices at the regime level, and in doing so, form a stabilising foundation for the regime as a whole. While each of these factors may have their own internal dynamics and sub-regimes coordinating their own activities, they also interpenetrate, inform and co-evolve with one another (Geels, 2011). Geels (2002) distinguishes seven dimensions at the regime level: *technology*, *user practices and application domains* (markets), *symbolic meaning of technology*, *infrastructure*, *industry structure*, *policy*, and *techno-scientific knowledge*. All these serve to inform the orientation and coordination of activities of relevant actor groups and jointly promote the stability of the sociotechnical system (Geels, 2002). The way clubs and festivals are currently run has evolved with the way that consumers desire to experience dance music, and serves to cater to them by providing an experience in line with the expectations they both have and continue to develop. A good example of this is the expansion of dance music festivals to a massive scale to meet the demand that has grown over the last two decades.

Such extensive interdependency however is considered to effectively limit innovation efforts at the regime level towards occurring only in incremental steps, since these linkages would reject innovations that are too novel to function within the normalised set of processes. Development at the regime level therefore remains slow and confined to a 'technical trajectory' that is delineated by incumbent actor groups and processes (Geels, 2002). This lock-in extends to all socio-cultural, political, economic, and technical realms involved with the wider functioning of a sector (Geels, 2011). This is especially applicable to the integration of sustainable methods and technologies within the logistic side of dance music events. As it stands, sustainability is not a culturally significant priority within dance music in the broadest sense, and incorporating it into day-to-day practice is not seen to either add to the experience as its currently conceived or bring much economic value. As such efforts are only now beginning to gain momentum as broader cultural

considerations (at the landscape level) emphasise the importance of incorporating sustainable practices.

Niche

Finally operating at the micro level is the *niche.* This level is made up of a precarious network of researchers, entrepreneurs and/or individuals that aim to produce the novel innovations that are lacking within the current 'technical trajectory' of the regime. Typically manifesting as R&D departments or entrepreneurial efforts, the niche-level typically acts as an incubator space that is insulated from market selection mechanisms present in the regime. This protection is a necessity for the 'hopeful monstrosities' (Geels, 2002) being developed that would otherwise lack the economic viability required to survive the open market. Actors support the niche with the hopes that they will either be used within the regime or will be able to catalyse change to replace it altogether.

Despite their aspirations for novelty, niche level innovations are still initially developed within the 'old' framework of the regime, targeted at problems that are already present, using knowledge that already exists. Most innovations then initially form a sort of symbiosis with older technologies, being applied towards solving bottlenecks that have risen from weaknesses in current technologies and infrastructure (Geels, 2002; Geels, 2005). However, niche firms have a freedom to engage in further learning processes (Geels, 2002) that incumbent regime actors are unable to, due to their embededdness in the system. This allows for the development of new models of operation and is the manner by which novelties may be diffused into wider, regime-market domains.

It should be noted however, that actors are not seen as existing exclusively in either the niche or regime level in diametric opposition to one another. The interconnectedness emphasised in MLP is also embodied within the actors themselves, who are found to operate polycentrically at multiple geographical (local vs. global) and sectoral (public vs. private) scales, bringing a diversity of rationalities, demands, discourses, and motivations. They additionally exist within and interact with one another through multi-scalar actor networks that are continuously being implemented and negotiated (Fuenfschilling and Binz, 2018).

In both niches and regimes, there exists a multi-dimensional model of agency that assumes actors are self-interested, act strategically, and attempt to calculate the most beneficial actions to achieve their goals. They are however subject to their own bounded rationality which means they must rely on unshared cognitive rules and schemas. While actors of both levels are bound by the 'duality of structure', the constraining pressures (what makes some actions more legitimate than

others) are considered within MLP literature to be stronger at the regime level than the niche level (Geels & Schot, 2007).

Examining the levels all together then, the landscape and niche-levels can broadly be viewed as 'derived concepts' to the regime, defined not by their own internal characteristics but rather their differences and relationship to the regime. In the case of niches, these are practices and/or technologies that are particularly novel, while the landscape is defined as the external, non-technological environment facilitating the functioning of the regime (Geels, 2011).

2.1.2 Transitions

While stability at the regime level is continuously ingrained with the interlocking of heterogenous socio-economic factors and through actor reproduction, it is nevertheless considered dynamic (Geels, 2002; Geels, 2005). Stability may exist in parallel with socio-economic turbulence (Geels & Schot, 2007), and the regime remains susceptible to pressures from both of the derived landscape and niche levels. Uncertainty and differences in opinion from within the regime itself can additionally lead to searches for alternative solutions by incumbent firms, weakening the linkages that otherwise held the system together. With the pressures from the landscape and niche levels, this can lead to the development of 'tensions' that push against the established norms of a regime and incur a transition process (Geels, 2002).

System transitions thus come about through a complex interplay between all levels and actors of the system (Geels, 2005). The success of innovations from the niche level aspiring to incur a broader transition is not solely determined by processes at the niche level, but is also subject to developments occurring within the regime and sociotechnical landscape. Since niches are almost by definition mismatched with the norms of the current regime, they will have difficulty breaking through to widespread adoption on their own (Geels, 2005). Therefore, radical innovations are only able to 'break out' of the niche-level and achieve sustained success when there is an 'alignment of developments' (Geels, 2011) between all three levels that create 'windows of opportunity' within a given sociotechnical regime (Geels, 2002).

Transformation is initialised when an opening up occurs within the regime as a result of destabilising pressures that have been motivated either externally via landscape shifts or internally within the regime itself. This leads to a period of loosening up of previously established structures that results in a 'heating up' of the system, where actors are motivated to experiment with new technical options. Due to the interlinkages between all actor groups, change then is seen to occur simultaneously along all fronts of the system. Niche actors can take advantage of the opening and

shift the regime trajectory in a direction they desire with targeted novel solutions (Geels, 2011). For sustainable innovators within the dance music industry, wider landscape developments like countries increased support for sustainability through transnational treaties like the Paris agreement, or system shocks such as the recent COVID-19 induced lockdown measures may serve as these windows for change. The oncoming vaccination of the population and reopening of clubs may provide the ideal opportunity for the implementation of alternative methods of functioning that are associated with more sustainable rationalities and practices.

Geels outlines the process of wide-transformation as guided by processes of co-evolution between the technical form and (social) function of these niche-novelties (Geels, 2005). Referred to as a 'fit-stretch' pattern, the initial iterations of an innovation are usually closely oriented around the needs and conditions of the existing regime. Their functionality will at first be interpreted along categories associated with the given regime and thus form the 'fit' part of the pattern. It is the gradual expansion of the application and consumption domains of these new technologies that allows new functionalities to emerge, forming the 'stretch' aspect of the pattern (Geels, 2005) and resulting in broader system-wide innovation. This transition process can be further specified into four distinct stages, which is done to set the stage for interviewed firms and initiative efforts to be analysed and categorised:

Four Phases of System Transformation

Within the first phase, there is an articulation of the vision guiding innovation activities that aims to attract attention and funding (Kemp et al., 1998; Geels, 2010; Geels, 2011). Novelties that initially emerge from such activities remain embedded within wider regime functioning and landscape developments (Geels, 2005). Without an established dominant design to define the development trajectory, various technical forms may compete with one another for market dominance. This is the phase of trial-and-error, with experimentation and strategic manoeuvring guiding efforts towards possible solutions (Geels, 2005).

In the second phase, as innovations begin to take more practical and economically feasible forms, they enter into small market niches which, through the development of social networks and enrolment of actors (Geels, 2011), provide the resources and demand required for further technical specialisation (Geels, 2005). This newfound collective of users and producers gives the innovation its own technical trajectory (Geels, 2005), and it improves through the efforts of now dedicated actors. Improvement occurs both through technical breakthrough, as well as through the discovery of new functionalities facilitated by wider consumer adoption (Geels, 2005). The second phase will

subsequently result in a stabilisation of the 'rules' behind a given technology as it grows in influence and a 'cooling down of the system. A dominant 'universal' option may emerge out of all the alternatives and push other options out of the market (Geels, 2005). A positive example of this comes from an experience by the ECODISCO initiative in London. Creating an event that revolved around replacing single-use plastic cups, club goers were each given one metal cup with a holder in exchange for a deposit that they would use for drinks for the night. Worried about how a change in practice would be taken, the patrons instead found it to be an addition to the club's atmosphere, where this novelty served as a kind of mini-event in itself as people experimented with different ways to hold and use the cups.

The third phase therefore occurs as the technology breaks over a tipping point and there is alignment between windows-of-opportunity created by the regime and landscape (external drivers) and the growth of the products influence and practicality as a viable add-on or alternative (internal factors) (Geels, 2005). If the the alignment of various learning processes *do* result in a stable configuration and the expectations around the technology become more precise and broadly accepted, and networks become large enough, this is where niches gain substantial momentum (Geels, 2011). This is particularly true if those networks involve powerful actors who have the ability to confer both legitimacy and resources to the proposed innovation.

The fourth phase occurs when the innovative technology actually overtakes and replaces the old regime. Because a regime is defined with its interlinkages with broader societal factors, this implies a rippling of shifts within the sociotechnical regime beyond the technological aspect, as all factors adjust to match and incorporate the innovation into their own structuration and practices (Geels, 2005).

Multi-level Interaction Pathways

The MLP has been criticised for the fact that this conceptualisation of transformation overly emphasises change as a *bottom-up* process, with many studies that utilise it simply conceptualising regimes as barriers for green niche-innovations to overcome in order to properly take root (Geels, 2011). Geels and Schot (2007) attempts to overcome this bias by expounding upon different variations in the timing of interactions between niche and landscape levels, as well as whether the relationship between niche and regime are either competitive or symbiotic. This resulted in the following four pathways:

1) *Transformation*: Here landscape developments exert pressure on the regime level at a time where niche innovations are not yet developed enough to be viable replacements. Therefore, it

is only the experiences from the niches that are integrated into the regime (typically in a weak form) as opposed to the innovations themselves.

2) *Reconfiguration*: This occurs when niche-innovations have had the chance and resources to be more fully fleshed out, and are able to answer the call put forward by macro-landscape pressures. The question then becomes whether these technologies or practices are compatible with the infrastructure that is already present within the regime. If so, incumbent actors can utilise these new technologies as 'add-ons' to solve local problems. This may begin a ripple effect that would result in wider shifts amongst the elements of the regime as a whole.

3) *Technological substitution*: Occurring when niche technologies are once again well-developed but in this route stand directly opposed to the practices of the regime. Landscape pressures therefore create a 'window-of-opportunity' by which these technologies can come in to make up for the weakness of the current regime and eventually replace it. This can alternatively occur when niche innovations gain high levels of internal momentum due to resource investments or wide consumer and political support, in which case they replace the regime without the help offered by landscape pressures.

4) *De-alignment and re-alignment*: This occurs when the pressures of the landscape are so great, or the regime is so inefficient that the current iteration of the regime simply disintegrates. This leaves a vacuum which is initially filled by multiple niche-innovations that can co-exist for extended periods. Internal processes eventually determine which mode will become the dominant model and, once a clear leader emerges, a process of re-alignment occurs around this innovation formulate a new stable regime.

Single-innovations are additionally no longer deemed the appropriate unit for diffusion analysis. This is especially applicable to broader sectors that are less explicitly technology-oriented, such as the dance music industry, where there is less specific advantage to be found by having the most advanced technology. Instead, a multi-technology approach is emphasised in the MLP (Geels, 2005) that iterates the importance of actor usage and networks in influencing current norms. Since innovations within dance music exists simultaneously within a technological as well as a cultural capacity that is directly oriented around user-practices, they must be viewed within the overall trajectory that they are forming. Complementarities and networks between technologies and practices should be examined as an amalgamated unit, and their overall bottlenecks identified. It will be the stabilisation and spread of these innovative interactions as a whole that will inform regime structuration.

Interactions between Innovations

Interactions between innovations as well as with incumbent technologies can take several forms, particularly early on in the transition process. Technical add-on and hybridisation are two means by which old and new technologies exist harmoniously and co-evolve with one another. Sequential accumulation on the other hand implies an initial technology opening up a regime in a way that creates space for wider innovations to be integrated, that may later link with the first innovation. Newfound innovations can also compete with one another, particularly in the early stages of a transition, as they vie for market-place domination. No matter which approach is taken however, non-linear actor-related patterns are a key process to be accounted for beyond the innovations themselves. Cartels of fear, hype and bandwagon pressures, as well as shifts in wide cultural values are social patterns that create modes of legitimation that can to a large extent determine the success of an innovation's wider success within the regime (Geels, 2005).

2.1.3 Additional Considerations

Ontology

From this discussion, a clearer picture of the logic behind the MLP and therefore this paper emerges. The ontology behind the MLP framework stems from a sociological understanding of technology whereby technology in and of itself does not exist as a discrete entity, and is only imbued with any power through association with human agency, social structures and organisations (Geels, 2002). It gains influence through the expansion of its network of interconnections with other social, technical, cultural, and institutional factors. It is not the technologies themselves that exert influence over the functioning of society but rather their usage by intentional actors that imbue them with the influence to modify norms and subsequently other actors' practices (Geels, 2011).

Transitions therefore do not have a single driver, but instead take place via the amalgamation of processes along multiple dimensions at different levels that reinforce each other via a process of 'circular causality' (Geels, 2011).These factors then co-evolve together with that given technology set, reinforcing the linkages between themselves to stabilise the overall sociotechnical configuration (Geels, 2002). Compatibility, inter-relatedness, and co-development are therefore posited by the literature to be key themes in modern diffusion analysis (Geels, 2005) and the network of innovations becomes the key mode of analysis for understanding niches and their relationship to the incumbent regime.

The reconfiguration associated with sustainability transitions therefore implies an upheaval of governing social and institutional systems on top of the incorporation of new socio-technical

regimes. This re-establishes a system's norms of production, operation, communication, and consumption (Geels, 2005). As such, the innovative efforts looked at in this paper will be examined in the context of the actors developing and utilising them, a well suited approach for the community-based, cultural practices associated with dance music.

Specificities behind Sustainable Transitions

Sustainability transitions pose a unique challenge however, by being purposive by nature (Smith et al., 2005 via Geels, 2011). The fact that sustainability refers to a collective good means that private actors have limited incentives to engage with the subject as problems of free-riding and prisoner dilemmas emerge. Sustainable solutions additionally do not offer explicit user benefits in and of themselves, since their premise revolves around re-orienting consumption practices towards having a lower ecological footprint, rather than offering particular user functionalities. This places the onus on policy makers and civil society to internalise negative externalities and change the economic framework conditions to legitimate such practices over others, while also supporting 'green' niches themselves more directly (Geels, 2011). Power struggles are thus a requirement to overcome vested interests embodied by dominant technologies and to legitimate new norms of practice (Geels, 2011).

The idiosyncrasies of the dance music industry will also have a large effect on the areas in which space exists for sustainable innovations and how they are implemented. There exists a broad spectrum in terms of scope and economic influence between large-scale festivals and celebrity DJ's as opposed to the many smaller grass-roots, local clubbing scenes existing across Europe. The influence of individual innovations could vary wildly depending on which parties and processes these innovative efforts are aimed, and who picks them up in the end.

A sustainability transition within the dance music industry would therefore have to involve both specific technological substitutions as well as wider normative shifts. Not only would the technologies behind the consumables have to be made more sustainable, but so to would the practices of both consumers (eg. flights to festivals, mindfulness of waste) and those working within the industry (eg. minding carbon emissions by booking local DJ's instead of foreign big names, influential DJ's planning their routes more efficiently, clubs utilising reusable materials and/ or charging an environmental surcharge on tickets to offset carbon emissions of an event) have to shift towards being more explicitly mindful of their impact.

Weaknesses of MLP

Most criticisms of the model are levied at its lack of practicality in terms of providing solutions, but this applies a function to the model that it does not claimed to serve. Any system being studied is unique in its interactions, needs, and roles, and appropriate scales must therefore be determined by the researchers before beginning their analysis. On its own, the MLP can only function as a heuristic device to aid in the search for clarity in a complex dynamic setting. It is a supplemental 'appreciative theory' that studies event sequences as a means to define and explain system dynamics (Geels, 2002). It is for this reason that the MLP has been chosen as the framework by which the dance music industry is analysed. Being exploratory by nature, there is more to gain from a wider analysis than from focusing on particularities.

While the MLP prides itself and is in fact built around being a flexible framework, it does not aim to incorporate *all* social theories. Several ontologies, such as functionalism or relationism, offer rich analytical possibilities that can develop equally viable and useful alternative frameworks to sustainability transitions (Geels, 2010). Sustainable transitions as a process in multifarious forms shall continue to be a relevant and constantly changing topic for years to come that will benefit from dialogues between various approaches.

Fuenfschilling and Binz (2018) argue that the transitions of any regime's semi-coherent rule structures have increasingly become global processes in the modern world. The multi-scalar interrelatedness of institutional structures and actors of a regime are less drawn by national boundaries and increasingly by ideological categorisation (ibid.). Globalisation has increased the isomorphic pressures exerted on organisational fields, actors, and practices worldwide, narrowing idiosyncrasies in how these aspects gain legitimacy. Actors will increasingly follow the shared logic of action provided if the precepts of the regime are increasingly institutionalised, since its implications will be increasingly perceived as 'the normal thing to do'.

Currently Europe stands as the de-facto home of dance music culture with a broad degree of homogeneity in terms of cultural cognitions. Thus, while the findings of this paper will be based off of a small sample of interviews with European-based individuals and initiatives, such explorations will most likely be applicable to contexts beyond the particular geographies they are based within.

Utilising the analytical levels denoted by the MLP, the next section outlines the cultural and economic development of dance music industry to establish the landscape pressures that both shapes and limits the development of sustainability discourse and action within the sector.

Afterwards, the data collected from semi-structured interviews will be presented and subsequently linked back.

3 History of Dance Music

This section attempts to briefly summarise the development of dance music since its inception. By doing so, the governing economic and cultural forces of the dance music landscape that influence the functioning and form of firms at the regime and niche levels can be made explicit.

Dance music has witnessed a prolific surge in popularity over the last two decades as festivals and club nights have secured themselves in the canon of mainstream luxury activities enjoyed by many. Beyond the increased economic viability of the industry such a development has marked a shift in societal perception beyond changes in common tastes, showcasing a complex process involving structural factors such as mass media and major music corporations (Conner, 2015). These factors have shifted dance music's function and aesthetic from a counter-cultural practice for marginalised communities towards its manifestation as a culture industry today (Conner, 2015). The rationalisation of the production, distribution, and conception of many aspects of dance music events (particularly through corporate advertising) for profit has in many cases undermined the initial counter cultural values that these practices represented (Conner, 2015) with regards to issues of social politics and sustainability. Exploring electronic dance music's cultural development allows for the assessment of its current potential as a vehicle to encourage behavioural change.

The development of Electronic Dance music, be it house, techno, electro, or the multitude of other subgenres that have emerged over the last four decades has been outlined by Conner (2015) to consist of three distinct periods: 1) the formative years marked by a commitment to subcultural values; 2) transition period where EDM developed its negative perceptions due to sensationalised media coverage and official legislation; 3) culture industry phase, lead by a more corporate organisational structure (Conner, 2015).

3.1 Dance Music as Sub-Culture

Despite the euro-centricism of electronic dance music current, at its inception it was by and large an American led phenomenon. The movement evolved out of scenes that existed in Chicago and Detroit that were subsequently transplanted into Europe, where new cultural references were integrated and subsequently morphed into the more recognisable rave culture of today.

Music critics have pointed out that the countercultural underpinnings of the movement were based upon the twin influences house and techno, which can be considered to have evolved in Chicago and Detroit respectively in the late 1980's. Chicago's house music (named after the *Warehouse*, a club where the sound was first developed) emerged out of underground disco clubs often frequented by gay latino and African Americans (Brewster & Broughton 1999; Conner, 2015) as a countercultural practice. It was (and remains) more sensual by nature, tuning into carnal physical experience through a focus on melody with lyrics often preaching about the importance of freedom and love (Conner, 2015), a reflection of the experiences of a group that stood consciously opposed the values of the dominant group (ie. White, straight males) (Conner, 2015).

Detroit's techno stood at the other end of the spectrum, with a more militant and deliberately mechanical aesthetic (Brewster & Boughton, 1999). Enabled through technological advances in computing technologies that enabled a wider base of 'amateur' productions outside the traditional canon of more professional compositions (Conner, 2015), each element of production, from track titles, group names, and other aesthetic elements, focused on narratives around technological dystopias (Reynolds, 1999). This is posited to be a direct response to the dire economic conditions producers found themselves in as a result of the city's failing automotive industry, and served as an ideological escape to the newly found economic hardships (Conner, 2015). Early techno producers were reacting to the failing industrial sectors of Detroit (something occurring widely across the United States), white flight, and the modernisation of factories that displaced workers (Conner, 2015). As a genre therefore, techno offered a critique of contemporary urban life in Detroit.

These sentiments transcended the geographical boundaries of the cities, resonating with those far beyond Detroit and Chicago (Silcott, 1999). Through their spread, these genres picked up influences to create a semblance of a unified subculture. These sounds were imported into the UK where they were recontextualised and imbedded with more explicitly hedonistic elements elements in the form of the associated aesthetic and drug use (typically ecstasy) in what would be known as 'acid house' (Conner, 2015) before continuing to spread throughout the rest of Europe. At this time, electronic dance music was simply recognised as "the underground culture" (Conner, 2015).

In all these forms, rave and dance music culture can therefore be seen to have long been attached to broad social issues (initially concerning deindustrialisation, sex and race politics) and has provided an avenue for people to (passively in many cases) be exposed and engage with these topics in a communal space. While not engaging in political activism directly, dance music challenged the status quo and allowed for the exploration of non-conformist notions of a 'good life', through hedonistic practices associated with drug use and long nights in illegal venues that

circumvented the normal channels of society and provided a space for socially and economically marginalised communities (Conner, 2015).

Despite this, the key role hedonism has played within dance music since its inception must be acknowledged. While it may have initially functioned as passive political act in early iterations of dance music as a celebration of non-traditional values and spaces and a reaction to the demands of a diurnal capitalist life within society (Fraser, 2012), other political values have been argued to operate as secondary functions, outweighed this grander overarching theme (Fraser, 2012). The development of the scene into a culture-industry saw this aspect transform into its primary, and often, only function.

3.2 Achieving Legitimacy

The hedonistic features that stood at the centre of the subculture led to negative ramifications in the mid-to-late 1990's, as members were increasingly portrayed by wider society as societal deviants (Conner, 2015). In the US and the UK, participants who attended illegal dance events were likened to criminals and increasingly stigmatised, as awareness of such events spread throughout the public. This only solidified the status of members of the community as political entities, as their actions indirectly responded to such perceptions that further embedded them as marginalised from which dance events served as a temporary escape (Conner, 2015).

Despite acknowledgement and the celebration of their deviant status, these perceptions began to shift the behaviour of actors within the underground scene. Promoters (a role of high cultural prestige at that stage of the culture) began looking for ways to legitimatise perceptions of the events they were holding, to allow for the continued enjoyment of the experience they were creating. However legitimation in the eyes of the state and the general public meant a shift away from the communal and free spirited values that had up to this point guided the development of the scene (Conner, 2015). The legitimation that promoters sought eventually led to an alignment of the scene with the consumer capitalist ideologies they initially stood opposed to (ibid.)

The late 1990's and early 2000's therefore saw cities worldwide increasingly made demands on the increased visibility of these events. This was achieved through the active disclosure of locations, sales of official tickets and in some cases charging of taxes on events (McCall, 2001). This lead to a shift of the dance music sub-culture shifting away from underground clubs and non-traditional venues (such as broken into warehouses) into legitimate nightclubs or state-owned

venues. With this came an increase in bureaucratic control, imposed directly through the associated legislation and costs of venues (that were licensed to serve alcohol and followed strict rule) and employed staff, or indirectly through fears of having their events shut down that would raise the costs of throwing these events dramatically. As the associated costs with legitimation were much higher than the guerrilla parties that previously characterised rave culture, it lead to a commodification of all the aesthetics and concepts present in the practice into a more accessible, easy-to-digest format (Conner, 2015).

The increased accessibility of a previously exclusive cultural activity led to a massive surge in popularity amongst the general public. The rise of live-acts like The Prodigy or Moby shifted the aesthetic of the music away from its niche, countercultural representations towards one more similar to mainstream rock concerts, as a consumable experience (Conner, 2015). These acts served as a precedent to another trend still felt today, the introduction of celebrity culture into dance music. As events were carried out in legitimate spaces, DJs were increasingly placed front and centre on event ads in a similar fashion to the way that bands had been promoted (Conner, 2015). They became the focal point of events, superseding their previous role merely as facilitators.

Technological innovations have also had a distinct effect on the trajectory of the sector in parallel. The development of the internet and file sharing technologies embodied by Napster (and later on Limewire) had a huge effect on the scene, whose founding principles were predicated upon the early adoption of new technology. File-sharing technology allowed all actors within the scene to trade music more rapidly, created a demand for DJ equipment to function with digital files, and allowed for the music to spread in a way that stood directly opposed to the secretive and gate-kept pathways that previously characterised the scene (Conner, 2015). In general, the internet broke down the barriers to entry of the scene that was previously built upon cultural capital and 'being in the know' (Conner, 2015). Paired with the clear disclosure of where events were happening and who was playing, anyone with access to a computer was able to engage with the scene. This lead to a stark demographic shift from the events constituting of predominantly marginalised groups (with individuals from black, latino, or homosexual communities) to a largely white, middle-class, heterosexual youth (Conner, 2015). The one space that had previously served as an escape from the demands and the persecution of the majority was now overrun by it.

All together, the 2000's saw dance music suffer massive losses in terms of the events' freedom of expression, replaced by a surge of commodification (Conner, 2015). Dance music

became less about representing ideals and providing a space for the marginalised or for representing social issues, and increasingly about the economic bottom line. Participants that were present at the inception of the scene argued that the new crowd had increasingly less connection to the subculture that guided it and it became clear that the scene had less to do with those guiding values and was increasingly tied to values of consumption instead (Thornton, 1996). Notions of authenticity and what the values of the scene were were becoming increasingly blurred, and old participants became wrapped up in the process of reforming the group's norms as they were increasingly influenced by the crowd that previously stood outside of the group (Conner, 2015). It is at this point that dance music began to shift from a 'scene' to and industry.

3.3 Electronic Dance Music as Culture Industry

As can be expected, such developments drew the attention of major music corporations that saw a new potential cash crop, and by 2010, the dance music 'scene' had been transformed into multi-billion dollar culture industry (Conner, 2015). The last decade has seen the development of the commodifying features which first appeared the decade prior become major governing aspect of the scene and its participants (Conner, 2015).

The 'deviant', counter-cultural aspects that had previously dictated the scene were replaced by widespread acceptance of consumerist values that directly contradicted the founding principles of the group. Promoters and other organising parties were professionalising and found themselves aligned with the public officials that previously criminalised them. Through that process, the politically-threatening aspects of the subculture were diluted in favour of the more legitimate features, such as the aesthetic elements (lighting, staging, etc.) which helped to reinforce the attraction of a widespread audience (Conner, 2015). As audiences were increasingly attracted to the to the superficial aspects of the scene, a cycle began by which the crowds that constituted the scene were increasingly detached from the political elements and cultural underpinnings it was founded upon (Conner, 2015).

As the sector as a whole increasingly orients around meeting the demands of the consumers, alternative visions for the scene that may have otherwise formed the basis for critique of current normative trends have been crowded out (Banks, 2020; Oakley & Banks, 2020). Capital accumulation now functions as the guiding role any iteration of dance music, underground or mainstream.

That is not to say the political aspect of dance music or underground culture has completely disappeared, but rather to acknowledge their marginalisation by the industry's new found profit motive. Even in the underground, dance music events are highly measured and evaluated by their consumers and have a dependence on the funds provided by these consumers — despite the self-imposed 'marginalised' DIY ethos that pervades the discourse of the 'underground' scene (Jones, 2020).

Events are structured, evaluated and measured by their attendees in a similar manner that corporate firms are by their clients, contrary to theories of the immeasurability of the creative fields (Böhm & Land, 2009; Pitts, 2020). Dance events, organisers, or consumers which attempt to engage with social or environmental topics are therefore limited by the landscape pressures of capitalist commodification that the scene now exists within.

This is the environment that organisers and consumers within either the regime or niches of electronic dance music now supposedly find themselves in. Innovators seeking to incorporate sustainability solutions should have to navigate the current socioeconomic forces of commodification, hedonism, and hyper-consumerism.

3.4 Current Manifestation

It should be clear now how dance music has evolved into the massive culture-industry it is today. Electronic dance music's newfound status has been picked up and encouraged by the state bodies that previously condemned these events, who now see the industry's economic value as an key tourist sector (Brem & Diaz, 2020) and has lead to the encouragement of utilising music tourism as a growth strategy (Brennan, 2020). In the UK alone live acts and festivals managed to draw more than 30 million people, 40% of which arrived as tourists (Brem & Diaz, 2020). Even transnational bodies such as UNESCO, UNCTAD (2018) and the EU (2018) continue to promote the culture and creative industries (of which dance music is a part) as economic bandaids in the aftermath of the 2008 global recession (Banks, 2020), pointing to the depoliticised status of cultural industries as a whole to an economically tradable resource (Banks, 2020). It is important nevertheless to recognise this development without bemoaning the loss of its political potential and maintaining the need for environmental accountability of the sector. If the majority of consumers are uninterested in the counter cultural roots of dance music, sustainability should be a priority in those aspects of the industry.

The environmental footprint of the live aspect of dance music has become especially pertinent after the rise of music streaming (the technological successor to the file-sharing platforms of the 2000's) as the dominant form of music consumption. The advent streaming companies like Spotify has shifted music consumption away from a commodity industry (where one buys copies of music to own, serving a process of self-identification and self-construction) to a service industry (where one purchases temporary access to music that is stored in a cloud, whereby music increasingly serves an ambient, hyper-consumant function) (Brennan, 2020), and has decimated the business models that previously sustained workers in the field (Killick, 2020) forcing a shift of the business models of the all music industries towards live events and merchandise (Brennan et al., 2019; Brennan, 2020). Those seeking to make a living must now achieve that through touring and live events (Brennan et al., 2019), which has come with severe repercussions in terms of ecological footprint. Julie's Bicycle, an environmental consultancy agency, estimated that the UK music industries alone emit 540,000 tons of greenhouse gas equivalents each year, with the live music sector accounting for about 75% of those emissions (Bottrill et al., 2010).

The drastic growth of electronic dance music's footprint have fortunately lead to the rise of a number of sustainability innovators appearing within the sector's niche. These solutions of these initiatives have taken on a multitude of forms to target the many challenges and wasteful practices present in the execution around these events. Issues such as the prevalence of single-use plastic cups, the environmental implications of serving animal-based products, energy sourcing for off-site events (ie. festivals), and waste-disposal all are being more frequently targeted.

An issue that has garnered special attention in the past few years is the carbon emission from flights taken to these major events, particularly those stemming from the extensive global touring of most working DJ's. A recent report titled "Clean Scene" (a sustainability niche initiative itself) found that the most popular touring DJ's (ranked by popularity on Resident Advisor, a journal publication and calendar website for dance music) are some of the largest carbon emitters in the world, with the average DJ emitting up to 35 tonnes of CO_2 per year (17 times higher than the recommended personal carbon budget) (Mclaughlin et al., 2021). The flights of those audiences attending these events are additionally a major concern, with another study by Julie's Bicycle estimating audience travel as constituting 80% of an average festivals carbon output (Powerful Thinking, 2015).

With the explication of the dance music sectors' current socioeconomic context, the ability of these niches to first break into the regime and subsequently affect it are laid out. The next section will then discuss the methodology utilised to interview and glean insights into the experiences of those niche operators before providing the data they provided and subsequently analysing that data against the MLP and Culture in/and/for Sustainability frameworks.

4 Methodology

This data utilised in this paper was gathered through semi-structured interviews with relevant actors over the course of three months. Spoken interviews were chosen as a means of capturing content-rich data of the subjective experience of sustainability actors, which aided in filling the gaps left by research on the individual concerns and contexts these actors operate within.

Interviews were initially framed by a devised question set before moving into a prepared time for conversation, allowing interviewees to further define their own subjective experiences beyond the scope of the question bank. This allowed for reflexive interpretation of such experiences and broader conceptualisations of how sustainability has been socially negotiated into the overarching regime rationale.

13 participants were interviewed for the study, each fulfilling various roles within the electronic dance music industry within Europe. The sample primarily included actors specifically involved with the social or technological innovations of the sustainability niche, but also actors fulfilling roles around more mainstream organisation and promotion of events (including promoters, DJs, bookers, and club owners) considered part of the regime. Sampling was therefore designed in a way to encourage representation between these two levels in order to develop a holistic interpretation of the structure's relationships between its constituent parts. Geographically, interviewees were based in Denmark, Scotland, Germany, the Netherlands, Sweden, Spain, and the UK, and thus represented various contexts that currently make up the European dance music industry.

Conducted over the course of one to two hours, the interviews were directed towards to central themes deduced from the background research. Sample questions include: *How integrated is sustainability into the dance music industry regime currently?*; *How do other actors perceive your attempts at integrating sustainable practices?*; *Are there challenges that are unique to the dance music industry when it comes to sustainability?*; *How do sustainability initiatives like yours connect with other similar initiatives?*. The initial question set was therefore largely descriptive by nature,

due to the fact that the study primarily aimed to establish the *subjective* experience of the various actors within the sector. This question set was followed by the less structured conversational aspect of the interviews to allow space for individual interpretation, deliberation, and subsequent discussion of topics that may not have been previously covered by other interviewees. This allowed for an exploration of emergent themes or ideas that were determined relevant by the participants, that may not have been considered based off a strict adherence to the background literature. A constant comparative approach was utilised throughout the process, which meant refinement of interview questions over the course of data collection based on previous results. This increased the efficacy of discussions and sped up the process of reaching an informational saturation point.

Each participant signed a contract of ethics, clarifying the voluntary and anonymous nature of their participation within the study. Each participant acknowledged and gave their approval for their inclusion within the study on the grounds of their anonymity. As such, within the data presentation and analysis sections, quotes used to demonstrate the main findings of the research will be attached to coded pseudonyms. As such, the particular solutions offered by the individuals or organisations of the individuals represent were not disclosed in order to maintain that anonymity.

Despite there being a variety of actors within this sample, it was nevertheless limited by its small quantity. While the data would benefit from an increase in quantity, the format of a semi-structured interview nevertheless allowed for the collection of rich data from which to extrapolate themes. Many individuals that were sought out were either unwilling or unable to participate. These were typically larger organisations or those actors that would have been representatives of the regime. Actors within the sustainability niche were typically more interested in participating, perhaps due to the ideological alignment between their work and the study or their work's orientation around visibility and education. However, this may lead the insights from this study to being more biased towards the view of the latter, a point worth highlighting.

4.1 Analytical Methods

Data was processed in this study utilising Clarke's (2006) reflexive thematic content analysis, a common approach for applied research and qualitative interview data *(*Burnard, 2008) (Clarke, 2006). The method stems from the grounded theory approach *(*Burnard, 2008), but is theoretically flexible and widely applicable to studies revolving around the themes of understanding and representation as is the case in this paper (Clarke, 2006)

The gap this paper aims to fill within academic literature is developing an understanding of the socio-cultural context within which sustainability as a concept (and sustainable actors by extension) exists within the landscape of European electronic dance music. Having established the historical context through the literature review, reflexive thematic content analysis will now be utilised as a means of establishing latent themes across a set of interview data.

Reflexive thematic analysis is done through a process of data familiarisation by the researcher, after which themes are established through a process of latent coding that allowed for further refinement of core concepts which lead to the development of central themes. A constant comparative approach has been utilised in data analysis (Burnard, 2008), as the process continued both throughout data collection as well as afterwards, to compare and renegotiate additional pieces of information against developed themes before they could be finalised. The weaknesses of such an approach are its subjectivity and reliance on a researcher's own interpretive lens, which can never be fully objective, and as such will remain embedded in certain ontological ideological frameworks. Additionally, it may be seen as over reliant on the selection of interviewees, which in this case was also rather limited and may not provide a full overview of underlying influences or determining socio-cultural factors.

A semi-structured format for interviews were chosen due to their ability to include concepts beyond the anticipatory themes that the background literature would suggest. This was considered a key asset given that the paper aims to outline broad sociocultural factors beyond what has been previously described in research. Such an approach allows for the subjective expertise and experience of the interviewees to fill in the gaps of practical knowledge held by the researcher. Quotes from these interviews are presented in the following section with descriptive quotes from the interviews before being analysed in relation to previous research and the MLP framework.

Analysis of the gathered data was aided with two programs: Otter.ai, an online, machine learning based transcription software, and Quirkos, a program built for the management of interview data that aids in theme development and characterisation. Otter.ai was used to hasten the process of transcription, before each transcript was corrected against the original audio files.

5 Data Presentation

The interview process highlighted a universality in terms of how participants experienced sustainability at the landscape level, despite their various roles within the sector. There was a

general consensus among participants regarding the increased visibility and perceived significance of sustainability as a key concern at this societal scale.

> *"It does feel like in the past 10 years, maybe there's a bit of a kind of deepening and broadening of understanding sustainable practices in different areas. So we're not just talking about dance music, but much more broadly."* (J, DJ)

Participants cited developments such as international conventions like the Paris Agreement, initiatives within the EU, and wide coverage of natural disasters and environmental protests worldwide are as having played a central role in garnering such momentum.

> *"I see an awareness, it's like a dinnertime conversation now more than ever, which is really great and people cannot get away from it. Especially just in the last six months. I think because of all the extreme weather events like the flooding and everything like that, you cannot—when the news is reporting on that—you cannot ignore it."* (E, Organiser)

Focusing on electronic dance music regime in particular, many participants initially commented upon the sector's particular progressiveness in terms of beliefs around sustainability and social issues.

> *"I think when you look at people within the electronic music industry it tends to have a younger demographic, and that younger demographic is often far more switched on and alive to sustainability and the needs that exist around that. So, from a producer's point of view, from a festival club point of view, from an artist point of view, your customers are already saying 'This is what we're interested in'."* (T, Corporate)

However, further discussion often uncovered a perceived superficiality to this support within the sector. Most participants ended up expressing concerns that such sentiments had either arrived too late or lacked the underlying resolve necessary to galvanise the action required for tackling the sector's growing ecological footprint. This critique was typically levied both at producers and the

consumers of these events, showcasing a lack of transfer between landscape developments and regime norms.

> *"It kind of feels like something's happening but I really don't know if it'll be enough, soon enough."* (J, DJ)

> *"It's just that we need to be addressing this as the emergency that it is. And we're not there yet. But I definitely, like definitely see the shift from from a few years ago."* (E, Organiser)

The same participant who initially cited the sector's progressive tendencies later acknowledged the lack of clarity around whether general trends towards sustainability have translated into the regime rationality at large.

> *"I made an assertion there about younger people being more interested in sustainability. And we know there's a lot of quantitative and qualitative survey data from broader society that supports that. Do we know that for a fact within electronic music? Not at the moment, because there's never been that sort of research done. At the moment, we have no baseline for the impact that the industry has."* (T, Corporate)

Often times these sentiments were likened more to a passive favourability as opposed to any active political action.

> *"My experience of dance music, having worked in it for most of my 20's, is that people are generally quite open minded, progressive, and care about environmental choices — where it's not going to massively inconvenience them."* (S, Organiser)

One participant in particular characterised the progressive politics of the sector to being a fashion statement for the younger generation, which makes up the bulk of the sector's consumer base (Wagner, 2014).

"It's almost as if politics are like fashion. You know, people follow politics more than they follow the look. It's cheaper! Anyone can get in as well and if somebody is making a lot of sense and if it touches them... it's always been like it, hasn't it?" (P, Management)

This showcases what could be a worrying trend that demonstrating awareness about sustainable practices being considered the maximal level of consumers' environmental stewardship in dance music, despite its' status as a liberal, forward thinking group. This is corroborated by Fraser's (2012) findings of the supremacy of the hedonistic imperative over other motivations. This could possibly limit the efficacy of any sustainability initiatives taken by independent or larger production groups that would rely on some degree of consumer cooperation, as a inconvenience and uprooting the fun part of clubbing may not be something people are willing to do during their nights out.

Having established the a basic understanding of landscape perceptions and their inability to be translated to the regime level, the following sub-section presents the three themes established from the data on perceptions of sustainability within the electronic dance music sector.

5.1 Themes

5.1.1 Sustainability as Unclear

One key challenge towards the achievement of sustainable norms within the regime mentioned by all of the participants in the study had to do with the difficulty of defining sustainability in a way that supports practical implementation. A lack of metrics and uncertainty on possible actions were seen to impede those that would otherwise be willing to incorporate sustainability into the organisation of their practices or events.

"Big amounts of uncertainty can be quite unsettling, and it can make it hard for people to make choices about stuff, understandably. It's just important to have sources of information that feel reliable, and where it feels like you can point to something and say 'Well look, in almost every context, it's going to be better if you do this.'" (J, DJ)

"It's quite difficult to perform sustainability. I mean, you can't really prove that you're being sustainable. It's really hard to actually prove that you're being sustainable." (G, DJ)

"We need help to really inform the industry as to where it currently stands, because at the moment there's no baseline." (T, Organiser)

Most of the participants highlighted a lack of knowledge regarding how sustainability could effectively be integrated into practice.

"What has been difficult for me is that there's not much focus on it. There is a lot of 'Let's do something', but very little actual guides on how to tour in a way that's more climate friendly" (N, DJ, Label/Shop/Club Owner)

This lack of clarity in the practical aspect of improving the environmental footprint underlying the practices of dance music at the regime level was mirrored by a lack of clarity on the approach to sustainability at the niche level. A particular line of distinction that emerged between the participants within the sustainability niche was how they perceived the goal of sustainability itself, regardless of regime norms. One camp viewed achieving sustainability as simply lowering the footprint of the events themselves while maintaining their current format, while the other sought out a complete shift in the consumption practices that pervade the system as a whole. This resulted in two discourses around the feasibility and progress of achieving sustainability. While both trains of thought were marred with uncertainty, the former managed to uphold a more positive outlook while the perceptions of the latter group were more often characterised by overwhelm and frustration. The following quotes highlight the discrepancy between the two discourses.

"When I saw the waste we were producing from events I didn't see an environmental crisis. I wasn't standing there thinking 'Oh, what about the oceans and all of that?', I was just looking at it thinking 'This is really shit design.' Look how the venues are running, there's just so many problems with the way that all of this is running, its so backwards and people are just too scared to touch anything because nightlife is so under threat." (H, Product Developer)

"Reducing environmental impact is like, such a massive, almost existential thing… I'm sure you've heard this in many of your interviews, but it's about capitalism, and it's

about money. How do you get people who value extrinsic things like money and power and greed to the opposite, which is like existential. Who cares about the opposite values of that, which is integrity and, I don't know, peacefulness and all that shit. Like, it's hard because they're opposites… We're working to like push that boundary of that societal norm." (E, Organiser)

In some cases there was a frustration with the orientation of the niche towards efforts revolving around awareness and soft behavioural changes as opposed to these practical solutions, citing the development of an echo chamber which further separated the two camps from one another.

"If you don't have that drive towards tangible action, then it's pointless in my opinion. Always the response from everyone is always 'We need all the different types of environmentalism. We need the people doing tangible actions, we need the people raising awareness, we need the political lobbyists.' I'd say that raising awareness is a way to be nice to the people who aren't doing anything. The problem is, whilst obviously raising awareness is great, we've clearly been tangibly acting…. And it gets so much more money than anyone else, the kind of awareness raising NGOs. I mean, it's a whole 'nother thing as well: NGO versus business. The kind of echo chamber and circular system, like bad circular system of charities and nonprofits taking loads of money, putting it into things that don't really lead to anything and then just like going back round in circles. It's just like, Jesus man." (H, Product Developer)

The presence of such a split in discourse and the development of echo chambers around engagement was acknowledged by both camps.

"I think [sustainability] is a niche approach [in electronic dance music]. But I also don't know how how much my experience of it is going to be representative because I feel like there was a point in my life where I felt, for the engagement to carry on, I kind of had to join forces with people who shared my opinion. And I also just felt really sensitive and fragile again around people who didn't seem to give a shit so I kind of protected myself and have surrounded myself by people who care, and I think that has sort of like given me a false, a false picture of what is actually going on out there." (G, DJ)

Such a split in discourses marks a danger in a cultural context within which consumers are already for the most part engaged with sustainability superficially or even disengaged to a certain extent. If event producers are unable to agree and cooperate with the same end goal in mind, this could create a large block for establishing innovations of sustainability practices that would more effectively be integrated across the board due to the need for wide spread action.

5.1.2 Sustainability as Incompatible

Economic considerations latent within contemporary manifestations of electronic dance music were viewed by most participants as largely incompatible with goals of implementing sustainable practices widely within the sector. This incompatibility was seen as informed by three aspects: DJ celebrity culture, a lack of financial bandwidth of the smaller events/venues to afford investments into sustainable infrastructure or practices, and the ideological nonalignment of more commercially-successful, larger events or actors with deeper implementations of sustainable practices. All these notions were seen as deeply linked to the development of the highly consumerist function of the sector and a shift in consumer motivations in their attendance of these events away from initial counter-cultural values.

DJs were a topic brought up by a majority of participants. While constituting a major contribution to the sector's environmental footprint, they were nevertheless seen as forced into unsustainable touring practices despite personal approaches to sustainability by the need to make a living. Participants discussed the inevitability of such compromises, given the fact that touring has evolved into the only tenable way for a DJ or a producer to make a living within the sector.

> *"Gigs are the majority of your income which was the problem as well, because you can't make money off of just making records. You still can't."* (B, Producer)

> *"I respect that some people would say 'Well look, I've decided to make DJing a career and that's how I'm earning money, and I need to fly to be able to do that'. So it's kind of another conversation about where the responsibility lies and who should make what decision"* (J, DJ)

"I see the need to take responsibility the way that they travel, the frequency with which they travel. But also, being a DJ, you might get you might get like five or 10 years of consistent income and bookings and I feel like it's hard to sort of balance." (S, Organiser)

Additionally, the economic incentives behind developing such a profile have only increased as booking fees for DJs in the upper echelons of mainstream recognition have drastically increased as the sector has grown.

"Artists fees have been going up to a point where I think it's been a little bit ludicrous. Before the pandemic in some cases even the artists themselves, a couple of them that I spoke to, were uncomfortable with where their fees were going." (P, Manager)

Such a development seems to mirror the development of the consumeristic function of dance music, as participants found audiences increasingly divided between being drawn to a given event due to their appreciation of the culture it represents or for the marketed aspect of the event.

"It's more about a thing that we can Instagram, and people doesn't know why they're there. Like in Spain people say 'We're going to this club! We're going to see this artists, It's gonna be so dope!' And you're like, 'Have you listened to this artist before?' It's dope because they've created this hype. You can see these flyers all around and you can see it's a fucking big party with megatron smoke, you know? … It's because some rich guys back in the 2000s, and 90s saw a lot of money in this. And now, they plant a seed. And now they are picking up the benefits and I don't blame them." (D, Store Owner/Producer/Organiser)

"I think I think it would be appropriate to divide people coming into electronic music for several reasons, like there is there are people attracted to it, because it is an outside field. It is an underground thing, which people get into, because they are open to new ideas. They are open to taking responsibility on their own behavior and own energies and on influence

on the planet. Of course, there are lots of consumers that consume this, just as they would consume rock music or clothing.” (N, DJ Store/Label/Club Owner)

“I mean, yeah, like, sometimes, sometimes the tunes don't matter as much as the profile. Right? You know, I feel like this is the thing. That also actually was quite irritating, but it's just the way the world is now. And you have to play the game if you want to do it.” (B, Producer)

“There's different different vibes, different ways to have fun. But yeah, you know, there's also just this part of the era of going out clubbing, part of that whole idea that people might be so divorced from the idea of also being responsible or being kind of like, you know, what's the word? I don't like to say ethical, because that doesn't really mean anything.” (J, DJ)

Such influence of the consumers on the ability of actors and production groups within the industry to incorporate sustainability on their own terms brings up concerns about the balance of responsibility for the footprint of events between the two groups, of producers and consumers. The sector's newfound orientation around consumerism has limited the ability of actors who would like to engage with or encourage sustainable practices in many regards. This was highlighted by an example of a DJ attempting to innovate on the presentation of an event into a more sustainable format. These efforts were thwarted by their own celebrity status, imposed upon them to a certain extent by the consumers, as attendees flew in for each event and created vast amounts of emissions on their own.

[Reflecting on another DJs experience] *“[They] had [their] residency at this club in London, and for every party [they] made there was a crew of fans who flew over. On paper, [they were] like, "Cool, we're doing a slower event, more local”, but then people were like, "Oh, it's so cool, I actually want to fly!” you know, back and forth every weekend. And so, yeah, how do you get those people on board?”* (G, DJ) One example on a DJ who decided to completely cut their own flying emissions:

The current structuration of the sector meant that integrating sustainability often is viewed to come at the expense of any and all other possible social aspects. The upholding of sustainable practices such as reducing flights were explained to often stand at direct odds with other social goals such as achieving equal representation at events. Many actors within the sector expressed an inability to cope with the thus broad and at times contradictory nature of achieving wide-spread sustainability.

"To actually avoid making choices that seem to be sort of damaging, it's so difficult because of the way the system set up. So you could say to someone, "Who are you booking? Are they diverse enough in terms of like gender, and race and other things? And people could go 'Oh, yeah, we've got this person from here, here, here.'. Okay, well, that means you're no longer sustainable, because you've had to bring in people here from all over the place. I mean, it's not quite that straightforward, but it's easy to see how you can feel like you're being pulled in an impossible number of directions by the need to try and meet, a bunch of problems, all of significance." (J, DJ)

DJ participants that self-identified within the sustainability niche therefore highlighted their own discomfort and insecurity about developing themselves within their own occupation, given its seemingly unavoidable ecological ramifications.

"One thing I will say is that I don't know if I don't know if and I don't know if we can make a living of this or I don't know if we should." (G, DJ)

"As a white cis-, middle class guy from the UK who's trying to make music and be a DJ, I feel like I have an obligation to do all those things [ie. sustainable touring] as a starting point. I should be doing a lot more really, I probably shouldn't be in this industry at all. (J, DJ)

From the production side of the sector, another incompatibility was brought up in that many participants highlighted the discrepancy between organisations' abilities to implement sustainable solutions based on their size. Smaller venues and events were described as operating on such thin

margins that they were unable to actually afford to invest in new infrastructure that would improve their ecological footprint.

"So many of the businesses within electronic music are run on such fine margins that they really don't have much money and they often move from one month to a month, especially the small promoters and clubs" (S, Organiser)

On the other hand, larger events that did have financial bandwidth were often run in a way ideologically unaligned with serious integration of sustainable practices.

"When you get to bigger events, which generally are the ones that sustain the actual industry rather than small to mid cap events that are run in people's spare time, it's much more the case that there's a heavy reliance on international talent. So it's like people care, but then people also need and want to make money" (S, Organiser)

"I think just to talk to the point before, about the culture around the big DJs and big artists and Coachella and the big live shows and this big, big, big, everything's bigger and bigger. It's kind of gross. If you're looking at things from a sustainability, a future, forward thinking mindset, it's a bit gross. It's a bit this excess and everything. It's obviously exciting, but lots of things are exciting, you know, you can, you can have five people dancing in a field on a Bluetooth speaker and it can be exciting. You know, that is very much the opposite end of things. So I don't know how and when culture will shift away from this." (F, Organiser)

There was wide acknowledgement that there was a similar line being drawn amongst many of the actors themselves within the sector, where there was an increased prioritisation of economic wellbeing over ecological footprint. It was often discussed that those with the largest platforms and ability to incorporate changes to improve their footprints were typically the least willing to, given that it would necessarily mean reducing the income they now earned.

"It's just life meant just everyone everyone out to make as much money as possible. And in many ways, I can't really blame them. You know, we are in a capitalist system, like we're all put into a cycle that we have to win all the time, otherwise, you lose. It's a shit shit system, but we're just trying to redirect it in a new way." (H, Product Developer)

"It's painful for people, because they're being faced with something that they don't want to look at. They don't want to see that their vocation is, essentially, contributing to the awful situation that we're in. Nobody wants to look at that, it's just human nature. But it's important that a mirror is held up because as like, because we're not doing things fast enough" (E, Organiser)

"It's tough because I mean the people with the loudest people with the biggest voices have got a big platform, but then you know, they've also got the most to like lose really." (S, Organiser)

This highlights the central impediment within the sector for those attempting to integrate niche approaches or technologies, needing to balance economic realities with the moral imperatives implicit to increasing the sustainability of one's practices. The major challenge therefore was therefore viewed as the varying degree to which both consumers and actors within the regime were willing to engage with the ecological ramifications of their choices, since variations in individual motivations for engaging with the scene as a whole meant that a large proportion of both parties saw such goals as secondary to those of achieving commercial success or the desire to attend parties in what has been described as a 'responsibility holiday' (Brennan et al., 2019) for attendees. The question of how to encourage consumers who were decidedly unconcerned with sustainability to be more aware of their own footprint was cited as a major stumbling block by many. Participants speaking on the topic tended to acknowledge the need for new business models and affordable solutions without being able to offer any practical solutions.

"It's a bit about navigating the idealistic thing and the reality of actually running a business and still being able to make funds out of it and give people what they want." (S, Organiser)

However, most participants saw a willingness of businesses and actors as willing to implement sustainable innovations or practices, given that they were convenient and did not impede upon their ability to make money off of their events. This could be extended to consumers, who were viewed as passively favourable of such actions as long as it did not get in the way of them enjoying the hedonistic elements of the event.

"I think it is an anxiety and a lot of people's minds and something that they really want to have easy solutions for. And I think if easy solutions are there people will take them wholeheartedly, especially if they don't cost any more. But even if things cost slightly more, I think people will still make those choices where they can, and the more that people get together and find solutions together, then we can really start to make those changes. I don't think there's any resistance for people. On a fundamental level, I don't think anyone in the music industry thinks that sustainability is a bad idea or doesn't, or even doesn't care about it that much. I think everyone we've encountered is like, Yeah, let's do that. But it just needs to be super easy super laid out, the pathway needs to be laid out, because time and resources are very thin on the ground" (F, Organiser)

The more optimistic participants saw such a challenge as largely achievable, insisting that new business models would be the aspects informing new regime rationalities. They emphasised that while sustainable practices should be mandatory, they should be integrated in a way that does not impede on the enjoyment of the event. They insisted that solutions have to economically viable and convenient in order to make any difference, once again emphasising the split in discourse present at the niche level.

"I see it as like, basically business is going to drive this like profitable business and profitable innovation is what's going to drive towards being the new normal." (H, Product Developer)

This highlighted another key concern, that sustainable innovations were not yet developed to a point where they were economically viable enough to be picked up by those parties that were

afraid. This leads to the final theme that emerged which is the need for state intervention in order to provide the break from the cycle. It would help inform consumer behaviour, as well as provide the shelter from market forces needed by niche operators to develop economically viable solutions that could then be integrated elsewhere.

5.1.3 Sustainability as Weak

Participants generally acknowledged that greater direct support was required for sustainability to be fully integrated into regime functioning, since pressures from the niche level were up to this point insufficient. This was see to come as either through direct state support and a further cohesion of all actor types working together.

"I think that in the upcoming years the regulations and the targets and the taxes of governments and legislations will change consumer and industry behaviours, making this systemic change we're talking about happen. There is a framework, there are targets, it's now coming, you know, it's now being downloaded to how people will now have to play., kind of pay to play if you want to that way. It's mandatory. Without policies, we couldn't achieve sustainability. There is a need of governments and, you know, the policymakers and decision makers and tax you know, those that decided the taxes with the companies and the public, so we have to tie those three efforts, those three contendants to come together" (V, Organiser)

"That's part of it, is making sure that governments provide this sort of incentivisation where it becomes affordable for event companies, clubs, festivals to do it." (T, Corporate)

"I think that will come in line also with government legislation and loss of companies anyway, will be paused along that way to the greater voice of mass if you'd like which is interested in sustainability, that that will have an impact. And with that will hopefully come more funding and grants and things like that to make it feasible for those smaller clubs and festivals to do those things"

"The frustration is that governments need to take this seriously. I think what this would really take is like huge funding, for areas in the arts to do their research into in all areas. Basically, it's just tons of funding towards sustainability efforts at industry level." (F, Organiser)

However, there was a reluctance by most participants in relying on the government which had previously refused to offer reasonable levels of support to the arts sector that the electronic dance music sector is a part of.

"What other factors there are, you know, if there's, if there's a kind of negative thing top down, like, you know, governments having like, absolutely terrible kind of policy and approaches to things, for example, you know, subsidizing oil companies, or airlines or whatever else, things that, you know, outside of the control of individuals, but which have, you know, a much kind of bigger single impact." (J, DJ)

"*I think that you can create awareness with a media marketing driven industry. Then you'll be reaching a big audience and then you'll be making the change at the consumer level…. Overall I see those changes happening, which is good, but still part of it is regulations. As soon as there are direct regulations for making everything greener, for example, stating you shouldn't fly to a gig which is nearby or whatever, then people will still go for the cheapest and quickest solution. We've tried to change that behaviour. but I think that's just policy."* (R, Product Developer)

As such there was a wider sentiment that the changing of norms would only come about through widespread action and coordinated movement between all actors of the sector that would bolster the normative pressure on unmotivated parties.

"Well, underground is, you know, passionate people that are moving. They are the grassroots of, let's say, electronic music. So whatever appears in their interest for sustainability, it comes from the passion of the purity of electronic music, whereas mainstream is more commercial, big companies running the business. None of those are bad

or good. They work together, they both need each other nowadays that we have had a year break to really rethink how to come back. Because we need the passion and the investment of the bigger ones, you need that cooperation. And it reinforces this the the idea of collaboration to push forward and to you know, accelerate positive change, rather than dividing and categorizing underground and mainstream. It's just the industry, they run their business their way. Now when it comes to sustainability, they have to come together” (V, Organiser)

This emphasises the need mentioned earlier for collective action and, perhaps more urgently, for defining in strict terms the goals of sustainability within the industry so that actors at both sides of the discourse could act in unison.

6 Discussion

6.1 Framework and Previous Literature

In terms of normative impetus the data suggests that, while there is a clear general trajectory of landscape pressures pushing for sustainability, these sentiments are largely diluted by the time they reach the electronic dance music sector's regime. This stands in line with previous literature that argued how such socio-political causes typically do not function as key motivators for engagement with dance music spaces and practices, but rather function in parallel or below the hedonistic imperatives latent within those practices (Fraser, 2012). This lack of prioritisation by actors within the regime makes it difficult to translate broad superficial support into tangible and timely actions to shift the level's practices. The interview data suggest three main reason for this: sustainability being perceived by actors and consumers (both at the regime and niche levels) as too undefined to allow for action, that incorporating sustainability would push against other dominating norms within the sector, and that the undeveloped forms of sustainable innovations that are still too weak to compete with current infrastructure pervading the sector. This is compounded by a lack of alignment both within the niche, which impedes coordinated effort that may be required to deliver a normative force strong enough to break through the 'window of opportunity' currently being provided by landscape developments.

This lack of integration of sustainability within the dance music sector can be interpreted through the lens of the MLP. The two discourses that emerged from interviews with niche actors can

be viewed as either viewing sustainable innovations as necessarily operating within the broader existent system, through a process of technological add-on or 'hybridisation' with current infrastructure or alternatively, viewing sustainability as only achievable through a complete reimagining of system norms that are inherently and resolutely incompatible with the concept of sustainability in a process of de- and re-alignment (Geels, 2004). A key ontological approach behind the MLP framework is the notion of considering innovations as an amalgamated unit which eventually stabilises and spreads newfound technologies or practices in a way that informed larger shifts at the regime level. The split in discourse and approach has lead to a lack of cohesion present at the niche level which has subsequently limited the ability of any such shifts to be incorporated.

Referring to the lack of economically viable innovations on the other hand, MLP literature describes that R&D and product development processes occurring at the niche level are typically insulated from market forces in order to protect the 'hopeful monstrosities' (Mokyr, 1990 via Geels, 2002) until they have been refined into a form robust enough to survive and proliferate within the open market. However the majority of participants highlighted that this was not the case within the sector, lamenting the lack of any external economic support for research or product development. This was typically attributed to the entrepreneurial nature of most niche initiatives and state reluctance to engage with culture industries operating under the 'arts' label. Sustainability's status as a collective good further exacerbates the difficulty of crafting viable solutions, as it is reliant on dedicated state intervention to shift framework conditions in order to legitimate sustainable practices over others. The inability of funding and protection from daily economic demands has limited the scale and attention actors both within the niche and regime can invest into developing possible solutions.

In terms of Geels (2007) and Geels and Schot's (2007) multi-level interaction pathways, the data gathered from the study's interview process shows that current niche processes can be categorised under the *transformation* pathway. While there are clear developments at the landscape level pushing for the increased incorporation of sustainable innovations within the regime through broader societal rationalities, there is a lack of development and cohesion at the niche level to provide viable solutions to be implemented. There is additionally a contestation between this increasing social and environmental awareness at the landscape level, and the economic constraints of increasingly corporatised practices within the regime.

Paired with the lack of measurable data, clear vision on desired outcomes, as well as fully developed solutions from the niche level, this has meant that niche pressures only exist in a weak

form. They are unable to overcome current economic imperatives and cultural trajectory present within the regime. Any innovative activities up to this point occurring within the niche are seen as limited to the first phase of system transformation (Geels, 2004), characterised by experimentation and a lack of market feasibility to attract the economic backing required for further specialisation and wider implementation. The sustainability innovation niche within the electronic dance music sector therefore does not have the cultural or economic capital to effectively enact change within the currently consumer-oriented regime in its current orientation. According the majority of the participants such change will only be enacted if paired with increased pressure from the landscape and niche level, which is theorised to be possible through the implementation legislative support and increased channels for funding respectively.

6.2 Transferability of Results

The results from this study broad by nature, yet they offer insights into effective action that can be taken to increase the efficacy of niche efforts. The nature of this study focuses specifically on the perceptions and experiences of particular actors within a specific industry. Transferability to other fields are therefore rather limited. This study however could be extended through its use of the MLP within qualitative analysis, as it serves as a ideal framework to make sense of the especially dense or complex data that comes out of such methods of data collection.

Within any thematic analysis researchers cannot avoid influencing analysis through the process of interpretation, which is viewed by TA literature as an active process. It therefore should be acknowledged that the validity of statements made within this paper may have been bolstered by extended research times and incorporation into the practicalities of the sector. The researchers status as an outsider to the industry as well personal tastes and convictions on the development of the sector may have affected analysis to a varying degree in spite of efforts to remain objective.

7 Conclusion

Through conducting 13 semi-structured interviews, this study describes perceptions on the current integration of sustainable norms within the European electronic dance music sector through the lens of actors within the industry. Thematic analysis of interview data distinguished three main interpretations of sustainability within the mainstream regime level: *sustainability as unclear*, with unclear goals and a lack of metrics to support tangible actions; *sustainability as incompatible*, as a

development towards a more consumerist and global orientation over the last two decades as well as major economic limitations affecting the majority of the sector's actors making the goals of implementing sustainable practices unfeasible; and *sustainability as weak,* whereby a lack of funding and legislative support has limited the ability of the sector's sustainability niche to develop economically viable solutions that would be easier for the majority of actors to implement within their own practices. These perceptions and developments have resulted in a weak integration of sustainability within the sector, with niche actors as of yet unable to utilise the window-of-opportunity presented by wider landscape normalisation of sustainable practices.

Future studies could include looking into the major impediments behind cohesion of the niche level as well as further specifying normative motivations of the consumer base within the sector. Doing so may allow an understanding of motivations that would enable innovators within the sustainability niche to more effectively enact behavioural changing strategies.

References

Banks, M., 2020. Creative economy, degrowth and aesthetic limitation. In Oakley, K., and Banks, M. *Cultural Industries and the Environmental Crisis* (pp. 11-23). Springer, Cham.

Bender, R. (2020). The World's Nightclub Capital Faces an Existential Crisis. Wall Street Journal. [online] 13 Jun. Available at: https://www.wsj.com/articles/the-worlds-nightclub-capital-faces-an-existential-crisis-11592049600.

Böhm, S. and Land, C., 2009. No measure for culture? Value in the new economy. *Capital & Class, 33*(1), pp.75-98.

Bottrill, C., Liverman, D. and Boykoff, M., 2010. Carbon soundings: greenhouse gas emissions of the UK music industry. *Environmental Research Letters, 5*(1), p.014019.

Braun, V. and Clarke, V., 2006. Using thematic analysis in psychology. *Qualitative research in psychology, 3*(2), pp.77-101.

Brem, A. and Puente-Diaz, R., 2020. Creativity, innovation, sustainability: A conceptual model for future research efforts.

Brennan, M., Scott, J.C., Connelly, A. and Lawrence, G., 2019. Do music festival communities address environmental sustainability and how? A Scottish case study. *Popular Music, 38*(2), pp.252-275.

Brennan, M. and Devine, K., 2020. The cost of music. *Popular Music, 39*(1), pp.43-65.

Brennan, M., 2020. The environmental sustainability of the music industries. In Oakley, K., and Banks, M. *Cultural Industries and the Environmental Crisis* (pp. 37-49). Springer, Cham.

Brewster, B. and Broughton, F., 2014. *Last night a DJ saved my life: The history of the disc jockey.* Open Road+ Grove/Atlantic.

Burnard, P., Gill, P., Stewart, K., Treasure, E. and Chadwick, B., 2008. Analysing and presenting qualitative data. British dental journal, 204(8), pp.429-432.]

Clammer, J., 2014. Art and the Arts of Sustainability. *Social Alternatives, 33*(3), pp.65-70.

Conner, C.T., 2015. Electronic Dance Music: From Deviant Subculture to Culture Industry.

Creswell, J.W. and Poth, C.N., 2016. *Qualitative inquiry and research design: Choosing among five approaches*. Sage publications.

Dinardi, C., 2020. Re-thinking the creative economy through informality and social inclusion: changing policy directions from Latin America. In Oakley, K., and Banks, M. *Cultural Industries and the Environmental Crisis* (pp. 79-93). Springer, Cham.

Ettlinger, N., 2003. Cultural economic geography and a relational and microspace approach to trusts, rationalities, networks, and change in collaborative workplaces. *Journal of economic geography, 3*(2), pp.145-171.

Fraser, A., 2012. The spaces, politics, and cultural economies of electronic dance music. *Geography Compass, 6*(8), pp.500-511.

Fuenfschilling, L. and Binz, C., 2018. Global socio-technical regimes. *Research policy, 47*(4), pp.735-749.

Geels, F.W., 2002. Technological transitions as evolutionary reconfiguration processes: a multi-level perspective and a case-study. *Research policy, 31*(8-9), pp.1257-1274.

Geels, F.W., 2005. Processes and patterns in transitions and system innovations: Refining the co-evolutionary multi-level perspective. *Technological forecasting and social change, 72*(6), pp.681-696.

Geels, F.W. and Schot, J., 2007. Typology of sociotechnical transition pathways. *Research policy, 36*(3), pp.399-417.

Geels, F.W., 2010. Ontologies, socio-technical transitions (to sustainability), and the multi-level perspective. *Research policy, 39*(4), pp.495-510.

Geels, F.W., 2011. The multi-level perspective on sustainability transitions: Responses to seven criticisms. *Environmental innovation and societal transitions, 1*(1), pp.24-40.

Gibson, C., 2003. Cultures at work: why 'culture' matters in research on the 'cultural' industries. *Social & Cultural Geography, 4*(2), pp.201-215.

Gross, J. and Wilson, N., 2020. The green new deal and cultural policy. In Oakley, K., and Banks, M. *Cultural Industries and the Environmental Crisis* (pp. 139-151). Springer, Cham.

Hawkes, 2001. The fourth pillar of sustainability: Culture's essential role in public planning. Common Ground.

Jones, E., 2020. *DIY music and the politics of social media*. Bloomsbury Publishing USA.

Kagan, S. and Kirchberg, V., 2016. Music and sustainability: organizational cultures towards creative resilience–a review. *Journal of Cleaner Production*, 135, pp.1487-1502.

Kagan, S., 2017. Artful Sustainability: Queer-convivialist life-art and the artistic turn in sustainability research. *Transdisciplinary Journal of Engineering & Science*, 8.

Kemp, R., Schot, J. and Hoogma, R., 1998. Regime shifts to sustainability through processes of niche formation: the approach of strategic niche management. *Technology analysis & strategic management, 10*(2), pp.175-198.

Killick, A. and Oakley, K., 2020. 'You're Always On, and You're Always Lively': Young People and Creative Work. In Oakley, K., and Banks, M. *Cultural Industries and the Environmental Crisis* (pp. 125-137). Springer, Cham.

Klein, N., 2020. *On fire: the (burning) case for a green new deal*. Simon & Schuster.

Maxwell, R., 2020. Green Accounting for a Creative Economy. In Oakley, K., and Banks, M. *Cultural Industries and the Environmental Crisis* (pp. 25-36). Springer, Cham.

McCall, T., 2001. *This is not a rave: In the shadow of a subculture*. Thunder's Mouth Press.

McLaughlin, E., Fineberg, E., and Williams, F., 2021. Last Night a DJ Took A Flight. Common Ground.

Newcomer, K.E., Hatry, H.P. and Wholey, J.S., 2015. Conducting semi-structured interviews. *Handbook of practical program evaluation,* 4, 493.

Nurse, K., 2006. Culture as the fourth pillar of sustainable development. *Small states: economic review and basic statistics,* 11, pp.28-40.

Oakley, K. and Banks, M., 2020. Cultural Industries and Environmental Crisis: An Introduction. In Oakley, K., and Banks, M. *Cultural Industries and the Environmental Crisis* (pp. 1-10). Springer, Cham.

Packalén, S., 2010. Culture and sustainability. *Corporate social responsibility and environmental management, 17*(2), pp.118-121.

Palm, M., 2017. Analog backlog: Pressing records during the vinyl revival. *Journal of Popular Music Studies, 29*(4), p.e12247.

Palm, M., 2019. Keeping what real? Vinyl records and the future of independent culture. *Convergence, 25*(4), pp.643-656.

Pitts, F.H., 2020. Creative Labour, Metabolic Rift and the Crisis of Social Reproduction. In Oakley, K., and Banks, M. *Cultural Industries and the Environmental Crisis* (pp. 111-124). Springer, Cham.

Powerful Thinking, 2015. The Show Must Go On: environmental impact report and vision for the UK festival industry. Common grounds.

Reynolds, S., 2013. *Generation ecstasy: Into the world of techno and rave culture*. Routledge.

Richardson, N., 2019. Corporate social responsibility or sustainability in music festivals. *International Journal of Organizational Analysis*.

Rifkin, J., 2019. *The green new deal: Why the fossil fuel civilization will collapse by 2028, and the bold economic plan to save life on earth*. St. Martin's Press.

Riley, S., More, Y. and Griffin, C., 2010. The 'pleasure citizen' Analyzing partying as a form of social and political participation. *Young, 18*(1), pp.33-54.

Rip, A.; Kemp, R. Technological change. In *Human Choice and Climate Change*; Rayner, S., Malone, e.L., Eds.; Battelle Press: Columbus, OH, USA, 1998; pp. 327-399

Schlaile, M.P., Urmetzer, S., Blok, V., Andersen, A.D., Timmermans, J., Mueller, M., Fagerberg, J. and Pyka, A., 2017. Innovation systems for transformations towards sustainability? Taking the normative dimension seriously. *Sustainability, 9*(12), p.2253.

Shrivastava, P., Ivanaj, V. and Ivanaj, S., 2012. Sustainable development and the arts. *International Journal of Technology Management, 60*(1-2), pp.23-43.

Silcott, M., 1999. *Rave America: new school dancescapes*. Ecw Press.

Smith, A., Voß, J.P. and Grin, J., 2010. Innovation studies and sustainability transitions: The allure of the multi-level perspective and its challenges. *Research policy, 39*(4), pp.435-448.

Soini, K. and Dessein, J., 2016. Culture-sustainability relation: Towards a conceptual framework. *Sustainability, 8*(2), p.167.

Thornton, S., 1996. Club cultures: Music, media, and subcultural capital. Wesleyan University Press.

Throsby, D., 1995. Culture, economics and sustainability. *Journal of Cultural economics, 19*(3), pp.199-206.

Throsby, D., 1997. Sustainability and culture some theoretical issues. *International journal of cultural policy, 4*(1), pp.7-19.

Wagner, A.M., 2014. Gettin' weird together: The performance of identity and community through cultural artifacts of electronic dance music culture. Illinois State University.

Watson, K. (2019). International Music Summit Business Report 2019. [online] International Music Summary. Available at: https://www.internationalmusicsummit.com/wp-content/uploads/2019/05/IMS-Business-Report-2019-vFinal.pdf [Accessed 28 Oct. 2021].

Weber, K.M. and Rohracher, H., 2012. Legitimizing research, technology and innovation policies for transformative change: Combining insights from innovation systems and multi-level perspective in a comprehensive 'failures' framework. *Research Policy, 41*(6), pp.1037-1047.

Appendix A

Interview Guide

Sustainability + MLP Levels

Landscape + Regime

1. How integrated is sustainability into the dance music industry regime currently?

    1.1. How would you hope to see this change, and how would your work contribute to that change?

2. What are the main perceptions about sustainability for the average consumer/person working in the scene?

    2.1. Do you believe there are multiple discourses (rationalities) present between dance music and sustainability within dance music?

    2.2. How do other actors perceive your attempts to be sustainable? Are you niche?

    2.3. Does your initiative represent a 'radical shift' from these mainstream regime perceptions? (infrastructure, regulations, consumer practices)

        2.3.1. Are they a signal of things already occurring in the wider framework?

3. How do you think passive consumers of engage with sustainability in this context? /How do consumers define or impact sustainability within dance music?

    3.1. How can/Should consumers be encouraged to be more aware/responsible about their environmental impact?

4. Which way do you see wider cultural pressures pushing sustainability within dance?

5. How much does environmental impact play into the decisions made by the average club or festival?

Niche + Network

1. How do sustainability initiatives like yours connect with other initiatives / Can you describe the network between sustainability initiatives like yours?

2. What are the biggest difficulties niche actors face? (From the landscape, the regime, from consumers, from other actors in the industry)

3. How do different roles play into environmental impact/transition of the scene? (Bookers vs. DJs vs. clubs vs. promoters vs. sustainability initiatives)

    3.1. Which group do you think is most able to encourage this transition?

3.2. How do these actors interact and interrelate with one another?

3.3. How should responsibility be delegated?

4. What are the largest challenges towards bringing increased sustainable action/awareness to the mainstream level?

5. How do economic (*neoliberal*) pressures play into the viability of sustainable initiatives?

5.1. How does the size, reputation of a club or party affect their ability to be sustainable?

5.1.1. Is it economically unfeasible for underground/smaller actors to be sustainable?

5.2. How strong is the inverse relationship between dance music and wider economic pressures?

5.3. What are the realities of how much we can put aside the business of dance music in order to achieve sustainability?

Dance Music as Cultural Practice and Consumer engagement

1. What cultural function does dance music serve?

1.1. How can niches affect the cultural impact that dance music has on consumers towards motivating sustainability?

2. How can actors in the dance music industry make sustainability explicit within the industry, when it is based off of escapism?

3. Some papers point out that dance music is a cultural activity co-created between consumers and those event organisers. Do you agree with that statement and, to follow up, how does this affect the implementation of sustainability?

4. Can you elaborate on what distinguishes between the mainstream and the underground sides of the scene?

4.1. How could these differences play into actions around environmental sustainability?

4.2. Are there differences in perceptions on the scene's impact or responsibility towards the environment?

5. Has the visibility offered/demanded by social media affected the way individuals within the industry approach an issue like sustainability (particularly the more forward facing DJs)

Conclusion

1. Moving forward, where do you see the responsibility for continuing the sustainability transition lies?

1.1. What should we aim for?

1.2.How can we encourage this as a meaningful and worthwhile endeavour?

Normative dimensions of sustainable transformations require more explicit and integrative research on directionality, legitimacy, responsibility, and interrelation

2. What do you think is needed to push the discourse and practice of the majority more towards actual sustainability?

3. What would be a realistic expectation of how sustainability transitions will occur in dance music in the future?

4. How do you think state regulation could play a role in enforcing environmental standards or behaviour if any?

5. What are the main ways that people can reduce/be aware of their impact as producers or consumers within the dance scene?