ORCHESTRATING THE ECOSYSTEM:

HOW MUSIC-MAKING IS TRANSFORMED IN THE DIGITAL AGE

Thesis submitted in accordance with the requirements of the University of Liverpool for the degree of Doctor in Philosophy

by

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ABSTRACT

This thesis aims to understand how digitalisation transforms musical production. Following a process of theory retroduction, this investigation draws upon and contributes to management literature in accounting for and explaining recent changes in practices of music making. Principally autoethnographic, this study pragmatically fuses personal experiences of being an active musician and consistent band member for over a decade with an ethnography built from pragmatic applications of netnography and semi-structured ethnographic interviews. An initial round of grounded theory analysis found that digitalisation has empowered musicians and helped constitute a hypercompetitive marketplace. The effect of this is that musicians are despondent, awash in a sea of uncertainty and unable to grasp hold of their digital futures. In seeking means of understanding these impacts, the process of retroduction takes us to the field of digital entrepreneurship, where a digital technology perspective of entrepreneurship considers the affordance of entrepreneurial ecosystems, representing a valuable addition to this investigation's initial cultural entrepreneurship framing. Once again, however, the data suggests limitations in the core assumptions of digital entrepreneurship and instead formulates a critical theory of the digital which deepens our understanding of digitalisation. Data shows musicians in the digital age are experiencing alienation supercharged by the formal rationality which underpins the logic of digital and computational technologies. The conceptual refinement achieved in this study culminates with a final turn to the field of Information Systems, operationalising fresh insights such as digital object theories and the idea that digitalisation results in processes of ontological reversal in developing a digital-first framing. Reinterpreting the data using the properties of digital objects (embeddedness, interactivity, malleability and sociomateriality), this research produces a novel means of exploring and re-theorising digitalisation contributing a digital technology perspective of cultural entrepreneurship, a renewal of the digital technology perspective of entrepreneurship (more broadly) by drawing upon the latest insights from Information Systems as well as suggesting critical theory as an approach that deepens our understanding of digitalisation, lacking in most mainstream management accounts. The final contribution of this thesis is a novel empirical-ethnographic account of music making within a contemporary digital milieu.

For the band.

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Unfortunately, there can only be one name on the front-page. However, this convention belies the love and support, the going above and beyond of so many others involved in its production. I want to thank my Mum and Dad, without whose constant support, love and encouragement, none of this would have been possible. I also want to thank the rest of my family, without whom I probably would have never taken this path. Thanks to Mike and Audrey Emblem for welcoming me into their family and for the support and trips to the pub. I also want to dedicate this work to those who started the journey with me but never saw it through to the end.

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INTRODUCTION

> I don't think we've even seen the tip of the iceberg. I think the potential of what the internet is going to do to society, both good and bad, is unimaginable. I think we're actually on the cusp of something both exhilarating and terrifying […] the actual context and the state of content is going to be so different to anything that we can really envisage at the moment. Where the interplay between the user and the provider will be so in Sympatico, it's going to crush our ideas of what mediums are all about.
>
> **David Bowie (1999)**

LEARNING FROM A DECADELONG ROMANCE WITH FAILURE

In early March 2020, as we trundled down an unremarkable stretch of motorway making our way home after playing in London, the conversation in the van turned to how we had managed to generate a good amount of content during our trip and that we should try and keep this up as we continued our tour of the UK. London was first, Manchester next, then Liverpool for a sold-out show in our hometown before moving on to more gigs across England over the rest of March and April. However, the onset of the pandemic meant that we managed to go no further than Liverpool. Nevertheless, before hitting the road, our lead guitarist had managed to secure himself the latest iPhone; the photographs and recorded footage it was able to produce looked remarkably professional, given minimal skill and effort on our part.

The progression of artificial intelligence and machine-learning technologies advances this technological development. The capacity to capture an image is not a new thing. Capturing a good image is something else entirely with analogue cameras, and most digital cameras up until recently, decent photography required at least a functional

level of technical knowledge of camera operation. Adjusting for light levels and creative application of features such as shutter speed and aperture necessitate technical dexterity and at least some theoretical understanding. Combined with processes of developing and editing, the art of photography relied primarily upon human touch.

Using a combination of GoPro cameras and mobile phones positioned around the stage alongside a portable sound recording device left near the sound desk, without the assistance of anyone outside of the band, we could capture enough footage of the London gig to begin making our tour diary. This strategy to capture and record everything we did together, along with the degree of self-sufficiency required to perform it, was the product of several years of fine-tuning our efforts and understanding how to make it in today's music industries. That is, we believed that by carefully curating an active and alluring digital presence, it would be possible to win the favour and support of unknown masses online. These masses (it is assumed) could propel us and our music to either instant global fame or into the eyes and ears of major label star-makers.[1]

The picture we posted on Instagram immediately after finishing our performance was beginning to gain some traction, only adding to the jovial mood in the van. The likes and free beers we received in lieu of payment amplified our post-gig adrenaline rush. The losses incurred by the fuel cost for the night did not once enter our heads as we cruised through the outer suburbs of the capital, serenaded by a chorus of vibrations, notifications and the flashing lights of our phones.

[1]This is a gross oversimplification of the reality and perhaps even an overly cynical reading of the situation. This is me, retroactively applying a lens or interpretation taken from my reading of the texts devoured in the production of this thesis. In practice, however, we did what we did, and thought the way that we did, because we believed that what we thought we were doing was the right (or the best, most effective) way of doing things. *Things* referring to *making-it* or making a career out of music.

Our online performance, however, did not accurately reflect our performance on the night. We had played an unfamiliar set order, infused with a spattering of new songs that we hoped to win new followers with during this tour. The tiny basement room in Soho was near capacity, and the crowd was lively, but we barely held it together. We stumbled through the set. Listening back to the recording on the way home revealed that none of us were blameless. It would not matter, though, as we could always mash the visuals with audio from a better performance so that folks online could see that we rocked it tonight.

At this moment, I thought about the people in London. Admittedly, not all of them had come specifically to watch us; other bands were on, but how many would come to see us next time? Would they listen to us on Spotify? Tell their friends about us and bring them along. What impression did we leave? Would the late-night doom scrollers care whether we sounded good tonight or not? Who or what are we doing this all for?

I did not air my thoughts to the others, for I did not want to lower the mood. It was a long journey home, and there were plenty of opportunities to digest these issues at another time. Importantly, it was these questions that ultimately determined what this research is going to be about.

Recent decades have seen the music industries undergo a profound technological shift (Rogers, 2013, Wikström, 2013, Morris, 2015, Tschmuck, 2016, Mazierska et al., 2018). Whilst the digitalisation of music is by no means a new or novel occurrence (Kittler, 1999, Coleman, 2009), the rise of social media and streaming services changed things once again (Galuszka, 2015, Hracs, 2015, Arditi, 2018, Eriksson et al., 2019, Järvekülg and Wikström, 2021, Zhang and Negus, 2021) impacting audiences' music consumption and music-related products (Arditi, 2018; Kask and Öberg, 2019;

Koh et al., 2019) and transforms not just the way musicians create their music (Morris, 2015, Schoop, 2017) but also how they look to grow their musical careers by using social media to access and create audiences for their art (Hracs, 2015, Järvekülg and Wikström, 2021).

I have performed in (more or less) the same band with (more or less) the same people for most of my adult life. We have gone from being the college band where we all met studying for A levels to playing modest venues and festivals up and down the UK. We have played to sold-out crowds and empty rooms. We have written and performed countless songs; recorded and released dozens of tracks alongside a couple of EPs, all with very little success. Our songs are played on national and international radio and streamed by users worldwide. We even made enough money to keep the band going (alongside other employment). The band was self-sufficient. Our jobs offered us the flexibility to tour, write, record and release.[2] We gained a modest following around the country and made enough from gigging, various grants, and some streaming revenue to ensure that we were never out of pocket (except for food and drink, but sometimes we got that for free too).

Over my time as a musician, the dream of writing a number one single has been superseded by the desire to go viral (Gamble and Gilmore, 2013, Edmond, 2014, Toscher, 2021, Vizcaíno-Verdú and Aguaded, 2022). While both perhaps reflect a very similar (if not the same) phenomenon (i.e., fame or success), the measure of these successes has changed immeasurably (Osborne and Laing, 2020). As a consistent bandmember and regular performer for almost two decades, the development of my

[2] Although the extension of my thesis deadline belies the truth of this statement.

musical career has traced this recent history of the digitalisation of music (Schoop, 2017, Mazierska et al., 2018, Kask and Öberg, 2019, Zhang and Negus, 2021).

Today, however, my experiences show that efforts towards curating a digital sublime (Mosco, 2005, Burkart, 2014) supplant efforts motivated in pursuing artistic excellence[3] (i.e., musicianship, songwriting and stagecraft). In management terms, band strategy concerns both traditional appeals to physical and offline audiences (i.e., fans, gatekeepers, intermediaries and legitimating agents) alongside new appeals (Hracs, 2015) to online audiences, both real and imagined, human and inhuman (Dyer-Witheford et al., 2019). This new relationship, i.e., how artists navigate both on and offline worlds, is something which this research aims to capture. That is the novel dynamic between on and offline concerns in the strategic decision-making processes of musicians. From this, we can form an initial research question which drives the development of this investigation:

> How is music-making transformed in the digital age?

The digitalisation of music is important for the digitalisation of society. In music, both its aesthetic form and economic organisation reflect – perhaps more than any other art form – the broader organisation of society. To draw upon Attali (1985) in music:

> [t]he codes that structure noise and its mutations, we glimpse a new theoretical practice and reading: *establishing relations between the history of people and the dynamics of the economy on the one hand, and the history of the ordering of noise in codes on the other; predicting the evolution of one by the forms of the other; combining economics and aesthetics; demonstrating that music is prophetic and*

[3] Or, perhaps this is a semblance of the waning romanticism of youth as the objective realities of adult life begin to bite.

> *that social organisation echoes it* […] Music is prophecy. Its styles and economic organization are ahead of the rest of society because it explores, much faster than material reality can, the entire range of possibilities in a given code. It makes audible the new world that will gradually become visible, that will impose itself and regulate the order of things; it is not only the image of things, but the transcending of the everyday, the herald of the future. For this reason musicians, even when officially recognized, are dangerous, disturbing, and subversive; for this reason it is impossible to separate their history from that of repression and surveillance (Attali 1985, pp. 5-11).[4]

The rest of this thesis details the process driving the development of an answer for this profoundly personal concern. In answering this question we find the principal empirical contribution of this thesis, namely a novel ethnographic account of music making in a contemporary digital milieu. To reach an enriched understanding of the digitalisation of music and processes of digitalisation more broadly, this research engages a retroductive process of theory-building (Bhaskar, 2009, 2014, Belfrage and Hauf, 2017). Retroduction means going backwards to move forwards while developing new knowledge and understanding. The process of thesis retroduction undertaken here derives two further research questions, more theoretically defined but the answers to which combine in developing an answer to the original empirical concern of this thesis. Drawing upon the field of cultural entrepreneurship studies we are able to rephrase the original empirical question:

> How are processes of cultural entrepreneurship being transformed in the digital age?

[4] Emphasis in original.

Finding existing theories of cultural entrepreneurship lacking in explanatory capacity to account for transformations in contemporary practices of music making, we turn to the field of digital entrepreneurship studies which produces the final question this research will look to address:

> How are digital technologies affording processes of cultural entrepreneurship within contemporary entrepreneurial ecosystems?

Our turn to digital entrepreneurship studies also provides additional conceptual clarity relating to key terms within this research: digitalisation (qua digitisation) and the digital (qua digital technologies). Firstly, digitalisation refers to a sociotechnical process where digitising techniques are applied to broader social contexts and render digital technologies key infrastructural components of (entrepreneurial) action infrastructural (Tilson et al., 2010, Majchrzak, 2016, Nambisan, 2017, Autio et al., 2018). It is crucial that digitalisation is not confused with digitisation which refers to the technological (or mechanical) process converting analogue information into digital form (i.e., transforming physical or material signals into a series of 1s and 0s). This process allows for the computation of such information (Berry, 2015, 2016). When discussing the digital we are principally referring to digital technologies (Nambisan, 2017). Digital technologies consist of digital artefacts (or objects), digital platforms and digital infrastructure. Digital artefacts consist of components, applications, or media content which can exist as a standalone product or service or as part of a platform. Platforms are shared digital services hosting an array of complementary digital offerings. Digital infrastructure refers to digital tools and systems (such as cloud computing, big data analytics, online communities and social media).

Within the context of this study therefore, the digital (or digital technologies) serve(s) to support innovation and entrepreneurship (Nambisan, 2017). More importantly however, the digital is a phrase used to create analytical distinction between digital (or virtual) worlds and our more familiar physical world; that is, a world governed by the laws of physics and material possibility or affordance. media) that afford enhanced communication, collaboration, and computing capacities. The three elements which constitute digital technologies coalesce to establish digital affordances. Digital affordances are enmeshed with spatial (or physical) affordances in a given environment to form entrepreneurial ecosystems (Autio et al., 2018). Studying the growing influence of digital affordances over spatial affordances within entrepreneurial ecosystems (as played out within the context of grassroots musical production) is at the centre of this investigation.

What we see then in this study and something which represents a novel contribution to knowledge is that today, digitalisation crosses a tipping point to the extent that, increasingly, the digital (object or version) precedes its physical manifestation (Baskerville et al., 2020). The digital comes first and physical reality follows in its likeness. In other words, the conceptualisation of the digital pursued here reflects a supposed process of ontological reversal and in exploring this idea in the context of contemporary practices of musical production represents the motivation, destination and contribution of this work. In short, the use of this term gives overdue recognition (in the analysis) of the increasingly active role digital technologies are playing in shaping and conditioning our everyday practices and behaviours. A phenomenon that comes into increasing focus (i.e., conceptual clarity) through the ensuing discussions and theorisation.

As will also become increasingly clear over the following pages, the journey taken in reaching these conceptualisations flows from a retroductive approach to theory building. This approach not only holds the potential to develop novel and exciting new explanations for social phenomena (Belfrage and Hauf, 2015, Hauf, 2016, Belfrage and Hauf, 2017, Martinez Dy et al., 2018) but also opens-up the intimacies of the research process; something which is generally absent from mainstream management publications (Gehman et al., 2018) but can nevertheless help suggest alternative criteria for judging rigorous research (Eisenhardt and Graebner, 2007, Eisenhardt et al., 2016).

The idea that theory emerges retroductively is a product of operationalising a critical realist ontology in empirical research (Belfrage and Hauf, 2017). This study adopts critical realism as an underlabouring philosophy of science. However, critical realism can only provide a general idea of the social phenomena studied (Belfrage and Hauf, 2017). Critical Grounded Theory (Belfrage and Hauf, 2017) is an alternative methodology proposed in response to traditional grounded theory methods' popular, albeit uncritical application. The false assumptions of pure induction mean that orthodox formulations of grounded theory methods cannot accurately reflect the true nature of the research process. Such assumptions reflect a fundamental flaw in inductive methodology, which run countenance to claims that methodological rigour lies in transparency or a systematic presentation of data or findings.

Over the decades, grounded theory has been subject to multiple reworkings (Gioia et al., 2012, Charmaz, 2006) since Glaser and Strauss (1968) first developed the method. Recent developments in grounded theory research recognise that ethnography is always contaminated by researcher ‘biases’, which can inform (shape) research design and data collection/selection (Orton, 1997, for example), referring to

the impossibility of abandoning all pre-concepts and proto-theories before the researcher enters the 'field'. In addition, the postmodern-turn in organisation studies has also seen grounded theory adopt a constructivist approach, abandoning the positivist realism of Glaser and Straus's original method (1968) in favour of the comparably naïve (divorced) assumptions which underpin the radical interpretivism of some mainstream management research (Belfrage & Hauf, 2017; cf. Charmaz, 2006).

Whilst drawing upon the ethnographic and data-analytical tools of traditional approaches to grounded theory, Critical Grounded Theory (CGT) proposes a practical 'third way' between the naïve realism of orthodox (positivist) approaches to grounded theory and the more radical constructivism of postmodernist theorists (Belfrage and Hauf, 2017). CGT draws upon a critical realist ontology to provide a more reflexive approach to qualitative theorising.

Recognising the impossibility of pure induction, CGT instead proceeds retroductively. Retroduction combines the horizontal logic of classical grounded theory with an added vertical logic following the critical realist method of comparative analysis, which moves between the abstract-simple (i.e., scientific theories and scholarly literature) and concrete-complex (mainstream discourses and ethnographic data). This process allows the researcher to draw causal connections between and across datasets to understand the social relations within the contexts that shape and condition them (Belfrage and Hauf, 2017). The graphic in the introduction (figure 1) is a necessary abstraction from the messy reality of this research process, but following its logic will help outline the steps taken and isolate the crucial decisions made surrounding the development of this research.

In practice, this means that to begin conceptualising the research problem in more scholarly, theoretical terms, the researcher must review potentially existing sources for explanation. Next, the theoretically equipped researcher must begin collecting data; they must go places and talk to people (Belfrage and Hauf, 2017). Following an initial period of field immersion, the retroducer returns to their desk and begins initial analysis rounds to refine the initial theoretical framing. This cycle of retroduction precedes further rounds of fieldwork and deskwork (as necessary) to reach a new or renewed understanding.

Retroduction does not stop here and can continue (into the future) in the continual refinement of understanding but also accommodates the transit nature of environmental (i.e., contextual) factors. Reporting findings pauses the process of retroduction - taking stock - meaning that the written account can only provide a snapshot of the progress made as writing began. Although, the writing process is also an essential factor in developing and refining the ideas presented here.

As will become apparent, this research holds the potential to run on and on into the future, redefining the problem and refining the explanatory framework accordingly. Furthermore, the advancement of technology will undoubtedly begin to chip away at the credibility of these findings before completing the writing. Indeed it is already happening that during the writing-up process, technologies such as Chat GPT and generative AI hold the potential to transform how we go about our work as academics as well as in our personal lives and political lives. This research offers the first tendential steps towards understanding this new world and suggests appropriate means for comprehending it.

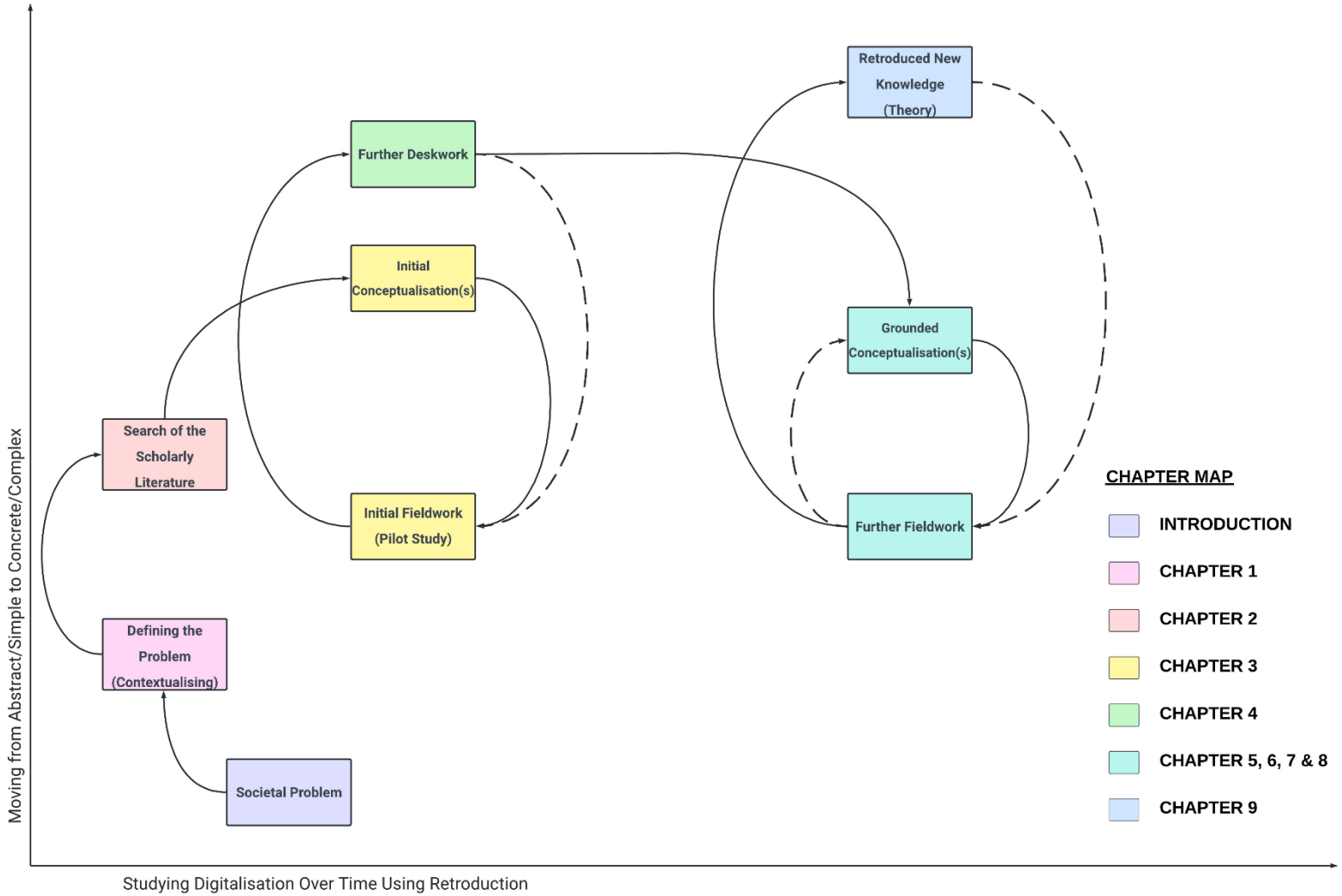

Figure 1 - The retroductive research process - adapted from Belfrage & Hauf (2017, p. 261).

Figure 1 above models the process of thesis retroduction and can also be used as a handy chapter map should the reader ever find themselves lost in the text. We can see that this introduction details the societal problem at the heart of this research. At this point in the retroductive process, we have this idea that digital technologies (i.e., digitalisation) continue to transform the processes of music-making and how an aspiring musician goes about making a career in music (Jones, 2012, Hesmondhalgh, 2020, 2021). Therefore in the next chapter (chapter 1), we turn to the history of the digitalisation of music in historicizing this study (Belfrage and Hauf, 2017) or, in other words, adding historical detail to more accurately contextualise the societal problem this investigation will address (Hauf, 2016).

CHAPTER 1: DEFINING THE PROBLEM

Given the unorthodoxy of this investigation (Ellis and Bochner, 2000, Ellis, 2004, Ellis et al., 2011), chapter 1 is dedicated to drawing upon existing historical accounts of the digitalisation of music and analyses of these transformations to add contextual clarity to this investigation (Belfrage and Hauf, 2017). Beginning in the late 1970s, the digitalisation of music has progressed from being primarily restricted to professional studio production processes in the early years to today, where the ubiquity of digital technologies makes it difficult even to consider what life was like before (Strachan, 2007, Coleman, 2009, Arditi, 2018, Jones, 2021a). The discussions in the first half of this chapter consider how digitalisation impacts not only the production of new music (Schoop, 2017) but also how this music reaches and is consumed by digitalising audiences (Arditi, 2018, Jones, 2018). These discussions close with a consideration of the latest wave of digitalisation, which refers to; platform (or surveillance) capitalism

(Srnicek, 2017, Zuboff, 2018), the growing influence of artificial intelligence (Dyer-Witheford et al., 2019, Crawford, 2021, Joque, 2022); and algorithmic mediation of social reality (Berry, 2016, Kellogg et al., 2020, Lindebaum et al., 2020) underscoring the importance (i.e., the problematization) of the issue (i.e., digitalisation) that this investigation addresses.

CHAPTER 2: TOWARDS INITIAL CONCEPTUALISATIONS

This chapter turns to the field of cultural entrepreneurship studies (DiMaggio, 1982, Lounsbury and Glynn, 2001, Gehman and Soublière, 2017, Lounsbury et al., 2019, Lockwood and Soublière, 2022) in order to begin conceptualising the research problem (Edmondson and McManus, 2007, Gehman et al., 2018). In other words, cultural entrepreneurship allows this research to turn its empirical concern into researchable, theoretical research questions (Belfrage and Hauf, 2017). Beginning by exploring the shared origins of cultural entrepreneurship studies with institutional theory (DiMaggio, 1982, DiMaggio and Powell, 1983, DiMaggio, 1988), the chapter then reviews more recent developments in cultural entrepreneurship theorising (Lounsbury and Glynn, 2001, Gehman and Soublière, 2017, Lounsbury et al., 2019, Glynn and Lounsbury, 2022, Lockwood and Soublière, 2022). With examples of cultural entrepreneurship studies in fields of cultural production (Peterson and Berger, 1971, DiMaggio, 1982, Swedberg, 2006, Scott, 2012, Tschmuck, 2016, Noonan, 2021) as well as a previously distinct tradition of cultural entrepreneurship in strategic management (Lounsbury and Glynn, 2001, Wry et al., 2011, Garud et al., 2014), recent developments have seen these two extant streams merge and become interested in processes of cultural making (Gehman and Soublière, 2017).

The literature analysis presented in Chapter 2 highlights three key elements of cultural entrepreneurship that conceptualise the research problem. Cultural entrepreneurship research is concerned with processes of cultural making (Gehman and Soublière, 2017). These processes are distributed and intertemporal and are value-producing (Gehman and Soublière, 2017), whereby value is subject to multiple and competing principles of legitimation - i.e., the multivocality of value (Giorgi et al., 2015).

CHAPTER 3: FINDING METHOD

This chapter outlines the research design based on answering the theoretical research questions retroduced (Belfrage and Hauf, 2017) in the previous chapter. The study I had planned – to immerse myself in the writing, recording and releasing of new music – became impossible during the pandemic, forcing an improvised approach to fieldwork with the tools I had available to me (Tremblay et al., 2021, Keen et al., 2022, Boéri and Giustini, 2023). Chapter 3 describes the ensuing anarchy of this research, drawing upon Paul Feyerabend's theory of knowledge production (Feyerabend, 2010) to account for the methodological decisions taken. The second half of this discussion introduces critical realism (Bhaskar, 1998, 2009, 2013) as the research philosophy guiding (under-labouring) this process of retroduction (Belfrage and Hauf, 2015, Belfrage and Hauf, 2017). Retroductive theorising[5] as a concept is detailed in this chapter. Critical grounded theory (CGT) is a method of operationalising retroduction in qualitative research (Belfrage and Hauf, 2017).

[5] Introduced above but unpacked in further detail in Chapter 3

To meet the demands of researching during the pandemic, data collection methods were transformed into means of data generation (Kozinets, 2019, Keen et al., 2022). This method suffuses autoethnography (Ellis and Bochner, 2000, Anderson, 2006) with ethnographic interviews and netnographic (Kozinets and Kedzior, 2014, Kozinets, 2019, Ashman et al., 2021) tools of data collection (i.e., digital screenshots – trace data). The description of methods in this chapter maintains a balance between considering the methods used in the planned study (in answering the theoretical research questions) and discussions concerning the actual application (Boéri and Giustini, 2023).

Switching from defined data collection methods to qualitative means of data generation necessitated a temporary suspension of the theoretical research questions to gather information (by any means possible) about the digitalisation of music making (Keen et al., 2022). This approach to virtual ethnographic fieldwork produced almost unmanageable netnographic data (Kozinets, 2019). After conducting ten semi-structured ethnographic interviews, data analysis began taking stock of what was collected to refine the approach and begin sketching some provisional findings (Belfrage and Hauf, 2017). Chapter 4 details the analysis process moving this research from initial conceptualisations to grounded conceptualisations (theorising informed by existing theory and data).

CHAPTER 4: FROM INITIAL CONCEPTUALISATIONS TO GROUNDED CONCEPTUALISATIONS

This chapter details the analysis of pilot data. It introduces some initial findings of the research, which help take us from initial conceptualisations of the research problem

(i.e., digitalising processes of cultural making) via the data through to grounded conceptualisations which turn to the field of digital entrepreneurship in order to provide the theoretical framing of this research with added technical sophistication concerning the digital transformation of entrepreneurial processes.

This research uses qualitative coding techniques (Kozinets, 2019) to analyse the pilot study data, meaning line-by-line coding and using the participants' voices to help name codes and themes (Glaser and Strauss, 1968, Gehman et al., 2018). Once the first coding round is completed (i.e., the data is exhausted), a second round seeks to group initial codes into themes (Gioia et al., 2012, Gehman et al., 2018). More prominent themes develop through successive rounds of coding, forming this study's findings. The analysis produced three key themes. Firstly, that digitalisation has empowered musicians. Secondly, the empowerment of musicians has resulted in hyper-competitive market conditions. The third theme surrounds the idea that digitalisation shapes and conditions musicianship.

Discussions in Chapter 4 consider the potential novelty of these themes and their use in answering the research questions. Themes 1 and 2 can contribute to answering the empirical question; they offer very little fresh insight (Wikström, 2013, Morris, 2014, 2015). The remainder of this thesis begins the work of unpacking Theme 3, and this begins with a reconceptualization of musicianship. Drawing upon Mike Jones' (2012) process theorising of music industries (and the musician in four dimensions), it becomes possible to model musicianship to begin looking at digitalisation's effects upon it.

CHAPTER 5: GROUNDED CONCEPTUALISATIONS

This chapter charts a very similar course to Chapter 2. However, this time, instead of reviewing the field of cultural entrepreneurship, we turn to the field of digital entrepreneurship (Davidson and Vaast, 2010, Nambisan, 2017, Autio et al., 2018, Berger et al., 2021, Sahut et al., 2021) in working to refine the theoretical research questions further. Tracing the development of this field from its origins in strategic management (Porter, 2001, Matlay and Westhead, 2005, Kollmann, 2006) attempts at devising best-practices for existing firms facing pressures to digitalise their business operations. The field of digital entrepreneurship studies has evolved alongside the ongoing development of digital technology (Zaheer et al., 2019), and the review breaks this process down into three waves, just as Chapter 1 does with the digitalisation of music. This time we have Web 1.0 (Amit and Zott, 2001, Porter, 2001), Web 2.0 (Kollmann, 2006, Coleman and O'Connor, 2007, Hull et al., 2007) and today's age of ubiquitous computing (Nambisan, 2017, Autio et al., 2018, Zaheer et al., 2019, Sahut et al., 2021).

Recent contributions to the study of digital entrepreneurship (Nambisan, 2017, Autio et al., 2018, Nambisan et al., 2019) furnish this research with three different concepts to refine the theoretical research questions. Firstly, digital entrepreneurship studies suggest a digital technologies perspective (Nambisan, 2017) of entrepreneurship. The digital technologies perspective breaks-up the digital into three constituent parts: digital artefacts, digital platforms and digital infrastructure. The digital technology perspective also introduces the analysis of affordance, mainly digital affordances (Autio et al., 2018). The digital technology perspective studies entrepreneurial ecosystems formed by the coalescence of spatial and digital affordances (Autio et al., 2018).

The final section of Chapter 5 returns to the data and other existing management literature in subjecting the digital technology perspective to critical scrutiny (Belfrage and Hauf, 2017). Analysis suggests the digital technology perspective of entrepreneurship rests upon a flat ontology which (falsely) assumes a ubiquity of access to digital technologies and the necessary skills required to effectively exploit the potential and affordance of digital technologies (Martinez Dy et al., 2018). The conceptual apparatus digital entrepreneurship affords this research is sufficient for developing a digital technology perspective of cultural entrepreneurship, but reformulating the flawed ontology is vital for theorising empirical findings (Edmondson and McManus, 2007, Gehman et al., 2018).

CHAPTER 6: CONCEPTUAL REFINEMENT

In posing an alternative approach (Feyerabend, 2010, Bhaskar, 2013) to the flawed assumptions implicit within existing formulations of the digital technology perspective of entrepreneurship, this chapter turns to critical theory (Berry, 2015) in adding depth to the flat ontology of digital entrepreneurship theorising. Two key concepts are highlighted by introducing David Berry's (2015) critical theory of the digital, which can help elaborate understanding of digitalisation: the softwarization of society and the reification of everyday life. These concepts are used to build upon and refine an understanding of the more nefarious elements of digitalisation, which are only recently beginning to occupy the attention of mainstream management researchers (Kellogg et al., 2020, Lindebaum et al., 2020). This present investigation echoes growing calls for management researchers to become theorists of technology (Bailey et al., 2022)

in recognising the presence and consequence of digital technologies (i.e., digitalisation) in all domains of personal and professional lives (Beyes et al., 2022).

The softwarization of society refers to an over-reliance on digital technologies to manage, control, monitor and support social organisation. Without digital technologies, our economies would undoubtedly collapse (Berry, 2015). The softwarization of society also considers the aggregation of human beings as components within a computational system (Berry, 2015, 2016). The reification of everyday life refers to how computational agencies transform social relations. Our world is transformed into code objects for processing or being made visible. Reification permeates all levels of society and spheres of life, meaning the everyday experience is increasingly computed (Lukács, 1972 [1923], Berry, 2015).

Infusing the digital technology perspective of entrepreneurship (Nambisan, 2017) with critical insights which reformulate (i.e., deepen) the existing ontological assumptions of much digital entrepreneurship research, we supplant extant flat ontologising (Martinez Dy et al., 2018) with the notion of computed reality (Berry, 2015) which melds with the ontological depth of critical realism (Bhaskar, 2009, 2013, 2014) adopted in this investigation (i.e., multiple realities which can exist independently of – but not wholly unrelated to – empirical or, observable reality). These critical theory insights also develop our understanding of the burgeoning issues in management studies relating to the enfeeblement of humanity through a diminishing capacity for substantive decision-making in the face of artificial intelligence and machine learning algorithms – which increasingly make decisions on our behalf – and which are supercarriers of formal rationality (Lindebaum et al., 2020); an idea which is closely linked with the concepts of alienation and reification, core components of critical theory (Berry, 2015).

Furthermore, digital humanities (Berry, 2016, Berry and Fagerjord, 2017) and the digital technology perspective of entrepreneurship (Nambisan, 2017) aim to increase technical sophistication for theorising digitalisation. Given how this research – alongside a growing body of evidence within management studies (Martinez Dy et al., 2018, Kellogg et al., 2020, Alaimo, 2022) – undermines the extant formulations of the digital technology perspective of entrepreneurship – the final cycle of retroduction performed in this research turns to the field of Information Systems. The digital technology perspective of entrepreneurship drew insights primarily from IS (Nambisan, 2017). However, the principal sources within IS (Yoo, 2010, Kallinikos et al., 2013) appeared nearly two decades before this study. The field has undoubtedly progressed in the years since publication. Returning to IS to refresh the digital technology perspective of entrepreneurship with fresh insight, perspectives, and theories fulfils the promise to continually renew the digital technology perspective in responding to breakthroughs and new ideas from more technologically sophisticated disciplines than entrepreneurship studies (Nambisan, 2017, Nambisan et al., 2019).

The second half of this chapter is dedicated to reviewing the latest developments in the field of IS, finding a new theorisation of the digital object (Faulkner and Runde, 2019) as well as the novel idea that digitalisation is resulting in the process of ontological reversal (Baskerville et al., 2020). Ontological reversal refers to the notion that the world around us increasingly becomes a product of the digital world. The digital object comes first, and the physical version – if required – is printed into existence in the version of reality that is perceptible to humans (Bhaskar, 2013). Incorporating these fresh insights into this investigation represents the task of Chapter 7.

CHAPTER 7: GROUNDED RE-CONCEPTUALISATIONS

This chapter describes the operationalisation of these fresh insights from the field of IS (Faulkner and Runde, 2019, Baskerville et al., 2020) and subjecting them to empirical scrutiny (Belfrage and Hauf, 2017). Upon completing the data collection for this research, framing the central research problem (i.e., digitalising musicianship) is guided by the analyses and findings described in previous chapters beginning experimentation with the various conceptual and theoretical components developed thus far. Following this idea means this ethnography becomes a case study that interrogates ontological reversal (Eisenhardt and Graebner, 2007, Eisenhardt et al., 2016).

In a digital-first world, the digital object becomes the constituent unit of reality (Baskerville et al., 2020). Studying ontological reversal in entrepreneurial processes means beginning with the digital object. Isolating the digital in analysis to understand the world anew; through and with the digital (Yoo, 2010, Faulkner and Runde, 2019). This chapter reviews how the digital object has been theorised in IS (Ekbia, 2009, Faulkner and Runde, 2009, Kallinikos et al., 2010, Yoo, 2010, Kallinikos et al., 2013, Faulkner and Runde, 2019) and through processes of refinement described in this chapter, draw out four critical properties of digital objects which form the basis of a digital-first framing (Baskerville et al., 2020). Digital objects are embedded in entrepreneurial ecosystems. They are malleable, interactive, and sociomaterial (in the sense that they retain a spatial presence and active agency, i.e., materiality).

CHAPTER 8: A DIGITAL-FIRST FRAMING

This chapter then applies this digital-first framing to produce a novel account of the digitalisation of music. Firstly, by focusing on the embeddedness (Kallinikos et al., 2013) of digital objects in entrepreneurial ecosystems (Nambisan, 2017, Autio et al., 2018), this analysis begins highlighting how the alienated musicianship of the digital age originates in a new regime of digital object accumulation which treats digital symbolic capital as potentially valuable (Gehman and Soublière, 2017) resources in digitalising processes of legitimation (Suddaby et al., 2017).

Secondly, the degree to which musicians are investing time and efforts into learning the artful manipulation (i.e., malleability) of digital objects - rendering the smoke and mirrors perception management of the analogue age in a new form today where the (in)visibility (Berry, 2015, 2016) of digital objects reflects a key site of contestation (Kellogg et al., 2020) in digital-first music industries (Mazierska et al., 2018) – underscores the value of digital symbolic capital in digital-first processes of cultural making and legitimation. Analysing the interactivity (Kallinikos et al., 2013) of digital objects reveals that today, digital objects are no longer just interacted with by human users or other digital objects but are increasingly interacting with the physical world in meaningful ways (Baskerville et al., 2020).

CONCLUSIONS

The final cycle of retroduction takes us back to the beginning as we address the research questions drawing upon the insights developed throughout this thesis and ending with a renewed understanding of the initial empirical concern; the digital transformation of music making. This investigation finds that digitalisation empowers

musicians but comes at the cost of competing in hypercompetitive market environments. Furthermore, the data shows how digitalisation (actively) shapes and conditions cultural-making processes (i.e., musicianship).

Retroducing a theoretical response to the challenges of musicianship (and responding critically to theoretical challenges in the data is where the novelty and contributions of this research lie. A digital-first perspective (Baskerville et al., 2020) which draws upon insights from digital entrepreneurship (Nambisan, 2017, Autio et al., 2018) and the field of IS research, suggests a novel approach for theorising digitalising cultural entrepreneurship (Gehman and Soublière, 2017).

This research finds that digitalisation extends the scope of distributedness by affording new means of co-creation, collaboration and innovation on an unprecedented scale, dissolving physical boundaries (i.e., space-time). Furthermore, the cast of actors producing new music extends in the digital age (i.e., distributedness), including incomprehensible masses online (social media, crowdfunding and global steaming audiences) alongside new agents (agencies) in the form of machine-learning algorithms and generative AI. Discussing cultural making by drawing upon the unique characteristics of digital technologies, it is possible to show that this process begins unfolding in a reversed ontology.

The ontological reversal of cultural making has resulted in new principles of legitimation that revolve around the accumulation of digital symbolic capital. By suggesting the concept of digital symbolic capital, this research contributes to understanding the multivocality of value in digitalising entrepreneurial processes. This thesis closes with a consideration of the implications of these findings for existing theories of cultural and digital entrepreneurship as well as the promise of theory

retroduction as a method of social inquiry. Limitations and suggestions for future research follow.

CHAPTER 1: DEFINING THE PROBLEM

The purpose of this first chapter is to contextualise the study and provide critical insight surrounding the overall methodological approach of this research (Hauf, 2016, Belfrage and Hauf, 2017). This thesis began with a short story in the introduction drawn from my experience as a musician. This story and the discussions above illustrate my concerns and uncertainty with perceived transformations in the behaviours and practices surrounding musical production. I had presupposed that these changes are in some way related to technological transformations (i.e., digitalisation). This autoethnographic vignette ended in a broadly defined empirical problem which means this research is concerned with understanding how music making is transformed in the digital age.

In seeking answers to this question, thesis retroduction must begin by historicising the problem (Hauf, 2016). Section 1.1 provides an overview of the history of music digitalisation. This research assumes that the digitalisation of music occurs (thus far) across three waves (section 1.1.1). These waves of digitalisation have impacted processes of both musical production (1.1.2) as well as musical consumption (1.1.3). Section 1.1.4 problematises the third, most recent wave of digitalisation, highlighting key issues such as the power (i.e., informational) imbalances of this version of the internet. This section also introduces another key theme of this research. That is the impact and influence of artificial intelligence (i.e., inhuman power) upon cultural production. These discussions end with justification for studying musical production in this context and relating the issue to broader debates around privacy, autonomy, human values and ethics in technologically mediated societies. Another critical facet

of this research begins unfolding in these discussions, which is the gradual refinement (Belfrage and Hauf, 2017) of the research question throughout the investigation.

The second half of this chapter (1.2) outlines and broadly defines the research problem and is dedicated to outlying the general approach to this research. Section 1.2.1 recaps the key definitions and assumptions underlying the empirical problem this research addresses. Essentially, this reads: how digitalisation transforms music making. Section 1.3.2 introduces critical realism (Bhaskar, 2013); the research philosophy underpinning (Belfrage and Hauf, 2017) the investigation as its argument unfolds over the following pages. The discussion defines the approach and outlines the critical components of this school of thought relevant to this study.

Critical realist social science is interested in refining our understanding of the generative mechanisms or causal powers beyond our immediate human perception (Bhaskar, 1998, 2014). Critical realists assume the existence of generative mechanisms (i.e., causal powers) that influence (i.e., generate) events in the empirical (i.e., observable) world. This research posits that digitalisation is a factor in the generative mechanisms that shape contemporary cultural production practices (Mingers et al., 2013; Fuchs, 2017; Kempton, 2022)

Critical realist knowledge emerges retroductively (Al-Amoudi and Willmott, 2011, Bhaskar, 2014). Existing scientific explanations are subject to empirical scrutiny, revised or refined to generate a closer approximation of truth or reality (Bhaskar, 2013). The retroduction of this thesis is described already in the introduction, but section 1.2.3 gives further methodological detail concerning the operationalisation of thesis retroduction. Essentially, this investigation is refining more precise research questions by combining time spent in the field with ongoing deskwork, generating

theory (i.e., new knowledge) through retroduction (Belfrage and Hauf, 2017). This chapter closes with a summary of the progress made so far and reflects upon the development of the initial conceptualisations for this research. Chapter 2 reviews the management literature concerning cultural entrepreneurship (Gehman and Soublière, 2017) as a site for basing the theoretical element of this study (Belfrage and Hauf, 2015).

1.1 MUSIC & DIGITALISATION

Digitalisation is an ongoing technological development process applying digitizing logic to broader aspects of social life and organisation (Beverungen et al., 2019, Beyes et al., 2022). With regards to the music industry, this refers to the early infusion of digital technologies into the recording process in the form of digitally enabled audio manipulation and digitally produced sound (Coleman, 2009, Katz, 2010). From the preserve of the musical elite (Taylor, 2015) in the late 1970s and 1980s, digitised sound recording is now possible using a device which sits in the palm of your hand (Wikström, 2013, Collins and Young, 2017, Hesmondhalgh and Meier, 2018).

The encounter between digital audio files borne by Compact Discs (CDs) and home computers (PCs) with the capacity to rip music from its physical bearer started a new trend in music piracy (Berry, 2008, David, 2010, Katz, 2010, Burkart, 2012, Rogers, 2013, Leyshon, 2014). Incorporating instant global distribution afforded by the internet into this mix resulted in the peer-to-peer (P2P) file-sharing crisis of the early 2000s (Coleman, 2009, David, 2010, Wikström, 2013, Morris, 2015). This represents another key moment in the digitalisation of music (Kusek et al., 2005, Wikström, 2013, Collins and Young, 2017). More recently, streaming and social media have, as has been

discussed, changed the way musicians go about the business of everyday musicianship (Anderson, 2013, Morris, 2014, Morris and Powers, 2015, Collins and Young, 2017, Zhang and Negus, 2021).

However, the digitalisation of music has a more extended history than the recent encounter between the digitally recorded music artefact and the networked home computer (Leyshon, 2014, Morris, 2015). This infamous encounter brought music into an age of infinite reproduction (Benjamin, 2008), which came to fruition in the crisis of digital music piracy (Rogers, 2013, Morris, 2015). Widespread (quasi-illegal) digital file sharing during the early years of this century saw the economic value of recorded music teeter on the brink of collapse amid a media-induced moral panic (Rogers, 2013), which questioned the future viability of recorded music industries in the digital age (Berry, 2008, David, 2010, Hesmondhalgh, 2010, Hesmondhalgh and Meier, 2018). Digitalisation and the internet have recently transformed the distribution of the recorded musical form, but digital technologies have played a role in music production for at least six decades (Coleman, 2009, Katz, 2010, Arditi, 2018).

In recent years, the music industries - as an interrelated coagulation of various industries united in the common interest of producing or extracting value from music - (Osborne and Laing, 2020) have witnessed exponential growth in the value of live music (Zhang and Negus, 2021), an intensification of a trend which has seen ticket prices rise on average 400% since the 1980s (Tschmuck, 2017, Osborne and Laing, 2020). The shift into the experience economy (Tschmuck et al., 2013) managed to keep music industries profitable throughout the turbulence (Kask and Öberg, 2019) caused by music's most recent digital augmentation (Rogers, 2013, Arditi, 2018, Zhang and Negus, 2021).

The emergence of streaming media technologies presented the recording companies, i.e., the copyright holders, with a longer-term solution to downloading practices, diminishing the value of their core commodity (Anderson, 2013, Arditi, 2018, Kask and Öberg, 2019). The quasi-global interconnection afforded by social media technologies and democratised access to the necessary technologies of production means that today's musicians, in theory, possess all of the tools required to pursue a career in the music industries independently (Hesmondhalgh, 2020, 2021, Jones, 2021a, b).

1.1.1 THREE WAVES OF DIGITALISATION

This research considers the digitalisation of music to have experienced transformations in three waves (Coleman, 2009, Katz, 2010). The first wave of digitalisation refers to incorporating digital technologies in production from the 1970s onwards; digital recording technologies, for example, and nascent digitalised physical media (i.e., the compact disc or CD). The second wave of digitalisation refers to the mass dissemination of these digital products (i.e., the PC and home recording software) but also to the spread of internet and network technologies, which infamously resulted in the crisis of Napster and digital music piracy (Berry, 2008, David, 2010). The music industry has undergone a wave of restructuring after this disruption (Rogers, 2013, Wikström, 2013). For example, the fall in the value of recorded music met significant growth in the value of the live music sectors (Tschmuck et al., 2013, Osborne and Laing, 2020). This development reflects a broader cultural shift in consumer behaviour (Pine and Gilmore, 1999, 2011) and recent decades have seen consumers spending more than ever on music-related products and services (Arditi, 2018).

This second wave of digitalisation has witnessed the rise of new organisational forms in the music industries (Anderson, 2013, Rogers, 2013). Often called music aggregators, these organisations represent novel intermediaries between artists and major music streaming and retailing platforms (Galuszka, 2015; Hracs, 2015); Aggregation services not only provide market access for artists but also collect and distribute streaming royalties as well as offer professional services such as mixing and mastering, promotional campaigns, radio plugging, playlist pitching (Cramer, 2015, Galuszka, 2015, Galuzka and Wyrzykowska, 2018, Mazierska et al., 2018, Kask and Öberg, 2019). The influence of nascent social media as a distributive and promotional channel rose to prominence during the second wave of music industry digitalisation (Wikström, 2013, Morris, 2014, 2015, Tschmuck, 2016), beginning with the early P2P networks and sites such as Myspace which were, interpretably, more music-oriented than Facebook, Twitter and Instagram are today (Rogers, 2013, Kirton, 2015, Zhang and Negus, 2021).

The third wave, our present wave and the context for this study refer to the intensification and acceleration of extant trends that arose during previous waves (Jameson, 1998, Fisher, 2009, Rosa, 2013). Oligopolies in communications and distribution media define today's music industries (Kask and Öberg, 2019). Oligoplised culture industries, however, are nothing particularly new (Hesmondhalgh, 1999, Hesmondhalgh and Meier, 2015, Taylor, 2015, Hesmondhalgh and Meier, 2018, Hesmondhalgh, 2021). Major companies have always held sway over the most profitable portions of the music industries (Coleman, 2009, Taylor, 2015, Hesmondhalgh and Meier, 2018). What is unique to this present wave of transformations is the rise of surveillance capitalism (Zuboff, 2018) and the impact of nascent artificial intelligence (Dyer-Witheford et al., 2019) and algorithmic machine

learning (Morris and Powers, 2015, Arditi, 2018, Zhang and Negus, 2021) upon musical production and distribution practices. This research is therefore looking to understand musicianship in this context.

1.1.2 DIGITAL TECHNOLOGIES & MUSICAL PRODUCTION

The crisis of digital music piracy and the emergence (then legitimation) of streaming media begins to make more sense if we look back further and remember that compact discs (CDs), while remaining physical bearers of the commodified musical form, were carrying the music stored as a digital file rather than a physical imprint per se (as is the case with traditional analogue media formats such as vinyl records and magnetic tapes). Online file-sharing merely unlocked this dormant functionality, albeit to a transformative effect (Coleman, 2009, David, 2010, Anderson, 2013).

However, digitalising the musical form (not just its technological media/distribution format) goes further than the P2P file-sharing crisis. Digital recording technologies originated in early experiments in telecommunications during the 1950s but were first used commercially in popular broadcast media until the 1960s (Coleman, 2009). In the 1970s, however, professional musicians began using digital audio technology in a studio. Throughout the 1980s and 1990s, the increased processing power, RAM and storage capacity of PCs meant that digital audio workstations (DAWs) were becoming the standard mode of recording in professional studios (Leyshon, 2014). The increasing affordability of these technologies meant that more and more musicians could bring these technologies into their homes and create music with more flexible convenience (Coleman, 2009, Collins and Young, 2017).

Today, it is possible to purchase a rudimentary digital audio interface (the hardware required to convert recorded sound into digital signals) for less than £100 and, more often than not, bundled with a microphone and cable and a free download of a DAW.[6] There is an abundance of household names who have managed to make hit records at home. Billie Eilish, for example, has taken her music from the bedroom in her parents' house in L.A. to the main stage at Glastonbury Festival. UK Grime artist Stormzy's rough-cut diss tracks produced at home took him on a similar journey from the council estates of London to the same stage. These heroes of independent production are often presented as inviolable proof that anyone can make it in today's music industries (Rogers, 2013, Collins and Young, 2017). The emergence of social media and streaming services has further contributed to this notion enabling musicians to distribute their music and message to seemingly limitless audiences online (Wikström, 2013, Morris, 2015).

1.1.3 DIGITAL TECHNOLOGIES & THE CONSUMPTION OF MUSIC

Following the crisis of digital music piracy, streaming, in many ways, represented the next logical step for music consumption (Arditi, 2018). The music industry has historically operated by selling content (music) to be played on hardware (i.e., playback devices). Many early pioneering hardware companies also ran record labels producing the music played on their devices. HMV & Decca, for example, began life as subsidiaries of gramophone manufacturing firms (Coleman, 2009, Jones, 2012).

However, purchasing new music was previously limited, given how consumers could listen to records repeatedly, only paying for the record once. In the past, music

[6] There are also many DAWs available to download for free online, enabling producers to create music using sample libraries and computer-synthesised sounds.

industries have sought to (re)monetize this consumption culture by appealing (in varying degrees of intensity over time) to four technological elements or affordances: capacity, fidelity, portability and convenience; the album replacement cycle, an historical process through which consumers must periodically repurchase music they already own for playback on new media hardware devices (Arditi, 2018). Today, in contrast to past media (technological) transitions, digital streaming media simultaneously advances all four of these elements.

Streaming services offer consumers unprecedented access to imperceptible (unlistenable) swathes of the entire catalogue of recorded sound (Hesmondhalgh, 2021). Cloud affordances also mean streamers are no longer physically required to store this music on their devices. Current developments in streaming technologies also afford the increasing sonic fidelity with services such as Tidal positioning themselves as 'high fidelity music streaming' offering 'the best sound quality'.[7] Streaming services are also beginning to introduce tiered subscriptions with higher fidelity offered to higher-paying customers (Arditi, 2018). Mobile phones as the primary playback device also mean that streamers can access music virtually anywhere and at any time, given they have a connection to the internet. Smartphone apps further provide customers with the ability to download and store (flexibly) any of the music available through their app in such (rare) circumstances that an internet connection is not possible (during a flight, for example).

A new approach to distribution defines the streaming era qua the download era; algorithmic curation (Morris and Powers, 2015, Arditi, 2018). In contrast to the à la carte approach of Spotify, a competing service, Beats Music, used algorithms to curate

[7] *Cf.* Spotify markets general affordance, i.e., 'music for everyone' and Deezer appeals to its musical offering.

a musical offering based on an aggregation of taste(s) per activity (cooking, intense focus or exercise playlists, for example) and mood (motivation, chilling, vibes). This approach came to the attention of Apple, whose failing download store prompted action, which resulted in the company purchasing Beats in 2014 for $3 billion (Arditi, 2018). Algorithmic playlist curation and new music suggestions are ubiquitous among mainstream streaming services.

1.1.4 RESEARCHING THE DIGITALISATION OF CULTURE

Research on the impacts of digitalisation on the arts and creative industries more broadly has been a fervent topic of interest for several decades and spans a vast array of disciplinary boundaries (Eriksson et al., 2019, Kask and Öberg, 2019, Koh et al., 2019, Liebman et al., 2019, Hesmondhalgh, 2021, Jones, 2021b, Zhang and Negus, 2021). Nevertheless, only recently have the darker sides of digitalisation and socio-technical transformations become mainstream. For many, the age of technological utopianism interpretably met its timely end in the wake of the Cambridge Analytica scandal when it became common knowledge that the internet and digital technologies contain the possibility of undermining democratic processes. Media barons, today more than ever, are manipulating opinion and mediating how we experience the world around us (Zuboff, 2018).

Silicon Valley Oligarchs, now behest to their venture capitalist backers, must continually design and redesign their products and service offerings to fix users to their screens. Such efforts aim to produce, collect, and compute vast amounts of user trace data to calculate and deliver highly specialised, targeted advertisements to a captive user base. In order to lock in users, developers are taking their cues from the murky world of gambling, historically adept in the dark arts of keeping people coming back

for more (Ichihashi and Kim, 2021). Addicting but manipulative, these services can both privilege and reward certain behaviours or practices whilst discouraging others and simultaneously shape human action, fashioning social behaviours to complement big tech's well-publicised ends.

However, the work of scholars such as Shoshanna Zuboff (2018) and Safiya Umoja Noble (2018), alongside several prominent Silicon Valley defectors (Toscano, 2018, McNamee, 2020) and even hugely popular Netflix documentary (The Social Dilemma) have all helped mainstream the view that technology is not always a force for good. In recent years, research has become increasingly attentive to novel cases of social malaise, which have arisen alongside the mass dissemination of digital devices and internet connectivity. Major wellbeing concerns such as rising cases of depression and anxiety, body dysmorphia and digital burnout have all been taken up by groups of scholars looking to develop a critical counternarrative to the hegemonic emancipatory discourses which promise technological solutions to social discontentment (Bunjak et al., 2021, Walker et al., 2021).

Developments in areas such as smart computing, artificial intelligence, machine learning, big data computation, and 3D printing, alongside the mass dissemination of internet-enabled digital devices and the internet of things, have seen technologies grow in importance for the conduct of contemporary life for most people across the globe (Baskerville et al., 2020). Digital technologies not only shape and condition experiences of the world but are actively producing and reproducing our external realities. The physical world is becoming a purposeful product of the digital (Baskerville et al., 2020), and everyday life increasingly reflects the logics of digital accumulation (Berry, 2015). This research aims to develop our understanding of the more nefarious

implications digital transformations have upon received notions of creativity and freedom of expression within cultural (production contexts).

The fast-paced nature of contemporary technological development presents a difficult task for theorists and policymakers who struggle to make sense of continuous transformation, to understand, explain, and legislate for the novel phenomena emanating from ongoing digitalisation processes. Scholars must continually revise extant frameworks and concepts and devise new ways to reflect evolving digital realities accurately. Scholarship within the broader field of management and organisation studies has, until recently, tended to adopt shallow instrumentalist views of technology (Martinez Dy et al., 2018). Conceptualised as little more than a helpful tool that firms and entrepreneurs can exploit, the digital affords commercially driven ventures with novel means of additional wealth and value creation (cf. Porter, 2001, Zaheer et al., 2019).

Whilst more recent scholarship is beginning to furnish the field with more nuanced and sophisticated means of theorising the role of technology in transforming business processes and practices, scant attention is paid to the implications that digital agencies and digital materialities are having upon contemporary management practices (Kellogg et al., 2020, Lindebaum et al., 2020). This research reflects an exploratory foray into suggesting means for theorising a society increasingly mediated by digital technology.

The purpose of this chapter was to begin contextualising the research problem, reviewing the history of the digitalisation of music demonstrating that ongoing

processes of digitalisation continue to transforming music (making). Furthermore, the present context of platform capitalism was explored distinguishing this era of the internet from previous era. The increasingly active role of digital technologies in shaping how we see, interpret and experience the world is presented as grounds for retheorising music making in the digital age.

CHAPTER 2: TOWARDS INITIAL CONCEPTUALISATIONS

This chapter provides an overview of the existing entrepreneurship literature related to entrepreneurship in cultural settings. It reviews the field of cultural entrepreneurship studies to find a suitable theoretical foundation for this research. Section 2.1 introduces the field of cultural entrepreneurship. Section 2.2 provides an overview of the foundational literature on cultural entrepreneurship, its close relationship with institutional theory (2.2.1), and research on popular culture industries (2.2.2). Section 2.3 then traces the development of cultural entrepreneurship research in the tradition of management studies (2.3.1). Section 2.3 isolates the critical elements of cultural entrepreneurship (cultural making, distributed and intertemporal processes and the multivocality of value) in beginning the process of defining the theoretical contribution of this research.

2.1 CULTURAL ENTREPRENEURSHIP

Cultural entrepreneurship refers to the distributed, intertemporal processes of cultural making (Gehman and Soublière, 2017). By cultural making, we mean that culture can be both a medium or an outcome of entrepreneurial action. Cultural entrepreneurship is distributed in the sense that the actors involved in processes of cultural making are not isolated individuals but a fluid constellation of differently motivated parties whose level of involvement is subject to change over time (Wry et al., 2011, Jones et al., 2012). For example, Manning and Bejarano (2017) show how traditional dichotomies between producers and consumers (i.e., audiences and entrepreneurs) are being

dissolved in the case of online crowdfunding. Any individual using the same platform can simultaneously play the role of investor, customer or supplier at different points during an entrepreneurial process or journey, exemplifying the distributedness of cultural entrepreneurship in the digital age.

Following this, we can also see that cultural entrepreneurship is not a one-time accomplishment or a single project with a definitive beginning and end point. Cultural entrepreneurship is an ongoing, intertemporal process in which actors, artefacts and events unfold over time (Gehman and Soublière, 2017). For example, Garud et al. (2014) study entrepreneurial storytelling to acquire legitimacy for a new venture (Lounsbury and Glynn, 2001), showing how storytelling unfolds over time as entrepreneurs' projective narratives may be constrained by failing to meet expectations set in the past. The intertemporality of cultural entrepreneurship means such events must be re-narrated or reframed at different points over an entrepreneurial journey (Überbacher et al., 2015), adding conceptual sensitivity to 'the recursive relationships between past, present, and future […] how entrepreneurial narratives construct time […] and how this storytelling unfolds at different points in time' (Gehman and Soublière, 2017 p. 66). In short, recent developments in cultural entrepreneurship emphasise the recursivity of time in entrepreneurial processes alongside an added conceptual sensitivity to the revolving cast of actors involved in processes of cultural making.

Furthermore, cultural entrepreneurship conceptualises value creation processes across multiple and fluid repertoires and registers of meaning (Gehman and Soublière, 2017). Cultural entrepreneurship theory embraces the multiplicity and fluidity of cultural meanings. Cultural entrepreneurship creates value across multiple registers or repertoires of meaning owing to the multivocality of value, meaning that value

creation can be justified or recognised by more than one legitimating principle or rationalising logic (Thornton et al., 2012). For example, Dalpiaz et al. (2016) developed a longitudinal study of the Italian manufacturing company Alessi. They find that by combining the logics of industrial manufacturing and cultural production, the company successfully created new market opportunities. The company demonstrated value in multiple registers, such as in producing high-quality products, economic profits (i.e., orthodox logics of industrial manufacturing), and a sense of hedonic pleasure and mass market appeal (i.e., cultural production).

Alessi successfully transformed their customer base rather than – as is traditionally assumed – companies reacting to or adapting products according to customer tastes and consumer trends. Cultural entrepreneurship can also account for the processes of emergence and fluidity in cultural meanings. Delmestri and Greenwood (2016) trace the recategorization of the Italian spirit Grappa which was traditionally considered a low-status product and became – following steps taken by one regional producer – exemplary of a cultured (i.e., sophisticated) Italian lifestyle. Contemporary theories of cultural entrepreneurship are adept in accounting for the complexity and dynamism of entrepreneurial processes (Gehman and Soublière, 2017).

The definition of cultural entrepreneurship theory espoused here, however, represents a productive fusion of two previously distinct streams of research that are converging to produce a more coherent, cumulative research programme (Lounsbury et al., 2019, Lockwood and Soublière, 2022). The first stream of cultural entrepreneurship concerns understanding entrepreneurship in cultural domains, i.e., making culture (Gehman and Soublière, 2017). Exemplary of this tradition is DiMaggio's (1982) sociological study on the founding of cultural institutions in 19th-century Boston, showing how these institutions began to play an influential role in determining the

course of cultural development in that city. DiMaggio's analysis traces the early histories of the Boston Symphony Orchestra and the Museum of Fine Arts, highlighting the role that the foundation of cultural institutions played in cultural classification—in this instance, institutionalising the cultural distinction between high and low art.

The second stream of cultural entrepreneurship research originates in strategic management studies and is concerned with the deployment of culture (i.e., cultural artefacts) in processes of legitimation. Emerging from Lounsbury and Glynn (2001), this well-known form of cultural entrepreneurship theorising has gained popularity among management scholars and concerns using entrepreneurial storytelling to mediate between existing entrepreneurial resources. Separated by nearly two decades, these two traditions of cultural entrepreneurship rarely converged until more recently, when management scholars began to take an interest in the theorising enterprise outside of traditional business settings (Welter et al., 2016, Gehman and Soublière, 2017).

This investigation, too, takes place outside of a traditional business setting and is interested in discovering exactly how digitalisation has and continues to transform the processes and practices of musical production. Contemporary cultural entrepreneurship theorising, therefore, represents a good fit for this research, and musical production becomes emblematic of entrepreneurial phenomena despite the unorthodox empirical context. Nevertheless, what follows concerns how digital technologies disrupt traditional distributed, intertemporal processes of cultural making. Technological developments in recent decades are observably impacting cultural values and how we imbue culture with value. For example, consider how the internet can instantly connect geographically dispersed individuals who can all play a role in making cultural artefacts and actively engage in processes of valuing and legitimating

creative ventures and products. Today, we can conceive cultural entrepreneurship distributedness on an unprecedented scale, and researchers must begin developing conceptual means of accounting for and explaining such changes.

2.1.1 FOUNDATIONS OF CULTURAL ENTREPRENEURSHIP

Cultural entrepreneurship has its foundations in institutional theory, particularly in the sociology of Paul DiMaggio, a pivotal figure in developing both traditions. The foundational text in cultural entrepreneurship (DiMaggio, 1982) precedes his seminal intervention in institutional theory by one year (DiMaggio and Powell, 1983). However, DiMaggio (1982) was the first to mention cultural entrepreneurship in a scholarly text explicitly.[8] Nevertheless, the processes described in this work constitute what we now, more formally, conceptualise as cultural entrepreneurship. As mentioned in the above discussion, DiMaggio studies how urban elites, the Boston Brahmins, founded an institutional system that embodied their ideas about the high arts. Two salient features of cultural entrepreneurship arise from this early work. Firstly, DiMaggio distinguishes between high and low culture, the difference between what goes on in museums, art galleries and opera houses versus the behaviours and norms of audiences in music halls, taverns and other (less) formal venues (DiMaggio, 1982). Whilst the Orchestra and the Museum were both commercial ventures, these enterprises stood to support the (re)production of high art.

Second, DiMaggio is interested in understanding how this distinction became formalised (i.e., institutionalised). He understands the process of cultural entrepreneurship as consisting of three concurrent, analytically distinct processes:

[8] Although the words appear only once in the piece's title.

entrepreneurship, classification, and framing. Entrepreneurship refers to creating (i.e., foundation) an organisational form owned and governed by the elite. This institution contributes to classifying high art by making clear distinctions between art and entertainment. Finally, framing is the development of a new etiquette of respectful behaviour between the audience and the art (artist). DiMaggio's analysis foregrounds the agencies involved in forging this distinction, uniquely placing intentioned effort at the heart of processes of cultural change. The origins of cultural entrepreneurship in institutionalism necessitate a closer look at this profoundly influential theoretical movement.

Institutional theory assumes that groups' standard practices and shared behaviours are socially constructed rather than the simple outcome of economic pressures (Suddaby, 2013). The popularity of institutional theory as an approach to management-organisation studies lies in its ability to account for behaviours and practices that defy the logic of economic rationality. The abstract social structures that shape our lives (family, school, nationality, religion) become imbued with additional meaning that is surplus to their base purpose. Institutionalisation refers to how these social structures take on greater significance in shaping human (inter)action. The critical assumption common to institutional theory-based approaches is that the selection and retention of practices and patterns of behaviour owe more to social pressures for conformity over technical pressures for economic performance.

American sociologist Philip Selznick (1953) - credited with founding (old) institutionalism (Suddaby, 2013) - and his analysis of the nationalisation of the Tennessee Valley Authority demonstrates how institutions, over time, become infused with meaning and value which extends beyond their original purpose. Furthermore, the infusion of additional meaning and significance can entail unintended

consequences. In distinguishing between the realm of purposive, rational action from the symbolic realm of meaning and (cultural) value, Selznick's work begins theorising action and behaviour unexplainable with recourse to economic logic alone. The infusion of additional value (Selznick, 1953) is the foundational concept that underlies institutional theory alongside diffusion, which explains how institutions become imbued with additional value and added significance. Diffusion refers to the observation that the successful (i.e., widespread) adoption of technical practices (innovations) depends less on functional utility (efficiency); social conformity and subjective preference lead to the adoption of new practices, shared values and meanings.

Institutional theory is premised on dispelling myths of rationality and seeking explanations for behaviours that do not conform to the shallow logic and assumptions which underlie overly economistic approaches. In another classic text, Meyer and Rowan (1977) observe that most organisational activities remain unaccountable with recourse to the pursuit of economic efficiency or productivity. Economic rationality does not define appropriate behaviour, etiquette and practice rules. Instead, it is myths about what constitutes economic rationality which determine appropriateness. In other words, this means behaving according to assumptions that reflect successful organisational behaviour. Put another way; organisations survive by conforming or becoming isomorphic with their environment (DiMaggio and Powell, 1983).

In contrast to old institutionalism, which focused on processes occurring inside individual organisations, new institutional theory is interested in processes occurring across frequently interacting clusters of organisations. The level of analysis in new institutionalism becomes the organisational field. Articles by Meyer and Rowan (1977) and DiMaggio and Powell (1983) spawned intense examination of the diffusion of institutionalised practices across organisational fields and the processes of

isomorphism in which organisations begin to adopt similar structures. For example, Tolbert and Zucker (1983) suggest a model of mimetic adoption (i.e., a process of diffusion) wherein specific organisations adopt a practice for improving technical performance, but others, i.e., late adopters, do so in conforming to institutionalised practices. With late adopters, the competitive advantage developed by innovating firms was lost, i.e., late adopters did not see any improvement in their performance. Nevertheless, by embracing institutionalised practices, behaviours and shared values, late adopters can still be considered legitimate and credible, thus isomorphising in responding to (cultural) pressures over and above (immediate) business concerns.

A significant criticism of institutional theory by the early 1990s was that this set of approaches assumed a linear process whereby some organisations would innovate and adopt new practices. In contrast, others generally followed until reaching an institutional saturation where all organisations within the field had isomorphised into total conformity. The reality is, however, that some organisations can resist institutional pressures. Furthermore, highly institutionalised organisational forms are also subject to change and evolve. In attempting to move away from the trope of organisations as 'cultural dopes', institutional theorists returned to DiMaggio (1988) and his idea that certain actors, institutional entrepreneurs, can discern and resist the power and influence of collective social beliefs. That is, certain actors retain the capacity to affect their institutional environment by engaging in what scholars refer to as institutional work.

With this development, we can begin drawing important lines of comparison between institutional theory and cultural entrepreneurship. Recall how DiMaggio's foundational text foregrounds the entrepreneurial activities of the Boston Brahmins (i.e., the founding of cultural institutions) in the analysis and highlights the role of intentioned

agency in processes of cultural change. From the start, the cultural institutions founded by the elites in Boston imbued additional meaning and values that reflected the views of a particular social class regarding the merits of certain aesthetic forms and the preferred consumption behaviours that surround them. Institutionalism and this tradition of cultural entrepreneurship research provide this study with a conceptual lens appropriate for explaining the transformations in musical production practices relating to digitalisation processes. The following subsection continues this work and reviews several crucial texts that examine entrepreneurship's role in cultural settings, mainly looking at mainstream, commercialised cultural industries, largely absent from DiMaggio's work.

2.1.2 CULTURAL ENTREPRENEURSHIP IN POPULAR CULTURE

The focus on high art in DiMaggio (1982) leaves room for investigating cultural entrepreneurship in popular commercial industries. While the term cultural entrepreneurship does not directly appear in early studies (Peterson and Berger, 1971, Hirsch, 1972, Peterson and Berger, 1975), they converge around understanding entrepreneurial phenomena in mainstream (commercial) cultural industries. A remarkably early example of research which studies entrepreneurship in popular culture industries is Hirsch (1972), who theorises organisational response to characteristically uncertain environments, finding that organisations engaged in the production and mass distribution of cultural products deploy three adaptive coping strategies. The first of these involves sending contact men to organisational boundaries. Contact men refers to talent scouts or artists and repertoire (A&R) representatives to try and ensure the major music companies can identify and capitalise upon emergent cultural trends.

Organisations in turbulent cultural industries also recourse to the overproduction and differential promotion of new products. That is, the capacity for major corporations in culture industries to gamble on several acts, knowing that returns from major successes tend to outweigh the losses from failed projects. Thirdly, organisations in cultural industries work towards the co-optation of mass media and gatekeeping intermediaries ensuring the products of the major corporations dominate the airwaves, increasing chances of market success. These tactics coalesce into what Hirsch (1972) terms the industry system.

Similarly, the work by Peterson and Berger in the 1970s examines innovation (1975) and entrepreneurship (1971) in the popular music industries. They also consider the turbulence of commercial music industries and look for patterns in how organisations deal with unpredictable consumer tastes and preferences fluctuations. Their work concurs with Hirsch, finding that major music companies cede many executive decision-making responsibilities to experts on the ground. By employing many agents (i.e., A&R reps), major corporations can disperse financial risk as the number of entrepreneurial decisions increases. Whittling out less successful agents using performance metrics, the major music corporations deploy vast resources in developing a reliable system of rapid feedback monitoring market success.

This business model remained the principal strategy of talent acquisition and market domination until the internet and big data enabled a digital refinement of A&R work. Peterson and Berger (1975) use longitudinal music chart data to show how aesthetic innovation within popular music industries occurs primarily outside the major labels' sphere of influence. An era of market concentration follows periods of stylistic (genre) diversity, explaining how major corporations can appropriate new styles, genres and cultural trends as they arise and become profitable. Findings mirror DiMaggio's

foregrounding of agency in processes of cultural change, about entrepreneurship in response to turbulent market environments (i.e., institutionalised practices) and entrepreneurial agencies actively shaping the cultural milieu (in the sense of influencing consumer habits, tastes and preferences).

Acheson et al. (1996) represents a rare example of cultural entrepreneurship research explicitly labelled as such. This study on the Banff Television Festival finds that processes of cultural entrepreneurship unfold in three stages. The first stage is the conception of the idea. The second stage concerns the initial launch of an event. The third phase is the institutionalisation of the event, i.e., becoming established. Each stage can generate organisational complexities and unique financial challenges specific to each phase. Their longitudinal analysis of Banff shows that when a venture can adopt an organisational culture which combines managerial competence with creativity and can maintain open interaction with informed industry insiders (i.e., customers and patrons), the non-profit enterprise manages to avoid many of the problems associated with such ventures; that is, inefficient administration, crude management systems, slow adaptation and little innovation (Acheson et al., 1996). We can draw lines of comparison between this study and earlier work discussed herein that by employing the expertise of other professionals with more direct (on-the-ground) industry experience, much of the risk and uncertainty involved in cultural ventures mitigated

Most of this work, however, has focused on elite actors and large-scale organisations. Very little attention, until relatively recently, has been paid to individual entrepreneurs, the creators themselves. Leadbeater and Oakley (1999) represent a rare example of such research. They investigate the emergent class of creatives freelancing in creative

industries. Their study traces the post-Fordist[9] transformation of industry, highlighting how new market pressures and changing environmental conditions force creatives to adopt an entrepreneurial mindset in forging careers and making a living from their art. Leadbeater and Oakley (1999) make a case for favourable policymaking and developing local infrastructures to support cultural entrepreneurs, demonstrating their value to local, regional and national economies.

More recent examples include Scott (2012) and Pret et al. (2016), who imbue cultural entrepreneurship research with a Bourdieusian field analysis of microeconomic practices. Scott (2012), for example, develops a study of DIY (i.e., independent, unsigned) music producers and describes a process of mobilisation and conversion of Bourdieu's alternative capitals (cultural, social, symbolic). Artists deploy existing stocks of entrepreneurial capitals to generate buzz (i.e., intermediary interest and support, legitimation) from an economically constrained position (Scott, 2012). Musicians operate alongside other local, grassroots (aspiring) artists (photographers, videographers, graphic artists, music producers and managers, and booking agents), all seeking recognition, an artistic career, and often working for free. Gaining exposure and the opportunity to practice their artistic craft are common reasons for gifting their work (Scott, 2012). Developing this Bourdieusian lens in cultural entrepreneurship research, Pret et al. (2016) use the case of craft entrepreneurs to reveal how the transformation of capital is a natural and enjoyable process with no evidence of inhibitors associated with cultural capital conversions in the literature (Pret et al., 2016). Their findings align with the notion that cultural fields often function outside the

[9] Post-Fordism is a term that describes the evolution of production methods, characterized by flexible production, the individualization of labor relations, and market fragmentation into distinct segments. This phenomenon emerged after the decline of Fordist production. See Harvey (1989) or Aglietta (2016)

traditional logic of market economics and therefore require theoretical nuance in accounting for the presence and consequence of non-economic capitals.

Qualitatively categorised by a shared interest in making culture (Gehman and Soublière, 2017), this stream of cultural entrepreneurship research emerges out of a broad spectrum of social sciences, not strictly limited to management disciplines. Until recent decades, cultural entrepreneurship work was focused on the operations of cultural capitalists but had, in more recent times, evolved to incorporate the role of cultural workers (i.e., artists and freelancers). Common to this research is a shared interest in understanding cultural production processes, whether the shaping or development of culture (i.e., tropes or norms, classification) or the production of a particular cultural artefact (i.e., product). Significantly, however, what unites this stream of cultural entrepreneurship is a view of culture as an industrial sector or a set of industries, and research focuses on entrepreneurial phenomena within this domain. Focusing on making culture in the cultural sphere is a critical point which distinguishes the work discussed in this subsection from the discussion following, which is primarily concerned with developments in cultural entrepreneurship emanating from within the field of strategic management and the work of Michael Lounsbury and Mary Ann Glynn (2001).

2.2 DEVELOPMENTS IN CULTURAL ENTREPRENEURSHIP

2.2.1 STRATEGIC MANAGEMENT & THE CULTURAL TURN

Since the cultural turn in management-organisation studies (Weber and Dacin, 2011), cultural entrepreneurship research has taken a broader approach to defining culture. While cultural entrepreneurship in the above (sociological) tradition emphasises

entrepreneuring in cultural domains, the tradition of cultural entrepreneurship research in management-organisation studies focuses on the deployment (Gehman and Soublière, 2017) of culture in entrepreneurial processes (with a particular emphasis on the legitimation of new ventures or markets). Research in this field focuses on using entrepreneurial storytelling or narratives (Hjorth and Steyaert, 2004) to mediate between extant stocks of resources and subsequent wealth creation (Lounsbury and Glynn, 2001). The focus then becomes how entrepreneurship involves successful symbolic management and communication to win legitimacy in the eyes of key stakeholders.

In this sense, culture becomes an instrumental resource for entrepreneurs and frees culture of its typically constraining role in social analysis. Building upon Swidler (1986), Lounsbury and Glynn (2001) demonstrate that entrepreneurs possess cultural toolboxes (i.e., cultural resources) that can be created and deployed strategically by entrepreneurs. The salient point here is that in this tradition of cultural entrepreneurship research, the emphasis switches from the domain of culture (i.e., of cultural production) to more traditional business settings but is also more concerned with understanding the composition of entrepreneurs' cultural toolkits and their deployment in entrepreneurial processes at different levels of analysis. The cultural resources drawn upon by entrepreneurs range from stories (Lounsbury and Glynn, 2001, O'Connor, 2002, Garud et al., 2014) to company or product names (Glynn and Abzug, 2002, Zhao et al., 2013), metaphor, narrative and discursive positionality (Hjorth and Steyaert, 2004, Navis and Glynn, 2010, 2011).

Subsequent research shows how entrepreneurial stories differ and evolve and are heavily dependent on context and intended audiences (Zimmerman and Zeitz, 2002). For example, Martens et al. (2007) studied semiconductor, biotechnology and internet

content firms. They found, consistent with Lounsbury and Glynn (2001), that entrepreneurial stories (or narratives) provided a more significant source of influence for firms over resource providers (i.e., legitimating agents) more than the traditional use of hard facts and numerical information to paint a picture of the firm. Similarly, O'Connor (2002) identifies six types of narratives entrepreneurs employ to legitimise their venture, including stories that justify a particular enterprise. These stories convince others to invest resources. Other stories influence firm decision-making.

The nature of the stories told by entrepreneurs (their content), emphases or strategic motivation will also necessarily differ and change over time (i.e., during an entrepreneurial journey, legitimating and growing ventures). For example, Glynn and Lounsbury (2005) analyse media reviews of orchestral performances in Atlanta and trace how orchestral renditions of popular music became legitimate in the eyes of critics. Following dwindling attendances and after musicians' strikes threatened the future of the Atlanta Symphony Orchestra, critics succumbed to the rationale that to survive the company must begin appealing to broader audiences. Commercial logic won over any outdated sense of artistic merit, and their reviews of orchestra performances became more favourable, reflecting recognition of mutual concern for the organisation's continued survival.

Further, Navis and Glynn (2010) also detail how, in the process of legitimating satellite radio as an established market category, the focus of cultural entrepreneurship shifted from initial strategies of directing market interest towards the legitimacy of the category as a whole to a post-legitimation effort towards distinguishing individual firms from within the category (Navis and Glynn, 2010). These studies emphasise how the nature and deployment of entrepreneurial stories are highly contingent upon critical, industry-specific factors such as the intended audience, purpose or motivation and highlight

how stories are temporally determined depending on the stage or age of the entrepreneurial journey.

The insistence on culture as a significant aspect of any entrepreneurial domain defines this body of cultural entrepreneurship research (Gehman and Soublière, 2017). Furthermore, this stream of research is ultimately grounded in the overarching neo-institutional paradigm whereby theorists seeking to dispel the accusation of organisations as cultural dopes (Suddaby, 2013, 2015)began reframing (or expanding) conceptualisations of culture from a constraining force towards a more instrumentalist perspective (Lounsbury and Glynn, 2001, Hjorth and Steyaert, 2004). To put it another way, cultural entrepreneurship, following the cultural turn in management-organisation studies, turns attention away from understanding processes of institutionalisation and instead seeks to account for the role of agencies in determining or shaping the course of these processes (Gehman and Soublière, 2017). That is a switch from privileging dominant power structures and their determining effects upon institutional actors towards a more agentic approach to analysis (Suddaby, 2013).

The agenda which unites this literature, therefore, is in seeking to theorise how entrepreneurs not only deploy cultural resources to legitimate ventures, ideas, products, markets and innovations but are also involved in shaping or determining legitimating factors. More recent work continues this co-evolution trend with institutional theory developments and begins to incorporate institutional logic-based approaches into accounts of cultural entrepreneurship.

2.2.2 HYBRID LOGICS AND FILLING THE INSTITUTIONAL VOID

Institutional theorists have become increasingly interested in producing analyses that foreground the role of institutional logic in defining the content and meaning of

institutions and share a common interest in how culture and cognition come together to shape organisational structure (Ocasio and Thornton, 1999, Thornton and Ocasio, 2008, Thornton et al., 2012). Foregoing traditional analytical focus on isomorphism, institutional logics are distinguishable in foregrounding the effect that differentiated logics have upon individuals and organisations. Institutional logics shapes which behaviours and practices are considered rational within a given institutional context, but similarly to institutional work and institutional entrepreneurship, the institutional logics approach shows how some actors can also be involved in changing logics.

For example, Thornton and Ocasio (2008) theorise societal influences as inter-institutional, understanding that organisational behaviour is rooted in social contexts replete with mechanisms that shape and influence such behaviour. This development allows institutional theory to address processes of institutional change and the role of embedded agencies in these processes and settings. This approach bridges structural perspectives and micro, process-based research by linking institutions to actions and, in doing so, refocuses institutional theory towards the cultural dimensions that enable and constrain social action rather than merely recounting institutional effects on an organisation.

To explain, globalisation and the ongoing technological revolution of industry in recent decades have resulted in a complexifying business environment. Newly institutionalised practices such as e-commerce and the automation of production, distribution, and consumption force traditional industries to evolve and accommodate these transformations. Hybridising institutional environments pose a problem for organisations and those that study them. Unfamiliar institutional codes collide to create what business scholars call institutional voids, absences or shortcomings of institutions that help markets to operate effectively (Stephan et al., 2015).

For example, Pache and Santos (2013) study hybrid organisations and suggest a process of selective coupling in responding to competing logics. Further, Besharov and Smith (2014) highlight the influence of field-specific, organisational and individual factors in shaping the institutionalization of hybrid logics within organisational fields. The institutional logics approach to studying hybrid organisations provides insight into the nature and implications of logic multiplicity, and in this analysis, cultural entrepreneurship represents the processes by which institutional voids can be bridged (Hedberg and Lounsbury, 2021).

This emergent stream of logics-based cultural entrepreneurship research begins to blur the boundaries between past approaches. It is not as easily categorised into making or deploying culture but instead draws attention to cultural making or the duality of culture as both a medium and outcome of entrepreneurial action, bringing renewed attention to the many faces of culture[10] (Giorgi et al., 2015, Gehman and Soublière, 2017). Research on cultural making draws upon a broad conceptualisation of culture (frames, values, toolkits and categories). This approach develops core elements of cultural entrepreneurship research in the tradition of Lounsbury and Glynn (2001) and integrates theoretical insights and empirical interests from the tradition following DiMaggio (1982). Section 2.1 has already introduced examples of cultural entrepreneurship research which account for value production across multiple legitimating principles or logics. Recall the work of Dalpiaz et al. (2016), who demonstrated that the continuing success of Alessi is due to the company's purposeful

[10] In the field of management literature, culture has been theorized in five prominent ways: values, stories, frames, toolkits, and categories. Giorgi et al (2015) discuss how these modes can be organized into a framework that centres on values and toolkits as anchors. However, debates in the literature often result in conceptual slippage due to the close proximity of culture with identity, institutions, and practices. Therefore, it is suggested that culture should remain a multifaceted concept that envelops different theoretical perspectives. This is important as the study of culture continues to gain popularity despite increasing fragmentation and proliferating definitions.

combination of apparently contradictory logics (manufacturing and cultural production), using logics as resources to challenge taken-for-granted assumptions and beliefs by envisioning new possibilities for value creation and enacting them in product design.

Similarly, Khaire (2019) also focuses on design and the role of materiality in processes of legitimation. Studying the case of craft retailers in India, where traditional craft and market logics conflict, Khaire (2019) shows how design can function as a narrative device conferring meaning and value onto unfamiliar and underappreciated craft objects. The work of Durand and Jourdan (2012) constitutes another notable example of the institutional logics approach to cultural entrepreneurship research. They study the financialisation of French filmmaking and find that the emergent (minority) logic of financialised capital has a noticeable impact on the culture of French film production. They propose a theory of alternative conformity which explains how increasing numbers of producers began to appropriate financialised logic in their release strategies. Such actions occur in non-conformity with traditional practices as private capital begins to enter the market. Private finance, while still representing a minority resource in French film production, is beginning to exert a cultural influence greater than the sum of its parts.

Similarly, Friedland (2019) pursues a Freudian analysis of architect Frank Lloyd Wright. This research finds that multiple and competing institutional logics Wright experienced throughout his life shaped his architectural creations. In Friedland's analysis, the Guggenheim Museum (one of Wright's masterpieces) resulted from perversities of the family logic he experienced in his youth stemming from how the architects' sexuality deviated from traditional paternalistic codes. This contribution emphasises the relationality between the symbolic and the material and how

experiences with logics imprint and shape behaviour and material expression (Friedland, 2019, Lounsbury et al., 2019). While institutional logics-based approaches to cultural entrepreneurship help explain the creation of value across multiple repertoires and registers of meaning, recent work seeks to explore the role of cultural entrepreneurship in the emergence and legitimation of fluid cultural meanings (Mitnick and Ryan, 2015).

The multifaceted view of culture adopted in most recent developments in cultural entrepreneurship studies, i.e., by exposing new ways that culture shapes and is shaped by entrepreneurial action, extends the scope of cultural entrepreneurship research beyond its prevalent albeit narrow focus on venture legitimation and resource acquisition (Lockwood and Soublière, 2022). Whilst the industrial contexts in these studies may be disparate, the melding of art and commerce in cultural entrepreneurship evokes complex, dynamic processes of cultural making where culture becomes both an outcome and the medium of entrepreneurial action (Gehman and Soublière, 2017).

The examples discussed here all pursue an institutional logics approach to explain the novel practices and changing behaviours of actors embedded in hybridising environments. These studies pave the way for theorising entrepreneurial action in contexts where foreign or unfamiliar worlds collide. A melding of codes occurs as previously distinct institutions blend and form new regimes of standard practice and legitimation. The explanatory capacity of an institutional logics approach to account for and explain phenomena such as the technological transformation of fields or the globalisation of industries become abundantly clear and therefore represents a potentially fecund means for theorising the digitalisation of music in this research. The following section will therefore begin distilling the crucial elements of cultural

entrepreneurship theory appropriate for this study. The key concepts forming this cultural entrepreneurship framing (in explaining the digitalisation of music) are elaborated on and defined in the following section.

2.3 KEY ELEMENTS OF CULTURAL ENTREPRENEURSHIP

The above sections have traced the historical development of cultural entrepreneurship research and discussed critical contributions from several authors towards this tradition of management understanding. From these discussions, we have been able to deduce that the field of cultural entrepreneurship research and related forms of theorising present this investigation with an appropriate conceptual lens for theorising changes in musical production over recent decades, changes resulting from disruptions to orthodox practices, which are assumed to emanate from digital technologies and technological transformations. This section will break down the key elements of cultural entrepreneurship research, define them and explain their potential relevance to understanding and theorising the digitalisation of music. Primarily, cultural entrepreneurship is interested in theorising processes of cultural making. These processes, it is assumed, are both distributed (in the sense that multiple actors and agencies are involved) and intertemporal (in the sense that cultural entrepreneurship involves a continued effort to narrate and re-narrate past events and forecast future performances).

Furthermore, cultural entrepreneurship is a value-creation process where value is subject to more than one rationalising principle. That is, (multivocal) value can be understood or recognised across multiple and fluid repertoires and registers of meaning. Finally, cultural entrepreneurship as a management process is primarily motivated by the desire to legitimate a new venture, whether a new product, service, market, or idea. These elements coalesce into a more theoretically refined research question:

> How are processes of cultural entrepreneurship being transformed in the digital age?

2.3.1 CULTURAL MAKING

Central to contemporary theories of cultural entrepreneurship is the processes involved in cultural making. We can distinguish cultural making from the making of culture and the deployment of culture that was the focus of previous iterations of the tradition. Section 2.1.2 provides further detail on the sociological tradition of cultural entrepreneurship interested in making culture. To briefly summarise, this stream of cultural entrepreneurship research is devoted to studying entrepreneurial phenomena in the cultural domain, namely theorising the role of change agents in arts and cultural industries. Whether this is how social elites act entrepreneurially in founding institutions which formalised historical distinctions between high and low art and their respective consumption behaviours or the enterprising activities of major popular music corporations deploying their vast resources to mitigate the risks involved with operating in unpredictable, turbulent markets, to say that this present investigation is interested in cultural making is not to suggest that research engaged with understanding the making of culture are irrelevant, more than this earlier tradition has

recently become enmeshed with the second tradition of cultural entrepreneurship research. That is research from within the management discipline interested in deploying culture in entrepreneurial processes.

Section 2.2 elicits more information on the developmental trajectory and theoretical grounding of the stream of cultural entrepreneurship research from the tradition of strategic management. However, to summarise, this body of work, which continues to exist on the periphery of management studies, investigates how entrepreneurs make instrumental use of cultural artefacts in processes of legitimation. They tell stories about the past and about the future in winning access to additional resources and subsequent wealth creation.

More recently, this tradition of cultural entrepreneurship has become increasingly interested in applying institutional logics to explain hybridising or complexifying entrepreneurial phenomena. In such cases, culture becomes both the medium and the outcome of entrepreneurial action, but the motivating factors perhaps remain wedded to the profit motive. Cultural entrepreneurship is a value-creating process whereby value can be understood, recognised, rationalised or legitimated owing to more than one single principle – more precisely, value that cannot be measured solely in economic or monetary terms. This perspective opens the door for extra-economic explanations for entrepreneurial motivation – particularly pertinent in the case of musical production (at the grassroots), which tends to operate on anarchic voluntarism more than it does with any logic of economic profit or loss.

Cultural entrepreneurship refers to the process involved in cultural making. Cultural making refers to the situation in which culture represents both the outcome and the medium of entrepreneurial action. Culture is the outcome of entrepreneurial action in

that artists and entrepreneurs actively engage in cultural production, i.e., cultural making. Whether they write songs or tell investors stories in the boardroom, they create cultural artefacts.

Secondly, culture is a medium of entrepreneurship in that entrepreneurs, whether talking about classic commercial entrepreneurs or enterprising agents in cultural sectors, such as musicians, use cultural resources to advance or legitimate their projects, venture or product. Cultural entrepreneurs are therefore involved in the deployment of culture. Artists are not just selling music; they are selling a lifestyle, a brand or a shared identity. In the same way that commercial entrepreneurs are not just selling a product, they are selling a vision or the idea of an alternative future where our lives are made better or wealthier by virtue of their innovation.

2.3.2 DISTRIBUTED & INTERTEMPORAL

Key to theorising cultural making is the understanding of the distributedness of these processes. While section 2.1 has already discussed the distributedness of cultural entrepreneurship, it remains to develop this idea more fully in formulating more theoretically informed research questions. The sociological tradition and its recent incarnations from within the management disciplines articulate cultural entrepreneurship as a collective accomplishment rather than something isolated individuals can achieve or practice (Gehman and Soublière, 2017). For example, in DiMaggio's foundational paper (1982), the social elites of nineteenth-century Boston, the so-called Boston Brahmins, are responsible for initialising the formal institutionalisation of the cultural distinctions between high and low art. This process began with the foundation of cultural institutions within the city, which reflected and upheld bourgeois attitudes and values concerning the aesthetic merits of some art

forms over others. In Navis and Glynn (2010), we see how the early pioneers of satellite radio worked in tandem (i.e., telling similar stories) to promote and legitimate this nascent market category before diverging and emphasising their distinctiveness once satellite radio took off. Further evidence of the collective nature of cultural entrepreneurship abounds in all streams or traditions of the field (Glynn and Lounsbury, 2005, Martens et al., 2007, Scott, 2012).

What distinguishes more recent approaches, however, is emphasising the extent to which those involved in cultural entrepreneurship 'may ebb and flow, or play fluid roles; projects may encompass diverse and even discordant aspirations; and artefacts and materiality may play a critical role in shaping these processes' (Gehman and Soublière, 2017 p. 65). Evidencing this fluidity of roles and agencies, Jones et al. (2012) highlight how a coalescence of multiple actors and even material agencies legitimised modern architecture. Garud et al. (2019), in congruence with Navis and Glynn (2010), find that actors coordinate their entrepreneurial stories or narratives in processes of legitimation. However, once a field or market has matured, entrepreneurial stories tend to emphasise the distinctive characteristics of individual ventures or enterprises. Such examples demonstrate the distributedness of cultural entrepreneurship.

Furthermore, the distributed processes of cultural making are also intertemporal. As has already been discussed in section 2.1, in the same way that cultural entrepreneurship is something that is accomplished collectively (and not the product of the actions of any isolated individual), so too is cultural entrepreneurship not an isolated event that occurs once and has a definitive beginning and end point. Conversely, cultural entrepreneurship is an ongoing process 'affected by the way in which the implicated actors, artefacts, and events unfold over time' (Gehman and

Soublière, 2017 p. 66). Notably, Lounsbury and Glynn (2001 p.560) emphasise storytelling as the principal function of cultural entrepreneurship as entrepreneurs ‘continually make and remake stories to maintain identity and status’.

Further, Garud et al. (2014) expose the paradoxical relationship between events and how cultural entrepreneurs narrate them. At the same time, projective stories play a vital role in setting expectations for critical stakeholders and winning legitimacy for a new venture. The same stories can also serve as a source of future disappointments should actual performance fail to meet the prescribed aims. Entrepreneurial storytelling (i.e., projective stories) masks uncertainties concerning future performance in new venture formation. Consequentially, ventures will likely deviate from these projections and disappoint stakeholders' expectations resulting in a loss of legitimacy (Garud et al., 2014).

The temporal dimension of cultural entrepreneurship is also central to Überbacher et al. (2015), who problematise existing accounts that tend to portray entrepreneurs as skilled cultural operators and assume the capability to deploy cultural resources from the outset strategically. Instead, Überbacher et al. (2015) seek to uncover the processes by which entrepreneurs acquire (or develop) the skills and competencies necessary for growing their ventures. The intertemporality of cultural entrepreneurship is related to how entrepreneurs artfully manipulate time in the stories they tell and how these skills are developed and honed throughout the entrepreneurial journey.

However, this research must work to understand the internet and digital technologies effect on the distributed and intertemporal properties of cultural entrepreneurship processes. Manning and Bejarano (2017) emphasise the multiplicity and fluidity of roles that can be played or adopted by a single individual in the case of online

crowdfunding represents a rare example of cultural entrepreneurship in digital contexts. Comparably, Gegenhuber and Naderer (2019) also contribute to theorising cultural entrepreneurship in digital contexts showing how entrepreneurs and their audiences interact to shape entrepreneurial processes engaging in interactive, dialogic processes in negotiating proper and accepted norms for a venture's conduct before and after a crowdfunding campaign.

Experience suggests that the distributedness of cultural entrepreneurship today exists on an unprecedented scale and scope where the actors' identities ebb and flow with a speed and complex irregularity that is difficult to comprehend. Equally, the editability and nonmaterial nature of the digital means that endless revision and change are possible with minimal effort and interruption. These are crucial features of the digital that will conceivably impact how processes of cultural entrepreneurship unfold today. These issues present a fundamental problem for this research and the future of cultural entrepreneurship theorising.

2.3.3 MULTIVOCALITY OF VALUE & PRINCIPLES OF LEGITIMATION

Section 2.2 of this chapter introduced the idea that cultural entrepreneurship is a value-creation process. Perhaps unique to cultural entrepreneurship – within the management disciplines at least – is that the value created in these processes of cultural making exists outside of the traditional measures of legitimating principles which constitute value. While previous streams of cultural entrepreneurship research have taken a rather one-dimensional, unproblematic view of culture, more recent studies have focused on how entrepreneurial action can create value across multiple and fluid registers of meaning. Our cognition of value is culturally located and, therefore, highly variable and context-dependent.

Furthermore, recent work in cultural entrepreneurship also seeks to theorise how cultural meanings emerge and transform or are transformed by entrepreneurial action. However, in accounting for such complexities relating to the multivocality of value, cultural entrepreneurship has begun to embrace the institutional logics approach to management and organisation research (Ocasio and Thornton, 1999, Thornton and Ocasio, 2008, Thornton et al., 2012). We have already discussed the institutional logics approach in depth and considered the implications for theorising cultural entrepreneurship in section 2.2.3.2. However, to further illustrate the point, Hedberg and Lounsbury (2021) theorise the role of cultural entrepreneurship in bridging institutional voids in the moralising of markets. This study follows creating and legitimating of cross-sector partnerships - between a large city hospital and locavore activists.

Processes of cultural entrepreneurship in this venture helped to embed the moral values of the locavore movement within markets for food procurement that traditionally act following rational economic logic. The result was a successful cross-fertilisation of market and community logics which helped create value not only for the local hospital and regional farmers but also by building a more sustainable supply chain that other businesses within the city could make use of; exponential value was added for inhabitants of the greater municipality. Understanding that value can have multiple rationalising accounts opens up the potential for theorising unintended or unanticipated consequences of entrepreneurial action.

Moreover, while there are some recent efforts towards extending cultural entrepreneurship research beyond a narrow focus on new venture legitimation and resource acquisition, these factors remain prevalent within cultural entrepreneurship and retain crucial relevance to this study (Lockwood and Soublière, 2022). Recall that

this investigation seeks to understand further recent transformations in the practices of musical production with a primary focus on emerging artists within local, grassroots music industries. That is unsigned artists seeking legitimation and success in mainstream music markets.

However, even though much previous work in cultural entrepreneurship research seeks to explain how entrepreneurs mobilise alternative resources in processes of new venture legitimation, there is very little attention paid to the precise nature of legitimacy, what it is and who (or what) can bestow it. This trend is consistent with a broader issue within management research and studies of entrepreneurship and innovation in which legitimacy plays a vital role in theory but is rarely elaborated in precise conceptual terminology (Suddaby et al., 2017).

To remedy this lack, Suddaby and colleagues attempt to clarify legitimacy, identifying three principal approaches in management research (Suddaby et al., 2017). Most researchers tend to assume that legitimacy is a property that can be possessed. Other researchers treat legitimacy as a process, the product of an interaction between multiple actors, a process of legitimation. Thirdly, some researchers consider legitimacy a form of socio-cognitive perception or evaluation. Each perspective of legitimacy taken in research has wider consequences for theorising legitimacy. More specifically, how legitimacy occurs and who is involved.

Those researchers taking a property perspective theorise legitimacy as the outcome of congruence between the material manifestations of legitimacy and normative expectations of the external environment. Those taking a process-based perspective instead treat legitimation as the outcome of how congruence is achieved; that is, research in this perspective is interested in the role of actors as change agents in

shaping the processes through which legitimacy is achieved. The final category of researchers adopts a more complex approach which sees legitimacy as a cross-level evaluation process, including perceptions and judgements of appropriateness. This perspective is more interested in understanding the role played by evaluators rather than those evaluated.

Within cultural entrepreneurship research, the focus is on the cultural entrepreneurs themselves, i.e., those seeking legitimacy for their ventures. Rarely does anyone engage in a problematisation of those performing the evaluation or judgement or even how judgement (i.e., legitimacy) is culturally determined and, therefore, subject to change. Cultural entrepreneurship remains rooted in the process view of legitimacy, that is, negotiating legitimacy between actors, interested primarily in the role of culture and cultural artefacts in facilitating this process. Upon reflection, however, this perspective is particularly limiting. Learning of the construction of legitimacy, who (or what) bestows legitimacy and what imbues these specific actors with such legitimating powers should be the primary concern of theorists.

Furthermore, we can safely posit – before any empirical analysis – that digitalisation has undoubtedly impacted the processes of legitimation in music industries and the nature of the actors involved. Algorithmic playlisting and the accumulation of online symbolic capital in likes and clicks shape how artists are perceived today. Theorising these transformations, therefore, represents a vital element in the broader purpose of understanding recent changes to practices of musical production. In this research, we take a legitimacy as a perception view and question the assumptions of legitimacy in music industries and how digitalisation is disrupting traditional processes of legitimation for artists.

This chapter has reviewed the development of the field of cultural entrepreneurship noting how distinct streams have converged in recent years to form what is conceptualised here as distributed and intertemporal processes of cultural making. Following this discussion we have isolated three key elements of cultural entrepreneurship theory (2.3.1, 2.3.2 & 2.3.3) which can all contribute to answering the theoretical research question for this thesis.

CHAPTER 3: FINDING METHOD

The purpose of this chapter is to outline the research design, which takes this study from initial conceptualisations (chapter 2) towards grounded conceptualisations (chapter 4). Given the complexity of pandemic research, this chapters reinterprets methodological choices using the lens of Feyerabend's anarchist theory of knowledge production (3.1). Section 3.2 details the re-design of this research in light of the delimitations of researching during the pandemic. Section 3.3 follows this by describing this study's primary data generation methods: a pragmatic fusion of autoethnography, semi-structured ethnographic interviews and netnography.

3.1 PAUL FEYERABEND & ANARCHIST EPISTEMOLOGY

> History is full of accidents and conjunctures and curious juxtapositions of events and it demonstrates to us the complexity of human change and the unpredictable character of the ultimate consequences of any given act or decision of men. Are we really to believe that the naïve and simple-minded rules methodologists take as their guide are capable of accounting for such a maze of interactions? (Feyerabend, 2010 p. 1)

Paul Feyerabend (2010) develops his epistemology from the premise that science is an essentially anarchic enterprise. The scientific method is a myth, and the progress of knowledge should remain uninhibited by the established epistemological system's rules, norms or expectations. Following 'the only principle that does not inhibit scientific progress': anything goes (Feyerabend, 2010 p . xxviv).

> The idea of a method that contains firm, unchanging, and absolutely binding principles for conducting the business of science meets considerable difficulty when confronted with the results of historical research. We find, then, that there is not a single rule, however plausible, and however firmly grounded in epistemology, that is not violated at some time or other.

Feyerabend goes on to stress that much of what we would consider scientific progress stems from scholars bending the rules of convention:

> It becomes evident that such violations are not accidental events, they are not results of insufficient knowledge or of inattention which might have been avoided. On the contrary, we see that they are necessary for progress […]. Given any rule, however fundamental or rational, there are always circumstances when it is advisable not only to ignore the rule, but to adopt its opposite […] It is both reasonable and absolutely necessary for the growth of knowledge. (Feyerabend, 2010 p. 1)

In other words, progress occurs when research is free from prescriptive methodological rules. Major scientific breakthroughs throughout history emerge from what Feyerabend terms: methodological counterinduction.

> There is no idea however ancient and absurd, that is not capable of improving our knowledge. The whole history of thought is absorbed into science and is used for improving every single theory […]The consistency condition which demands that new hypotheses agree with accepted theories is unreasonable because it preserves the older theory, and not the better theory. Hypotheses contradicting well-confirmed theories give us evidence that cannot be obtained in any other way.

Counterinduction, the intentioned pursuit of theories contradicting established facts and empirical evidence, can help scientists uncover natural interpretations (i.e., taken-for-granted assumptions and explanations that flow logically from a given worldview or ideology). Scientific progress occurs when natural interpretations are exposed and examined. In science, natural interpretations become couched in what is called observational language. Natural interpretations refer to a phenomenon that occurs after a theory has been accepted for so long that it becomes hard to describe events or processes. Observational language underdetermines scientific observation.

Conversely, theories that can redescribe events, experiences, and processes in new ways force comparison between extant natural interpretations and (re)emergent ones. Feyerabend's approach creates spaces in which research can breathe again. Against method does not mean that research should abandon methodology altogether. Instead, epistemological anarchism encourages researchers to be receptive to ideas from disparate domains. It is only in such a way that knowledge can grow (Feyerabend, 2010).[11]

Feyerabend argues that the long-term success of heliocentric ideas (and thus modern physics) owes more to clever propagandising than to any sense of methodological rigour. Illustrating this, Feyerabend develops a case study of Galileo and the transition from geocentric to heliocentric astronomy. In particular, the text references the tower argument. The tower argument contradicts the hypothesis that the earth moves and not the universe around us. The idea is that dropping a solid mass (i.e., a stone) from the top of a tower would land directly below the point from where it was dropped. If the

[11] The subtitle of the German original *Wider gegen Methodenzwang* illustrates the idea more clearly than in English translation. *Methodenzwang* translates more accurately as the constraints of method or, methodological pressure(s).

stone did land directly below the tower, then how could it be the case that the earth moves? If the earth moved, then the stone would indeed be left behind. Galileo's hypothesis runs counterinductively to this proposition. To suggest that the earth orbits the sun (on an axis) reveals the natural interpretation flowing from the Aristotelian worldview. That is, motion is operative or perceptible. Galileo instead proposes that motion is relative to space, meaning the stone would fall differently subject to conditions science could not replicate. Despite this, Galileo's counterinduction revived interest in Copernican heliocentrism, eventually giving rise to modern physics. It was not until a generation later and the development of Newtonian physics that Galileo's hypotheses became congruent with a broader system of scientific thought.

While Galileo's introduction of the telescope brought with it a slew of new natural interpretations, the telescope was not fully understood at the time. Not even by Galileo himself, meaning that results were indeterminate when testing the instrument on terrestrial objects. What scientists saw through the telescope was obscured or unclear, suggesting that the instrument was inaccurate. It does not reflect the truth. With no other evidence to support his claims, Galileo's theory that the earth rotated on an axis could be easily dismissed, given that existing facts and paradigmatic interpretations would suggest it was false.

However, through a skilful command of rhetoric, Galileo legitimised his hypotheses by making it seem that his ideas were already implied within Aristotelian science, i.e., that relative motion was permanently embedded within common sense (a natural interpretation). In truth, relative motion assumes extra-sensory reality (fundamentally at odds with the view of Aristotelian epistemology). In making this radical break more palatable, Galileo uses anamnesis – pre-given, innate knowledge – to couch his ideas within the preeminent worldview. Justification becomes a rhetorical art, not something

grounded in the scientific method or other guiding principles such as logic or rationality. Discovery, Feyerabend concludes, does not require justification. Alongside propagandising and rhetoric, progress and discovery owe as much to social factors, aesthetic criteria, personal whims and chance as to any sense of empirical rationalism. This is the anarchy of scientific inquiry.

What follows in section 3.2 is, firstly, an account of the movement from initial conceptualisations to research design which outlines how the conceptualisation of the research question performed in chapter 2. Section 3.2.1 operationalises initial conceptualisations into an appropriate and intriguing research design. As has been established, the pandemic made these plans impossible, forcing improvisation with available tools. Section 3.2 presents a reflective account of this transformation of the research, re-framing the methodological decisions made in light of Feyerabend's anarchist epistemology described above. From here, this chapter then progresses into a description of the data generation methods before reporting and reflecting upon the results of an initial stage of analysis of pilot data used in the ongoing refinement of the empirical research problem at the heart of this study.

3.2 RESEARCH RE-DESIGN

The guiding empirical concern of this research is finding out more about how digitalisation transforms musical production. Discussions in the previous section have conceptualised these transformations in terms that abstract from the concrete practice of everyday musicianship (i.e., we are talking about global meta-trends, which offer very little in the way of understanding how these changes impact concrete practice on the micro level). This research is interested in understanding how these

transformations manifest in changing cultural production practices. We are interested in producing theory that can encapsulate the nature of music-making under a new techno-economic paradigm.

This investigation began with a story about my questioning the purpose of being in a band. Is it about being a good band and playing good music well or looking like we are a good band, giving off the impression that we are better and more famous than we are? Or, is it that the artful combination of both these factors constitutes the alchemy behind fame, success and artistic renown? This research is not interested in finding the X-Factor and re-interpreting star qualities in the digital age. Nor is it interested in finding answers for effective strategizing or best practice questions (although these things can come later). This research is interested in understanding how musicians not only go about making music but also how they also go about convincing others that they have what it takes to make it.

The primary assumption that drives this research is that my experiences as a musician indicate (to me) that something has changed or is changing in how we (as a band) make music. Making here (as should be becoming clear) refers not only to the composition of new music but is instead considered a phrase encapsulating the complex, shifting assemblages of practices, objects and agencies that constitute musical production. Musical production refers to making music for the market (i.e., commercial or popular). In other words: making music for a living, being (or aspiring to be) a professional musician. Assuming that something has changed is insufficient to suggest something has changed. On one level, we know that much has changed. Discussions in section 1.2 made this clear. Music no longer tied to a physical form (beyond the force of vibration, i.e., soundwaves or internet-enabled device) ‘flows all around us, like water or like electricity, and where access to music becomes a kind of

“utility”. Not for free, per se, but certainly for what feels like free’ (Kusek et al., 2005 p. x).

Digital technologies also free the recording artist from the professional studio. The necessary tools can be carried in a rucksack or even in the palm of your hand. However, we also know that some things have stayed the same. The major music companies still hold sway over the most profitable areas of the music industries, and technology companies control how and which music reaches the listeners’ ears. I am aware of this but also confident that the change I notice is somehow different.

Section 1.1.4 has highlighted the idea of platform or surveillance capitalism and how this new techno-economic paradigm (or regime) has a powerful influence over society (Srnicek, 2017, Zuboff, 2018). This investigation is therefore interested in examining the proposition that shifts in macro-level social structures influence productive behaviours and practices at a micro (individual) level, leading to the second primary assumption: that these changes have something to do with digital technology and that they relate in some (meaningful) way. To clarify: digitalisation refers to a sociotechnical process[12] where digitising techniques are applied to broader social contexts and render digital technologies infrastructural (Tilson et al., 2010, Majchrzak, 2016, Nambisan, 2017, Autio et al., 2018).

3.2.1 TOWARDS A CLOSER APPROXIMATION OF TRUTH

The essence of the ensuing investigation suggests an approach sensitive to the (assumed) shaping influence of forces beyond immediate (empirical) perception. The

[12] This is not to be confused with *digitisation* which refers to the technological process which converts analogue information into digital form.

critical realist research philosophy is an approach premised upon the identification of hidden causal mechanisms which lie behind events in the empirical (i.e., sensible) world(Bhaskar, 1998, Al-Amoudi and Willmott, 2011, Bhaskar, 2013). The following section details the fundamental tenets of critical realism in social science and distinguishes this approach from positivist (i.e., naturalist) and constructivist research ontologies.

As a research philosophy, critical realism emerges primarily from a critique of positivism in the social sciences (Bhaskar, 2009). Positivism is the idea that objectivity and neutrality are possible in the social sciences using a scientific method. Whether social or natural, science pursues general laws through value-free empirical research. Positivists treat theory and philosophy as bad thing. In science, theory should be avoided entirely or reduced to an absolute minimum or risk diminishing the possibility that the values and beliefs of the researcher potentially influence results or findings (i.e. data). Objective (or value-free) research is a good thing, something to aspire to.

On the other hand, critical realists argue that such aspirations are in vain in the case of social sciences. The social world is necessarily (i.e., always-already) value-laden and theoretically or philosophically-informed. In this sense, theory does not just refer to scholarly theory but everyday theory, how every person's unique philosophical beliefs and values influence how they act in the world and make sense of the world around them. Social science is much more than an empirical discipline. Social science is fundamentally theoretical:

> It should be appreciated that all philosophies, cognitive discourses and practical activities presuppose a realism – in the sense of some ontology or general account

> of the world – of one kind or another. The crucial question is: what kind? (Bhaskar, 2010 p. 2).

The reasoning or rationale behind a preference for one explanation over the other depends (at least partly) upon the historical-cultural community or context. Critical realism assumes that things can exist independently of our experience or knowledge of them. There is an intransitive dimension of knowledge (i.e., the real) and a transitive dimension (i.e., existing partial explanations or pre-scientific theory). The transitive dimension of knowledge is artificial: 'constituted by the concepts we use as references to the world' (Al-Amoudi and Willmott, 2011 p. 29). The transitive (i.e., referential) dimension of knowledge refers to the intransitive dimension (referent).

The world these transitive knowledge claims refer to consists of at least three levels of reality. Firstly, there is the empirical level, a world of experiences, observations and interpretations. Second, the level of the actual refers to a world of events occurring (observed or not). Finally, there is the level of the real, an invisible world of structures and mechanisms which cause events to occur at the empirical level. Critical realists also deny the possibility of ever knowing the real but look to understand relationships between different levels of this stratified reality (Bhaskar, 1998).

In contrast to existing approaches to research philosophy, critical realism assumes the existence of multiple (and competing) realisms in human sensemaking processes. This assumption distances a critical realist ontology from the flat ontology of positivist science (i.e., of general laws and structures) and the radical constructivism of postmodern approaches. There are multiple reals, and each contains a grain of truth in referring to the real itself, a level of reality that lies beyond our immediate perception. The production of critical realist knowledge (theory or science) 'lies in the movement

at any one level from knowledge of manifest phenomena to knowledge of the structures that generate them' (Bhaskar, 2014 p. 13).

> For critical realists the grounds for abstraction lie in the real stratification (and ontological depth) of nature and society. They are not subjective classifications of an undifferentiated empirical reality, but attempts to grasp (for example, in real definitions of forms of social life understood in a prescientific way) precisely the generative mechanisms and causal structures which account in all their complex and multiple determinations for the concrete phenomena of human history (Bhaskar, 1998 p. xvi).

Generative mechanisms are located within the stratified, depth ontology of critical realism. Critical realists assume firstly that generative mechanisms exist (that is, they are real), but importantly, they are distinct from the patterns of events in which they are apprehended (i.e., observed in empirical reality). Maintaining the that there is an unknowable (extrasensory) reality and that any knowledge we have of it can only ever be tendential or partial requires critical realists to deal with the relativity of knowledge or epistemological relativism effectively (Al-Amoudi and Willmott, 2011). Epistemological relativism means establishing and sustaining an understanding of reality (i.e., ontology) in the face of shifting and highly contingent knowledge claims (about that reality).

Distinguishing ontology from epistemology is a core assumption of critical realism and is necessary if there are to be shared reference points for making rational judgements between alternative (competing) theories or explanations. There is no incommensurable theory, given that they are theories about the same world, i.e., theories cannot differ based on contradictory assumptions or suppositions (Bhaskar,

2013). Theories, rather, compete and conflict in their claims to advance established explanations about the same (intransitive) reality (Al-Amoudi and Willmott, 2011). Identifying and understanding generative mechanisms necessitates this break (or leap) between ontology and epistemology; what is real and what is observable, what is knowable and what can be theorised.

Critical reflexivity surrounding ontological questions distinguishes critical realism as an approach to social science. The process of identifying generative mechanisms is understood to be historically and culturally mediated, meaning that, at different times or in another context (or situation), a person could interpret the same event or observation in several possible ways:

> It is not only a matter of every knowledge being potentially 'wrong' but also, and most crucially, a matter of knowledge being historically transient (a product of our position, perspective, histories), and a matter of acquiring its meaningfulness and value relative to the time, place and position of the knower (Al-Amoudi and Willmott, 2011 p. 30).

A critical realist approach to scientific investigation (in both natural and social worlds) suggests that generative mechanisms are retroduced. That is, retroductive judgements provide possible but only partial and historically contingent explanations for certain states of affairs. The knowledge that is retroduced and which pertains to theorising generative mechanisms in both social and scientific practice becomes subject to empirical scrutiny and rational judgement against existing and competing explanations. Retroduction means moving backwards to go forwards 'from a description of some phenomenon to a description of something which produces it or is a condition for it' (Bhaskar, 2009 p. 7).

What critical realism can offer this research is an approach which encourages experimentation and probing a phenomenon using and sharpening a series of lenses until such a time that the phenomenon in question comes into increased conceptual focus allowing for more appropriate retheorisation. Essentially, critical realism affords a freedom to roam and explore ideas as we move to a closer approximation of truth. However this freedom is curtailed or, more precisely, guided, by critical reflection. In other words, we apply a framing or lens, note its explanatory capacity for the problem at hand before working to address weaknesses or externalities by exploring related (or ancillary) literatures (theories and concepts). What this produces is not only a novel theorisation of the core research phenomenon (in this context the digitalisation of music making) but the critical realist process of retroductive theorising also leaves in its wake a series of theoretical and conceptual contributions to the different bodies of knowledge and understanding tapped in exploring the empirical concern.

3.2.3 FROM INITIAL CONCEPTUALISATIONS TO RESEARCH DESIGN

Discussions in chapter one clarified that, in empirical terms, this research is interested in discovering how digitalisation transforms music-making. Chapter 1 also established the retroductive approach of this research, an approach grounded in the assumptions of critical realism. Primarily, a critical realist assumes the existence of hidden forces or mechanisms (beyond our perception) that generate events observable in empiric reality. Ipon noticing changes in my practice as a musician over many years, I (perhaps unthinkingly) hypothesised that these changes have something to do with digitalisation (i.e., ongoing technological transformation applying the logic of digitisation to broader areas of social organisation). Therefore, this research aims to develop an

understanding of the relationship between digital technologies and my musical practice to tell a story about the digitalisation of society more broadly (Attali, 1985).

Following the logic of retroduction, Chapter 2 began searching scholarly literature to find existing theoretical solutions for the research problem. It was discussed in section 1.3.4 that my position as a researcher in a business school delimits the literature used in defining this problem. The field of cultural entrepreneurship was selected because it meets several vital criteria. Firstly, it is a recognised field of study within the broader discipline of management and organisation studies. Secondly, this literature addresses similar phenomena (section 2.1.2) and offers a conceptual toolkit that can be effectively applied to this research and result in a series of researchable research questions (i.e., specified – couched in recognisable conceptual/theoretical terminology).

Answering these questions determines that this research should study (the processes of) musical production. Musical production encompasses the entire process of making music (for commercial release) from the initial generation of ideas, tracing the song's development through to its recording, commercial release and post-release period, where success and failure can be measured or learned.

Luckily, my band had managed to secure some studio time planned for the summer of 2020, which was over six months away when ethical approval was first applied for. The plan was to capture a whole swathe of musical production processes; study the lead-up where we would be working on new music; the time spent in the studio recording the music and having it professionally produced; and then, beyond this, as we prepare them for releasing the tracks. The final piece of this process is the industry standard 12-week release cycle. The release date comes in the middle of this period,

with the first six weeks dedicated to sourcing promotional materials, booking gigs, and sending music to DJs, playlist curators and other key industry intermediaries (journalists, bloggers). Following the release, the next six weeks are crucial to the momentum of the single, where the band must be highly-visible, posting and performing regularly, sharing reviews and interviews, sharing streaming numbers, news of radio play, and so on.

The project was ethically approved, and the band was about to begin writing following the commencement of a UK tour, marking the beginning of ethnographic field immersion. Unfortunately, the onset of the COVID-19 pandemic meant the tour was left unfinished; songs were never written, studio time was refunded, and the research project was nullified. Initial uncertainties around the extent of the pandemic and coming in and out of successive lockdowns meant I kept postponing my project, hoping we might get lucky and be able to catch the studio open during one of the promised periods of slackened social distancing measures. Time was ticking on my scholarship, and it was becoming clear that the pandemic was not going away soon. Fortunately, the project was ethically approved and was free to collect data. Nevertheless, given that social distancing laid waste to the original plans, it was unclear what I should begin collecting data about. Nevertheless, I needed data to complete my PhD and did what everybody else did: improvised.

3.2.4 ORDERING DISORDER: THE ANARCHY OF THIS RESEARCH

The reason for introducing the thought of Paul Feyerabend and his anarchist epistemology at the beginning of this chapter is to suggest that the findings or results of this research should by no means be discredited owing to the arbitrariness, disjointedness and even at times whimsical nature of the research process that unfolds

over the following pages. Remember that you can always refer back to the chapter map (figure 1) at the beginning of this text to reorientate yourself with the retroductive flow of the study. Note from the introduction section of this chapter that the methods of data collection – which are beginning to be thought about in terms of data generation instead – were already approved and included in my original research design.

The introduction section of this chapter also provides more detail about the original study. However, it was determined in Chapter 1 that my vague assumption that changes in music-making practices were related to changes in the technological environment required some theoretical and conceptual refinement. Conceptual refinement was the task of Chapter 2, which introduced the field of cultural entrepreneurship studies as a suitable home for this research.

Framing this study using the critical components of cultural entrepreneurship theorising allowed for an initial conceptualisation of the research problem. Discussions in section 2.3 produced more researchable research questions. The methods outlined below were selected to capture a significant swathe of musical production processes: the writing, recording and releasing new music. Social distancing measures meant that the planned study became impossible, and waiting for a window to get back into the studio was futile. I, therefore, had to collect whatever data I could in the ways that were available to me at the time. I used the same methods (autoethnography, ethnographic interviewing and netnography) but applied them differently than originally intended. The following sections begin with a brief definition of the method before discussing how it would have been used in the original study versus how it was applied in practice.

Before moving on, it must be re-emphasised that my original plan was to capture a particular moment that was usual (expected) to my experience of being a musician

and having something, in particular, to study for a definite period of full immersion and total dedication to the collection of data (in the form of field notes and reflections). However, with this option taken away and the sense of normality in my musical practice also disappearing, it became difficult to know exactly what I should be looking for to address my original concern about understanding transformations to musical production. This research then became about trying to replicate (or mirror) my usual (or immediate) experience of being a musician as much as possible. To find data that speaks to (and for) my experiences and learn from them. I went from studying an organised, predefined process to a study which can only capture a snapshot of the music industry at a particular moment. Examining this moment reasons that it should be possible to search for and isolate critical musical processes from within the data I could gather in the time and means at my disposal.

Recognising how potentially problematic such a vague, unrefined approach to data collection determined that I should temporarily stop collecting data relatively early-on in my period of field immersion. Using the first ten interviews as a pilot study to take stock helped focus efforts on figuring out exactly what I should be looking for: what was important? What was relevant, and so on. While I collected netnographic data throughout the 12-month immersion period, I elected to stop collecting data once I had interviewed ten respondents.

At this point, still a little bit lost in my research and wishing to produce an output reasonably quickly in order to apply for conferences and submit it for my yearly review – I decided to treat my initial dataset as a pilot study and try to write up findings as a first draft of a research paper. Recall that these were the first in-person conference since before the pandemic. My studentship funding was due to run out, and recognising the importance of conferencing work for feedback but also for growing

your professional network meant I had to write something to go with it. The role of practical necessity such as this is often underacknowledged in research which often cleverly black-boxing the messy process of qualitative research. By remaining completely transparent in this write-up, I hope my work and findings can be judged on their own merits rather than being subjected to arbitrary measures of methodological rigour.

3.3 FROM METHODS OF DATA COLLECTION TO DATA GENERATION

Discussions in the previous section have detailed the initial research design and reflected upon the complications posed by social distancing and the impossibility of conducting my planned study. This chapter tries to make the complex reality of qualitative research transparent. Relating this idea to the present investigation, the work performed in Chapter 1 and Chapter 2 aimed to use pre-existing theories to better understand my original research problem and develop research questions answerable through a qualitative study. However, as has been discussed already, the intended study of new music production became unfeasible, forcing me to improvise a way of collecting data that was relevant to my initial problem – understanding the relationship between digitalisation and my experiences of being a musician at the forefront of these transformations over the last decades. My research then became less about what studying processes of musical production can tell us about cultural entrepreneurship and more a case of using the data I could generate to construct a thesis that can help explain and understand the social problem at the heart of this research. These findings are then returned to the field of cultural entrepreneurship (via other bodies of literature

explored during this investigation, such as digital entrepreneurship and IS research) to develop theoretical contributions.

At this point, it perhaps makes sense to temporarily suspend the refined theoretical research question, allow the thesis to emerge from the data, and reframe the findings accordingly. There are many similarities between the thought of Paul Feyerabend and the critical realist project, and both encourage the free appropriation of concepts, methods and theory in working to resolve scientific problems of whatever nature. New knowledge or understanding is the goal of scientific investigation, and the path taken in its development is arbitrary as long as the aim is achieved coherently.

To reiterate: the empirical problem remains understanding transformations in musical production and digitalisation's role in generating these changes. I enter this initial period of fieldwork with the assumption that whatever I manage to collect will be able to tell me something about what I intend to study, which at this point remains unclear. However, initial analyses of pilot data collected over the summer and autumn of 2021 helped progress the overall process of retroduction. That is, the results of this initial data analysis allowed for reformulation and further refinement of the guiding research questions. The following subsections discuss each method in further detail, beginning with a general introduction (of each method) and discussing the intended application versus application in the actual research. The following chapter 4 then details data analysis, producing freshly grounded conceptualisations.

3.3.1 AUTOETHNOGRAPHY

This research broadly fits the ethnographic tradition of management studies (Van Maanen, 1988, 2011). Ethnography is a written representation of culture that produces cultural interpretations through immersed research experiences (Van Maanen, 1988):

an interpretive craft that focuses more on questions of how and why than quantification problems. Ethnography can claim more of an informative, documentary status amongst scholarly traditions: i.e., bringing back news from the field (Van Maanen, 2011).

All forms of ethnography require lengthy periods of field immersion, during which the researcher becomes intimately acquainted with the group or community studied. Alongside extended participant-observation, ethnographies can also draw upon a mix of supplementary evidentiary approaches:

> Fieldwork is a technique of gathering research materials by subjecting the self – body, belief, personality, emotions, cognitions – to a set of contingencies that play on others such that over time, usually a long time, one can more or less see, hear, feel and come to understand the kinds of responses others display (and withhold) in particular social situations […] fieldworkers must remove themselves from their usual routines, havens, pleasures, familiar haunts and social contexts such that the fieldwork site provides a social world (Van Maanen, 2011 pp. 219-220).

This research is perhaps fortunate that I was a practitioner first and foremost and an aspiring theorist second. This situation means I was already well-acquainted with the field before I started researching it. This has necessarily influenced the choices and decisions in selecting literature, favouring specific interpretations over others, what I study and why. Field immersion was a constant throughout the research process, running side by side, informing and shaping one another as I probed and prodded my experiences with increasing knowledge and appreciation of theory. This approach perhaps contradicts Van Maanen's stipulations that the researcher must cut their life down and avoid their usual experiences. Instead, this researcher must try to alter as

little as possible about his everyday life and seek to capture it as it would usually play out.

I hoped to alter as little as possible when I first designed this research. My band was writing new songs, and my research was geared around capturing the process of writing, recording and releasing a new track. The COVID-19 pandemic and social distancing measures meant that this research could not proceed as planned, meaning the idea of capturing data which would reflect my everyday life as a musician as much as possible also became increasingly difficult given the novelty of the situation. Therefore, a pragmatic approach was assumed to generate data from my experiences as a musician that could reflect the culture of post-digital music making (Mazierska et al., 2018).

Given that my experiences are the primary source of the data, it is correct to categorise this research as autoethnographic. Autoethnography is an approach to research and writing that seeks to describe and systematically analyse personal experience to understand cultural experience (Anderson, 2006, Ellis et al., 2011). That is, using personal knowledge and membership to explore cultural practice combining participation with memory and the artful use of embodied methods. As an approach, autoethnography challenges traditional research in data collection and presentation methods. Autoethnography is both process and a product as researchers draw upon tenets of autobiography and ethnography to do and write research (Ellis et al., 2011).

There are two principal forms of autoethnography: evocative (Ellis and Bochner, 2000, Ellis, 2004) and analytic (Anderson, 2006). Evocative autoethnography invokes an epistemology of emotion seeking to move the reader to feel the feelings of others (Denzin, 1997) using storytelling akin to the novel or biography, breaking the

boundaries that distinguish research from literature (Ellis and Bochner, 2000). Evocative autoethnography does not break or abstract from the narrative to explain the meaning. On the other hand, analytic autoethnography retains a commitment to an analytic (i.e., critical) research agenda focused on improving theoretical understandings of broader social phenomena (Anderson, 2006). The analytic tradition of autoethnography can be distinguished from evocative approaches based upon a pronounced willingness to abstract and explain. Moreover, analytic autoethnography also relies upon dialogue with informants beyond the self (Anderson, 2006). More recently, however, there have been attempts (Tedlock, 2011) to fuse these traditions. A good autoethnography not only turns the gaze inwards but must also never forget to gaze outwards. Doing so would risk self-absorption and neglect one's ethnographic responsibility (to the culture or group the researcher represents).

In the absence of formal structure to my field immersion – referring to the fact that my planned research design was reformulated in responding to COVID restrictions – I entered the field with the idea that events captured, documents and articles read, and conversations held would stimulate my reflections and draw person experience and memory into the analysis. Note that the analysis occurs formally in this research (i.e., initial grounded theory coding) and less formally (experimenting with theory and framing and the clarification, refinement or development through writing). It is only in the writing (and rewriting) of my data that this (version of the) thesis emerges. Turning this unruly experience into an authoritative written account is as much part of the research as the data collection and analysis (Van Maanen, 2011). However, autoethnography runs into many problems when your everyday life and routines are interrupted.

The order imposed in this chapter occludes the disorder of its development. However, the other element of autoethnography in this research is in the role I played in determining the data which was collected – what data and why. My whims, curiosities, sense of duty, deadlines and happenstance all contributed to generating data for this research (Feyerabend, 2010). This research can also be considered autoethnographic in that the researcher assumes the role of the data in the research and that additional data (outside of the data embodied by the researcher) is generated in novel ways that are difficult to explain or account for in orthodox scholarship (i.e., rigorous research).

I interviewed people I am very close to. I interviewed people whom I used to be closer to. I interviewed people I have worked with in the past, and I also interviewed people whom I had never met before. I captured over 1500 screenshots of various things on social media that interested me as I scrolled; good news, bad news, rants, unfolding scandals, hot takes and memes. Things related to music and digital technologies, things I deemed may be of importance or value when I came to look at them again later. Once again, this role within the research has only become clear as I have drafted this chapter. With autoethnography, the researcher, in essence, becomes the data, and the writing process represents a novel form of theory building (i.e., emerging from data embodied by the researcher-author).

Nevertheless, as this discussion has made clear, it is through others, both in conversation and in observing and interacting with the field, that autoethnography can happen. The artefacts these interactions produce (i.e., field notes/immersion diary, screenshots, interview transcripts, media articles) can all become stimuli for autoethnographic reflection and the use of biographical data (retrieved memory). This subsection has described the logic behind the choice of what data is to be collected. The following subsections describe how, i.e., the data generation tools employed.

3.3.2 CONVERSATIONS BEYOND THE SELF

Empirical data for this research was primarily collected using semi-structured interviews with key participants in the local music industries. I was fortunate to draw upon an existing network of colleagues and contacts in the music industries to provide this research with interview participants. Most informants are from or based in the UK, mainly concentrated in Liverpool, but the restrictions placed on in-person research during the pandemic allowed me to extend the scope of the case and speak to musicians and music industry professionals from further afield.

The initial selection involved finding participants representing various views and experiences in my network. This involved speaking to grassroots or aspiring musicians and music industry workers from diverse, relevant professions. Participants were contacted either through social media direct messaging services or by email. All interviews took place over Zoom and lasted between 30 and 90 minutes. Participants gave informed consent. The relevant forms and documentation were shared via email, and signed PDF copies of informed consent were collected before the interview. Note that the list below is the complete list of all interview participants involved in the study. The initial ten selected for the pilot study (section 3.2.2) are marked with an asterisk.

Participant	Role(s)	Industry	Industry status	Location
Alison	Promoter-manager	Popular Music Production	Professional	Glasgow
Alexa*	Producer-musician	Popular Music Production	Professional	Liverpool
Fran*	Musician-songwriter	Popular Music Production	Semi-professional	Liverpool
Don	Promoter-manager	Popular Music Production	Professional	Glasgow
Phoebe	Session musician	Popular Music Production	Professional	London
Jack*	Session musician	Popular Music Production	Semi-professional	London
Joanna*	Composer	Film & TV Music Production	Professional	Liverpool
Lola*	Musician-songwriter	Popular Music Production	Semi-professional	Liverpool
Kyle	Council official	Local Music Policy	Professional	Liverpool
Luca	Music Business Owner	Music Financing	Professional	Stockholm
Laura*	Musician-songwriter	Popular Music Production	Semi-professional	Stoke
Lance*	Musician	Function Band	Semi-professional	Stafford
Lukas	Music Business Owner	Policy and education	Professional	Vienna
Layla	Composer	Experimental music	Semi-professional	Liverpool
Michelle	Musician-songwriter	Popular Music Production	Professional	Berlin
Eddie*	Musician-songwriter	Popular Music Production	Semi-professional	Cheshire
Nige*	Musician	Popular Music Production	Semi-professional	Liverpool
Paul	Musician-songwriter	Popular Music Production	Professional	Liverpool
Phil	Music Business Owner	Funding	Professional	Liverpool
Megan*	Manager-promoter	Popular Music Management	Professional	Liverpool
Vlad	Music Business Owner	Policy and education	Professional	London
Django	Music entrepreneur	Popular Music Production	Professional	Liverpool
Ziggy	Musician-songwriter	Popular Music Production	Professional	Liverpool
Mary	Musician-songwriter	Popular Music Production	Semi-professional	Liverpool

Figure 2 - List of interview participants

Questioning concerned participants' relationship with music during the interviews, their experiences in the music industry, their experience of the changes to the music industries following digitalisation, and general thoughts and views on new technologies such as streaming services and social media platforms. Many of the musicians interviewed were of an age where the development of their musical careers traces the digitalisation of the music industry, specifically the emergence of social media, file sharing and streaming technologies. This gap determined that speaking with several more experienced professionals would help remedy this gap in the data.

3.3.3 NETNOGRAPHY

In response to the demands of pandemic research, 12 months of online field 'immersion' following the netnographic method of collating screenshots to produce an immersion diary (Kozinets, 2019) substituted the planned (more traditional) ethnography. Netnography in this application, therefore, represents more of a pragmatic approach to data collection (i.e., fieldnotes) rather than studying online interaction per se. Generally, however, netnography assumes that captured traces of online social interaction (on digital media and other online communication sites) constitute rich sources of qualitative data with the capacity to speak for more than just the virtual world.

Netnography is a form of qualitative research methodology, a 'how-to, work-bench level approach to studying social media using a cultural lens' which adapts, pragmatically, the methods of ethnography to the cultural experiences that 'encompass and are reflected within the traces, networks and systems of social media' (Kozinets, 2019 p. 19). Netnography is the study of online traces. Online traces can be considered the digital footprints users create from online interactions. The objects

of analysis in netnography are the relics of this interaction, i.e., the posts, the likes, the shares, the chats, the comments, the pictures, the videos, and so on. Data is captured using an immersion diary (the netnographic augmentation of field notes). The immersion diary constitutes a dynamic sort of researcher-mediated data dump where thoughts, observations and transcripts collate with screenshots, links, and other relevant information. This information includes longitudinal performance data measuring essential factors such as impact, engagement, reach, and success. This data can be recorded and analysed in real-time but with post-hoc reflexivity as a detailed account of thesis development and at different field immersion levels.

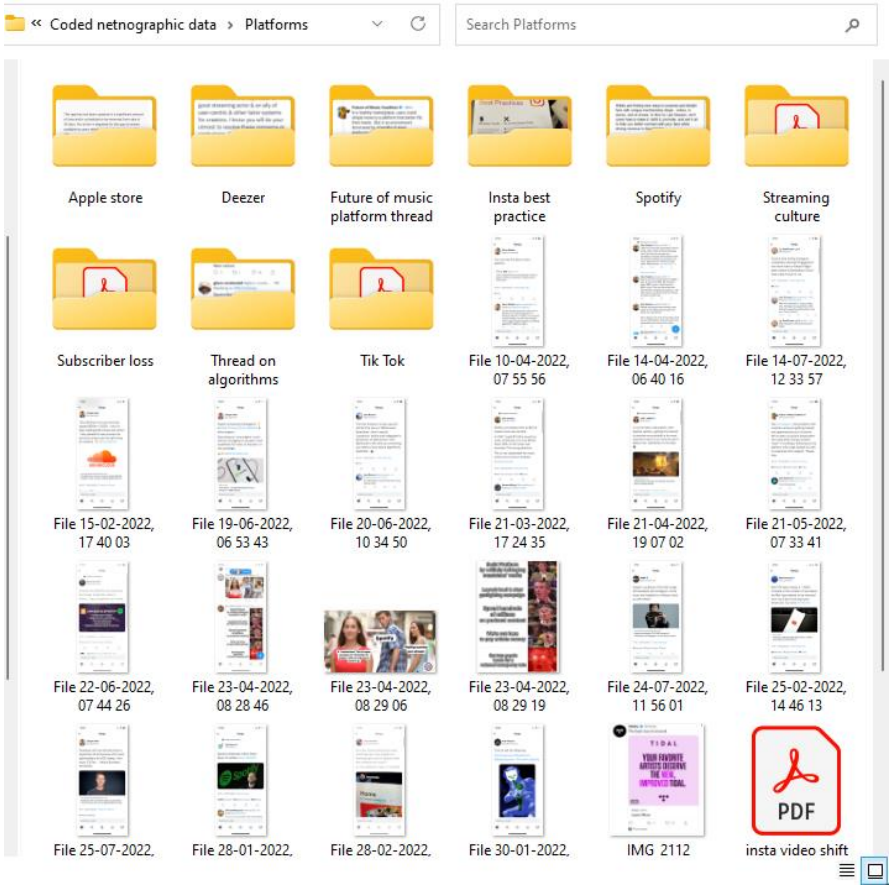

Figure 3 - Immersion diary.

Distinguishing netnography from the constellation of available digital methodologies lies in its 'provision of clear direction', providing researchers with a 'set of general instructions relating to a specific way to conduct social media research using a combination of different research practices grouped into distinct categories of data collection, data analysis and data interpretation' (Kozinets, 2019, p.7). Contra traditional applications of netnography, this research is not necessarily studying online or social media cultures per se. Instead, it makes methodological use of social media and other digital platform data to capture experiences of digitalising cultural production. Therefore, while taking the practical suggestions of netnographic data collection and handling (i.e., storage, sorting, coding, etc.), this present research will diverge from the method of Kozinets (2020) and pursue a more exploratory, experimental approach.

The year-long netnographic field immersion began in July 2021, ceasing in early August 2022. During this period, I took over 1500 screenshots. These screenshots were primarily taken from Twitter but also included screenshots of data from Spotify, Facebook Messenger and WhatsApp, as well as various links to related and relevant online news articles, industry reports, and other digital objects deemed of some significance to understanding the field during the period of my immersion.

To reflect (as much as possible) the everyday experience of being a musician, I opted not to predetermine times or intervals at which to enter the field. Instead, I began integrating my online trace data collection with my day-to-day life, screenshotting seemingly exciting and relevant things as I scrolled my newsfeeds on my smartphone and home computer. I used the cloud storage service Dropbox to ensure I could store and access data conveniently. The cloud storage folder was emptied periodically onto an external hard drive for secure keeping and to free up space on the cloud for more

data. All screenshots are timestamped and stored chronologically, producing a digital notebook or diary account of my time in the field (see Figure 3).

This section's introduction clarified that I intended to draw upon my experience as a musician to produce an autoethnographic account of the writing, recording and releasing of a new track. Instead, I redesigned my research to capture the changing music industry dynamics in any way I could. The pandemic meant that songs were left unwritten, studio time refunded and no single to promote. Nothing musical happened at all. I was about to enter my third year of study without any data, and time constraints on my funding meant I had to generate data for my study by whatever (logical) means necessary.

This section outlined the methodological tenets of the ethnographic approaches to data generation (autoethnography, ethnographic interviews and netnographic participant observation). It was established that while this research is broadly autoethnographic, generating autoethnographic data is more complex and unpredictable (unplannable). Had I been able to perform the research I envisioned, it would have taken a much more conventional route with a period of a few months' intense field immersion where I could dedicate all my efforts towards observation, making traditional field notes and reflecting upon them as I wrote them up in-situ. Knowing that my fieldwork was over, I would have then been able to return to these documents focused on understanding the influence of digital technologies on this specific process (or set of processes, i.e., musical production). As it transpired, I could not perform this study as intended and was forced into a more pragmatic approach to generating data concerning my phenomenon of interest: making music. The following subsection traces the movement from initial fieldwork (i.e., a pilot study) to more theoretically refined conceptualisations grounded in this data.

Following the discussions in Chapter 2, which saw the research problem become more appropriately conceptualised by drawing upon key elements of cultural entrepreneurship theory, the study, designed to capture the digitalisation of processes of cultural making, became impossible during the pandemic. Therefore this chapter describes the process whereby the data collection methods available to me were used pragmatically to generate data reflecting and capturing my experiences of digitalising musicianship.

CHAPTER 4: FROM INITIAL CONCEPTUALISATIONS TO GROUNDED CONCEPTUALISATIONS

This chapter describes the process and initial findings of the analysis, which takes us from our initial conceptualisations (i.e., chapter 2) to grounded conceptualisations (chapter 5). In short, three key themes emerged from the data. Firstly, digitalisation has empowered musicians (4.1.1). Second: digitalisation means musicians compete in a hypercompetitive marketplace (section 4.1.2), and third: digitalisation shapes and conditions musicianship (section 4.1.3). Drawing upon insights from popular music studies, I use a theory of the musician in four dimensions to construct a provisional model of musicianship to begin unpacking these initial findings.

4.1 SUMMARY OF ANALYSIS

I received ethical approval in the summer of 2021 and immediately began collecting netnographic data, with my first interview in June 2021. The strategy driving this initial period of field immersion was to develop a broader understanding of the contemporary organisation of musical production in attempting to corroborate my digitalisation experiences. Drawing almost exclusively on my network, I began with a pilot study of 10 interviews. The interviews were held over Zoom; I collected netnographic data through digital media screenshots. I paused interview data collection after a few months in Autumn 2021 to begin an initial round of analysis. I accumulated substantial (unmanageable) amounts of digital trace data and therefore decided to analyse the pilot interview data in isolation. Beginning a pilot analysis, I believed, would allow for

an emergent framework through which to organise the netnography data better. Interview transcripts were anonymised and analysed using NVivo qualitative analysis software to store and help sort or segment the data.

Interviews were transcribed with the assistance of Otter AI transcription software which was then corrected and formatted before being uploaded into an NVivo project. Transcripts were then anonymised, and identifying remarks were changed or removed. Following this process, the original audio files were permanently deleted. This research followed a thematic content analysis approach to data analysis. The interview and netnographic data were analysed line-by-line and coded in-vivo using the participants' words to name initial codes.

The result of this grounded theory analysis (i.e., coding data and grouping it into more prominent themes or orders) was three categories (Figure 4). Given the relaxation of pandemic restrictions, these themes were developed into a research paper that could be conferenced in the summer of 2022. While drafting this paper, I continued interviewing more music industry figures and pursued nascent themes emerging from amassing data. The screenshotting of social media and other online sources continued throughout the entire 12-month period of field immersion. The following section describes the tendential results of this pilot study moving through each key theme that emerged from the grounded theory coding.

Theme:	Example data:
Digitalisation empowers musicians	It's been liberating to be honest, because you can you can create stuff at home that is good enough to be played on the radio – Jack. There's never been a better time to be an independent artist. – Phil.
Musicians compete in hyper-competitive markets	You're not even battling people from Liverpool. You're battling people from all over the world – Nige. He's trying to make himself more and more interesting than the next person because he knows that putting some tunes on his Spotify just isn't gonna do it. – Jack.
Digitalisation shapes and conditions musicianship	If you don't have a strong social media game. You might as well just hang up your instrument – Don. I haven't posted for however long, but it was all-consuming, and there's a real reason why people pay someone to do that job. As an independent musician, it takes over your life – Lola.

Figure 4 - Grounded conceptualisations

4.2 FINDINGS

4.2.1 DIGITALISATION AND ENTREPRENEURIAL EMPOWERMENT

While the digitalisation of the music industry has a longer history than its more recent encounter with the networked home computer (1.1), digital technologies are involved in processes of cultural making in ways no longer limited to methods of its production only (section 1.2). Today, digitalisation expands further into the realms of music distribution and consumption. The digitalisation of music and its industries has provided musicians and music industry professionals with a sense of empowerment. Nevertheless, the supposed democratisation of opportunity that the internet and convenient access to digital recording and production/editing software provide tinges digitalising musicianship with a sense of melancholic defeatism in the face of seemingly impossible odds of making it.

Increasing availability and convenience of digital audio capturing technologies, such as microphones on smartphones or simply plugging instruments and microphones into cheap digital audio interfaces, empowers musicians to capture and create almost anywhere at any time (Fran, Alexa, Joanna, Jack). Most smartphones and PCs now come with pre-installed or readily (freely) available digital music production software (DAWs). Apple's Garageband and premium upgrade version Logic is a popular tool for amateur, aspiring and professional creators alike (Jack, Eddie, Laura). Portable note-making and voice recording enable instant capture and storage of everyday creative stimuli.

The ubiquity of audio-capturing tools and editing software affords the unprecedented ability to ensure that no moment of inspiration is lost or undocumented (Fran, Eddie, Laura). No longer having to remember riffs and chord progressions, musicians can

build up a digital catalogue of ideas for further later development (Fran, Eddie). Instant messaging, video chat and filesharing technologies allow artists to share ideas with band members and collaborators, meaning services such as Zoom, WhatsApp, and Facebook Messenger become key co-creation sites (Eddie, Laura, Nige, Lance). The pandemic amplified the uptake of virtual co-creation and legitimated this practice for many activities in the industry today. Alongside this 'sketchbook' application of digital production software where songwriters draft ideas for development (i.e., refinement) with others in rehearsals, music creators also utilise digital music technologies to build the 'final product' from home (Jack, Joanna). Songwriter and session musician Jack proudly recounts how he managed to win prestigious airplay from a DIY home recording he produced:

> It has been liberating, to be honest, because you can you can create stuff at home that is good enough to be played on the radio… it's not going to be perfect, you know, like professional standard, but stuff I have made has been played on 6music and made single of the week on Radio X…we just literally did that in our bedrooms and there was no big studio budget spent on that. (Jack)

Music streaming services provide creators, fans and industry professionals alike with access to a seemingly limitless source of inspiration, entertainment and prospective clients (Fran, Megan, Django). The expansion and further development of information and communications technologies (ICTs) have empowered music creators not only to cocreate and collaborate virtually and with anyone, anywhere in the world, with an internet connection and suitable device, but digital objects also afford musicians the communicative means to share, promote and monetise their art with unprecedented speed and ease.

> It has allowed anyone and everyone to have their music reach a global audience at the touch of a button (Don)

> There's never been a better time to be an independent artist. (Phil)

In tandem with the growing affordability and accessibility of home recording equipment, the internet, social media and streaming services present musicians with various means for growing and monetising audiences on and offline. The democratisation of access to markets for music enables greater participation in music industries and visibility for underrepresented and marginalised voices (Lola, Laura). Digitalizing musical production, distribution, and consumption has empowered musical creators by increasing the scope of capturing and developing creative inspiration (Jack, Joanna). The efficient distribution of music files across messaging and other digital communications services presents musicians with new means of collaboration, demonstrating the growth of digital platforms as essential sites of cocreation and unexpected sources of sonic innovation (Fran, Joanna).

DAWs afford musicians the tools to produce mainstream quality music from home (Jack, Alexa, Nige, Lance, Lola). Streaming media services also give musicians, fans and professionals convenient access to an infinite pool of inspiration and entertainment (Peter, Lola, Fran, Nige, Lance). Digital technologies empower musicians to co-create, share, promote and monetise their art with unprecedented speed and ease, allowing for more informed strategizing. Nevertheless, the democratisation of affordance and opportunity that digitalisation presents means that musicians today are competing on an unprecedented scale which implies well-being and creative potential.

4.2.2 DIGITALISATION AND HYPERCOMPETITIVE MUSIC MARKETS

The digitalisation of music has also contributed to constituting a hypercompetitive market environment. A high degree of visibility and metricised (ranking) logic which underpin online competition sees musicians and other music industry actors' strategic responses demonstrating the supercharged importance of online symbolic capital where the music itself often takes a back seat. Recall the multivocality of value in cultural entrepreneurship (section 2.3.3) and consider how the value of digital symbolic capital (in the form of numbers of likes, clicks, shares and streams) is central to processes of legitimation on and offline.

The ubiquity of opportunity digital technologies present for musicians means that there are perhaps more recording artists active today than at any other time in the history of recorded music. Artists are now competing at an unprecedented, global scale (Jack, Eddie, Nige, Lance, Fran, Lola). Furthermore, artists are no longer competing with other music but the mass convergence of cultural forms which has accompanied digitalisation (Kyle, Nige, Don). The more recent emergence of media streaming services means that musicians compete against the entire history of recorded sound alongside other art and cultural forms for increasingly fleeting attention online.

Musicians forced to compete on social media and streaming sites against other media forms can often crowd them out. Hypercompetitive market environments for musicians contribute to the importance of remaining visible and curating polished branding and appealing visual aesthetic in developing a musical career (Joanna, Lola, Laura, Eddie, Alison). This context forces musicians to seek new means of standing out and surviving in this increasingly crowded digital space (Django, Kyle).

Digitalisation also impacts the musical aesthetic (Joanna, Fran). The ubiquity of recorded music coupled with cheap, convenient access means that music, as a

commodity, is becoming increasingly disposable (Kyle). The speed and frequency at which artists today are expected to produce and release new music (and post fresh, engaging social media content) led many to question the aesthetic quality of contemporary music.

Therefore, the idea that anybody can make it in the streaming era is contestable because the odds are increasingly stacked against you (Nige, Lance, Fran, Jack, Kyle). However, famous examples of artists achieving mainstream success with music produced and marketed independently from home on the internet cement the DIY ideology of contemporary music industries (Django, Laura, Lola, Peter). Nevertheless, artists are increasingly forced to new lengths to stand out online (Jack, Nige, Lou, Fran). It is debatable that this is a novel development, given that bands have been manufactured in the past and manufactured to portray a specific image or appeal.

Curating an appealing image (perhaps even over and above the music) has occurred since the dawn of famous (or commercial) music making, but until relatively recently, these concerns were primarily reserved for the popular mainstream music markets. The Beatles, for instance, learned how to make people dance and keep them entertained for hours at a time before they learnt to become prolific songwriters and cultural icons. The democratisation of opportunity and affordance to create and promote your music independently may have forced artists to consider business and branding considerations earlier in their careers than in previous eras (Alison, Laura, Django). Artists must be much more than simply musical creators in contemporary music industries.

4.2.3 DIGITALISATION SHAPES AND CONDITION MUSICIANSHIP

Artists often express confusion and an overwhelming sense of self-doubt regarding digital strategy. Having a good social media strategy (i.e., presence) can be vital to developing a successful career in music by appealing to and attracting the attention of key industry gatekeepers. Gatekeepers include traditional gatekeepers (label owners, DJs, managers, promoters) and, today, a new cast of inhuman intermediaries (i.e. algorithmic playlisting and user newsfeed curation). A disjuncture exists in this regard, however, between musicians and professionals concerning the centrality of accumulating digital symbolic capital in artist strategizing. Professionals (tend to) consider digital symbolic capital superfluous or merely a reflection of more immanent material considerations such as ticket sales or mainstream radio play. Nevertheless, the data shows that the demand for artists to remain consistently active online and post content frequently remains unquestioned.

The last decades have seen growth in the power and influence of online social networking, where network size and influence are highly-visible, and artists continually measure their success relative to others (Lou, Lola, Luke, Paul). The affordance of social media to quantify and make visible previously hidden (easily obscured) levels of popularity and fame means that musicians and aspiring artists must now compete for numbers (Kyle, Phil, Paul, Nige). A busy, active social media presence is crucial to developing a career in making music.

There is a feeling amongst musicians that without having good numbers on social media, potential fans or industry gatekeepers who come across you online will not pay any attention to your music unless you have a sizeable following and posted good streaming numbers (Nige, Fran, Eddie). Therefore, the pressure to post good numbers online has led to artists reportedly faking (artificially) boosting or purchasing their

online following (Eddie, Nige, Laura). Different platform infrastructures, affordances and behavioural nudging also condition strategic action pursued by artists (Don).

Furthermore, the demands of digital competition require the production of evermore 'content' to post online (news, pictures, videos and music). The pursuit of shareable content is now impinging increasingly on the performance of everyday life, even relating to non-musical related activities, which now become sources of content to feed the user-experience curation algorithms, i.e., in efforts to secure greater reach and online visibility (Nige, Lou, Fran, Eddie, Lola, Jack). However, the data shows that many music industry professionals, in contrast to the artists themselves, often disregard the importance of online numbers. Many participants also recognised the disparity between having an online presence (i.e., fanbase) and monetising it (Lance, Fran, Laura, Nige, Django).

The musicians surveyed, however, largely agree that the demands of digital promotion and the work involved in growing online audiences with constant content production can become a full-time occupation (Lou, Lola, Nige, Joanna). This pressure to post on social media to maintain an active, engaging presence means that music often takes a back seat in daily prioritising activities and strategic behaviour (Lola, Fran, Lance, Eddie, Jack, Django). Musical response to this has been a rationalising of creative practice. This situation has produced what one respondent described as a focus group attitude (Jack) to musical composition, resulting in a perceived homogenisation of style and genre aesthetics. This situation has left musicians feeling like the logic of social media has taken over music (Alison). The never-ending pursuit of content can become all-consuming (Lola), with many informants reporting they become obsessed with their social media and streaming performances with unpleasant consequences for musicians' mental well-being.

The constant exposure and inherent toxicity (perhaps by design) of highly visible, metricised (i.e., measurable) hyper-competition of online markets for music leave many musicians dejected, questioning the worth of all their efforts. In responding to the pressures of online competition, musicians are increasingly adapting to the demands of social media and streaming services' metrically-driven ranking/classification logics of online marketplaces. The speed and regularity with which musicians must produce new content impact the musical aesthetic and the musicians themselves, raising essential questions concerning creative (therefore, human) agency in the streaming era.

The internet affords musicians new avenues for the creation and revenue generation, providing a platform for marginalised and underrepresented voices. However, the highly-visible, metricised nature of online competition overshadows any sense of emancipation, with musicians expressing confusion, self-doubt, dejection, obsession and bitterness towards other artists. Artists are now increasingly appealing to and impacted by the logic of digital media in their creative and commercial decision-making.

4.3 CRITICAL REFLECTIONS

It became clear from this pilot study and even before any formal analysis had taken place that the musicians and music industry professionals interviewed had very similar experiences and held comparable views about the impact of the internet, social media and digital technologies have had on musical production practices. Nevertheless, many of the musicians interviewed were of a similar age to me, where the development of their musical careers traces the digitalisation of music industries, specifically the

emergence of social media, file sharing and streaming technologies. Therefore, when discussing the present, many informants during the pilot study invoked an imagined (unexperienced) past when making judgements or comparisons. Speaking with more experienced professionals would help remedy this gap in the data and understand continuities with the music industries in previous techno-economic paradigms. In other words: what is new or different in the music industry today compared to the past? How would people with more experience in these older (pre-digital music industries) talk about the music industries of today? Keeping these questions in mind, I continued to capture, record and log netnographic fieldwork alongside continuing with my interview data collection, questioning friends, peers and colleagues, and learning about their experiences of the changing conditions and expectations of music making.

When attempting to write up these findings using this framework developed from the data analysed in the pilot study, it was considerably more challenging to explain findings categorised under the third theme: digitalisation shapes and conditions musicianship. The amount of data I had coded under this theme dwarfed the other two themes, which were relatively straightforward to explain and hardly provided any novel insight. Pursuing a different understanding of what was emerging under theme 3 became the primary focus of the following stages of research. The inability to break this data into more manageable sub-themes (or more easily analysable components) indicated that a return to existing scholarly literature would aid my further conceptual refinement of (grounded) conceptualisations.

It is important to recall the discussion at the end of section 3.2. Here it was suggested that suspending the conceptualised research questions helps pragmatically respond to the (once more) qualitatively defined empirical problem. Response to the pressures of researching during the pandemic influenced this decision. It is also important to

remember that this thesis unfolds in the process of conceptualisation and reconceptualization, framing and re-framing as the problem (and consequently the research questions) are refined over the course of theory retroduction. The reasoning behind the next steps taken is in responding to the problem of resolving this third theme. I determined that the problem was that my grounded-theory-inspired coding (and framing) was not sophisticated enough to answer either my empirical or research question conceptualised using cultural entrepreneurship.

4.3.1 DIGITALISING CULTURAL ENTREPRENEURSHIP

Over the last decades, diverse industries ranging from media, entertainment and advertising to retail, travel, finance and fitness have all experienced at least some transformation by digital technologies. Recent technological developments such as mobile services, social media, cloud computing, big data analytics, artificial intelligence, machine learning and the Internet of Things support novel enterprise means. Digital technologies afford new ways to collaborate, design products, organise resources, match potential buyers to relevant retailers worldwide, and so on (Elia et al., 2020). More than anything, digitalisation has engendered innovations in traditional business models, and many of the global corporate giants of today began as digital start-ups (Kraus et al., 2019, Zaheer et al., 2019). Digital entrepreneurship lies at the heart of this revolution, and while academic attention paid to this complex, albeit compelling, phenomenon is growing, researchers are struggling to keep pace with the shifting dynamics of this rapidly evolving field.

The review of cultural entrepreneurship developed in Chapter 2 presents a reasoned argument for locating this research in this area of management studies. Cultural entrepreneurship provides a congruent theoretical base for this investigation and the

conceptual vocabulary through which it becomes possible to account for and explain changes to musical production practices. However, the principal issue in this research is not necessarily understanding cultural production practices; instead, we are seeking to understand how digital technologies are transforming these processes (i.e., theme 3), and the principal issue here is that cultural entrepreneurship research – to date – has paid very little attention to the digital, not just in terms of how cultural entrepreneurs exploit digital technologies in their efforts towards legitimation but also that digital contexts remain notably absent from cultural entrepreneurship research. My investigations so far have only uncovered two pieces of published research within the domain of cultural entrepreneurship (Manning and Bejarano, 2017, Gegenhuber and Naderer, 2019) that tackle this phenomenon (cultural entrepreneurship) manifest in digital or online settings. These papers (discussed in more detail in sections 2.2 and 2.4) do little to allay the fact that cultural entrepreneurship research is crucially lacking in accounting for not only the effects of digital technologies on the (distributed, intertemporal) processes of cultural making but also lacking in empirical studies located in digital settings. It is perhaps to the poverty of this theoretical tradition (and many others within the management disciplines) that the ongoing disruption to business practices which emanate, in recent decades, out of digital (technological) transformations are still not adequately theorised (Bailey et al., 2022, Beyes et al., 2022).

Today, it is increasingly becoming the case that digital technologies are mediating and impacting more and more of our everyday lives – not just at work but in our leisure time too. Scholars today must also become technology theorists, which means amending or updating existing theories and conceptual terminology to reflect the increased need for technical sophistication in management studies (Bailey et al.,

2022). While this investigation remains within the remit of cultural entrepreneurship, contributions to theoretical knowledge aim more broadly; at providing more appropriate means of studying phenomena that pay due attention to the impacts of digitalisation upon standard processes and practices.

In the context of musical production, musicians must not only master the promotional use of social media platforms but also devise effective strategies for the various streaming services and learn effective use of digital music production software (to name but a few). Focusing on a single platform, service, software, or digital tool misrepresents the complexity of cultural entrepreneurship or any form of entrepreneurship today. To illustrate with an example from the data:

> Instagram is about portraying an image of what you want to look like and how [you want] people to view you. Twitter? That's like short opinions on there, so it's not so much image-based [and] more of a viewpoint on there […] Instagram is a bit more fun, and I suppose it could be a bit more risky […] you definitely see some risky images on there. I guess you definitely wouldn't post some of the stuff you post on Instagram on a platform like LinkedIn (Laura).

Note how, in this short description that each social media platform takes on a unique identity in how it is received and culturally recognised. Some behaviours are encouraged and acceptable on some platforms but wildly inappropriate on others. Some sites demand more text-based interactions, others, the sharing of stills, highly aestheticized and stylised, changeable, variable, following microtrends (i.e., memes). Much research has looked at platforms in isolation, but this is an artificial (ultimately futile) abstraction from the complex totality. For this reason, we turn to the burgeoning field of digital entrepreneurship. This body of literature constitutes a closely related

tradition within the expanding spectrum of entrepreneurship studies. Reviewing the development of digital entrepreneurship studies imbues this initial framing (i.e., processes of cultural making) with additional insights into the changing nature of entrepreneurship in the digital age. Digital entrepreneurship also adds a fresh set of concepts and a theoretical vocabulary adequate for theorising novel, hybridising entrepreneurial phenomena. With this in mind, the next chapter reviews the more emergent field of digital entrepreneurship.

4.3.2 CONCEPTUALISING MUSICIANSHIP

Concurrently with the final months of data collection, I began experimenting with different ways of framing and explaining my findings. This process involved many false starts and re-runs, but a breakthrough occurred when I attempted to formally define (i.e., conceptualise) what I meant by musicianship. I had been toying with this word for several years. I think I initially started using it in research questions when I was looking to distinguish musical production from entrepreneurship (which I considered different because of differing motivations – i.e., the profit motive in entrepreneurship vs the artistic ideal or fame in musical contexts). I sought to build a framework initially centred around the musician (i.e., what are the processes and practices that constitute musicianship).

Traditionally understood, musicianship refers to the 'development of musical skills'; a musical education's 'perennial and pervasive goal' (Jorgensen, 2003, p.198; see also Willoughby, 1990; Partti, 2014). While this conceptualisation serves holistic purposes in the formal (and informal) development of musical craft (i.e., instrumental proficiency), such definitions fall short of capturing the whole impression of existing musicianship by ignoring the economic realities of musical actors (Sarath, 1993, 2013).

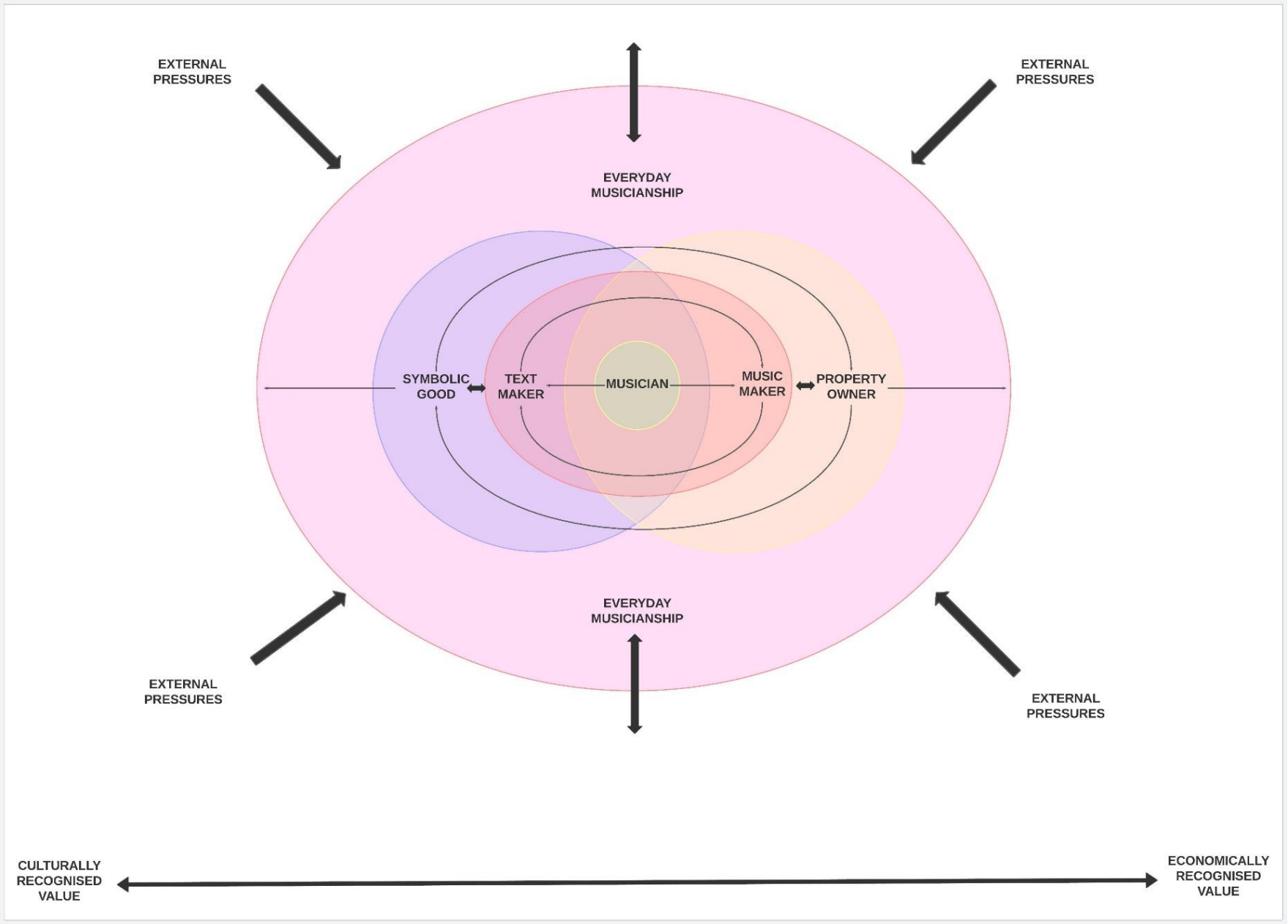

Figure 5 - Musicianship modelled

We are talking here of the environmental constraints (i.e., realities) which can perhaps stifle music-making and its impact (i.e., shape) musicianship as both creative and commercial practice (enterprise). Practice, understood in the broadest sense of its meaning, refers to many practices: from the development of technical proficiency in music (i.e., practising an instrument or voice, song-writing, performance, stagecraft) to the commercial practices of branding, marketing, networking, strategizing, budgeting, promoting, selling. The complex imbrication of each of these practices in the pursuit of the reproduction of one's art means that speaking of musicianship in such narrow terms limits cognition of everyday musical practice, calling for an empirically grounded, reconceptualization of musicianship and what it means to be a musician today (Hesmondhalgh, 2010, Hesmondhalgh and Meier, 2015, Hesmondhalgh, 2021).

Researching musicians and understanding musicianship in context constitutes the bedrock of (popular) music industry studies. Foundational texts in this literature include Charlie Gillet's Sound of the City (1970), which traces the rise of rock and rock in its' urban-geographic context; Simon Frith's (1978) Sociology of Rock, Dave Laing's work on punk (1985) as well as famous studies by both Jason Toynbee (2000) and Ruth Finnegan (1989) researching everyday musicianship. In this regard, there exists a plethora of work which studies musicianship but without necessarily referring to it as such. However, Mike Jones' process theory of the music industry (2012) was a constant draw during this time, and Jones' ideas and other management-related influences helped shape my initial research design.

Therefore, I did not have to look far to find a useful means of conceptualising musicianship. I returned to Jones at this point in the study to develop a way of using the concept of (popular) musicianship to frame my data analysis. Jones sees the

musician existing in four key dimensions; they must first be musicians ‘of some kind’. They must play, sing, programme or perform music. Musicians in music industries must also necessarily be businesses; they must work towards realising the potential value of their original music in progressing their music careers. Musicians, as symbolic goods, must be engaged in efforts towards commodification; ‘musicians present an entire text from which meanings can be generated, and values affirmed’ (2012, p. 67). The fourth dimension concerns the need for musicians to juggle all of the previously outlined demands in their everyday musicianship practice. Using Jones’ four-dimensional musician as a guide for conceptualising musicianship in this research produced Figure 5 (above), which models what I believe to be the critical elements of musicianship and how they overlap and relate to one another.

We see that everyday musicianship is embedded in an environment with external pressures shrinking its potential. Within everyday musicianship are further essential elements of being a musician (or music maker). The roles of music maker and text maker interweave because each depends on the other for survival (reproduction – in commercial settings, at least). While the musician is first and foremost a music maker (the musician centre of the model), to make a career out of it or to professionalise your musicianship, the music maker must also become a text-maker. The songs form only one part of the allure (i.e., fetishisation) as music industries transform artists (not just their art) into symbolic goods. Note that the horizontal axis runs from culturally to economically recognised value. This idea draws from cultural entrepreneurship theory which emphasises the multivocality of value produced in processes of cultural making. Arrows link the four elements (i.e., music, text, property owner and symbolic good), demonstrating their interrelation and how each feeds or impacts the other. With this

model in mind, we can then unsuspend the theoretical research question and consider what this re-conceptualisation of musicianship means for this research.

4.4 TOWARDS GROUNDED CONCEPTUALISATIONS

This chapter continues the processes of retroduction as we work towards more advanced framing and conceptualisation. The data collected in this research grounds any further (re)conceptualisations. Section 4.2 detailed the analysis of interview data. Three key themes emerged from this analysis. We saw that the first two themes (digitalisation empowers musicians & digitalisation means musicians are competing in a hypercompetitive marketplace) were relatively self-evident and provided nothing in the way of any novelty for this research. Interestingly (at first, perhaps frustratingly), the third theme (digitalisation shapes and conditions musicianship) offered a meaningful avenue for further consideration. Section 4.3 reflects upon these initial findings presents a model of musicianship in four dimensions which will be used to reinterpret the data concerning how the digital shapes and conditions each of these dimensions today.

Note that the musicianship model developed in section 4.3.2 is not supposed to supplant cultural entrepreneurship in this research. This literature remains the primary addressee of this investigation. The model, however, can aid in the refinement process, which will ultimately contribute new understanding to the field of cultural entrepreneurship (and beyond as the research progresses and takes us in new, unpredictable directions, all in the pursuit of clarifying and refining understanding of the initial social problem). At this point, the social problem that sparked this investigation becomes disembodied and a more recognisable scholarly phenomenon of interest.

CHAPTER 5: GROUNDED CONCEPTUALISATIONS

Studying the digitalisation of entrepreneurial processes leads us to the field of digital entrepreneurship, and what follows will review the existing digital entrepreneurship literature in much the same fashion as the field of cultural entrepreneurship was subject to in Chapter 2. This review begins by exploring the development of digital entrepreneurship research from its foundations (5.1), highlighting several key contributions (in section 5.2) before reviewing the key elements of digital entrepreneurship to find relevance for this study of digitalising cultural entrepreneurship (5.3). This section provides an overview of digital entrepreneurship studies' key concepts and constructs that will complement the existing analytical toolbox derived from cultural entrepreneurship. The last part of this chapter turns this new framing to both empiric and theoretical scrutiny finding evidence of a technological divide which lies at the centre of existing criticisms of digital entrepreneurship research. Furthermore, the role of artificial intelligence and inhuman power in entrepreneurial processes today is found (largely) unaccounted for in digital entrepreneurship research and entrepreneurship studies.

5.1 FOUNDATIONS OF DIGITAL ENTREPRENEURSHIP

In contrast to cultural entrepreneurship research – which emerged from scholarly efforts towards theorising entrepreneurial phenomena not easily explainable with rational-choice economics and recourse to the profit-motive – digital entrepreneurship is a field of research developed in response to novel shifts in the technological

environment. To put it another way, cultural entrepreneurship as a concept remains wedded to academia with minimal real-world implications, meaning that practising entrepreneurs will continue to tell stories and conjure compelling narratives to mediate between extant stocks of resources or legitimate their venture in much the same way as they did prior to this process being formally conceptualised by scholars. Conversely, digital entrepreneurship first emerged as internet entrepreneurship and sought to understand how new information-communication technologies (ICTs) could facilitate businesses and entrepreneurs in creating value. That is to say, early digital entrepreneurship research adopted a functionalist view of technology and sought to provide managers with practical insights and understanding to assist in dealing with their real-world problems. Technology is simply a strategic complement to existing business operations, and researchers used their findings to develop a schema of best practices in this new, unfamiliar and changing business environment. Porter's assertion that the internet is no more than a tool (2001) encapsulates the view of technology adopted throughout the early development of digital entrepreneurship studies; narrowly construed, the internet is a novel source of value creation for entrepreneurs (in some contrast to cultural entrepreneurship) where value is primarily restricted to the cash register and research settings remained tied to established business contexts (Zaheer et al., 2019).

5.1.1 STRATEGIC MANAGEMENT & WEB 1.0

Emanating primarily from within strategic management studies, early contributions to digital entrepreneurship emphasised the role of the Internet in creating value for an enterprise and sought to quell fears over the disruptive potential of the Internet (Zaheer et al., 2019). Michael Porter's early foray into the digitalisation of business

management ran contrary to mainstream media sensationalism, which suggested that the internet could make traditional practices obsolete; business strategy included. Porter (2001), however, contends that digitalisation makes established rules and practices more vital than ever, given the power of new technologies to positively and negatively influence a firm's fortunes.

Timmers (1998), for example, identified 11 new types of digital business models (e-shops, e-procurement, e-auctions, platforms and communities) and classified them by the degree of innovation (qua established business models). While some business model innovations are merely an electronic reimplementation of existing forms (i.e., shops, auctions, communications), others go beyond tradition, adding value to firms through novel forms of information management and new functionalities afforded by digital technologies (Timmers, 1998).

Comparably, Amit and Zott (2001) offer a framework for understanding how e-businesses create value online through new ways of enabling transactions. Drawing upon an extensive analysis of 59 e-businesses, they show that the value creation potential held by a digital enterprise is determined by four interdependent dimensions relating to traditional business concerns (i.e., efficiency, complementarities, consumer lock-in and novelty). They find that while existing theories can account for the value creation potential of the internet, greater integration of existing management understanding can produce more appropriate means of theorising digitalising business. Such studies, alongside others (Shapiro and Varian, 1998, Daly, 2001, Afuah and Tucci, 2003) in this early phase of work concerning the digitalisation of traditional management practices (and theorising), while not so much as denying the transformative potential of the internet, are quick to point out that digitalisation does not undermine the fundamentals of running a successful business. This idea grows in

significance when considering how this research perceives digitalisation undermining the fundamentals of musicianship (i.e., running a successful cultural enterprise).

Running parallel to this work in strategic management is a thread of research that emerges from entrepreneurship studies. Consistent with much of the early work under the promising, albeit diffuse label of entrepreneurship studies (Shane and Venkataraman, 2000), initial digital entrepreneurship research focused on identifying characteristics or traits of e-commerce entrepreneurs and ventures. For instance, Feindt et al. (2002) look for success factors amongst high-growth SMEs. Their analysis reveals several traits common to successful e-commerce ventures, such as attention-grabbing content, convenience and ease of use, control of management processes and a high degree of customer interaction. Similarly, Colombo and Delmastro (2001) study entrepreneurial characteristics to understand how success factors for tech start-ups compare with more traditional business settings. Their findings show that internet entrepreneurs tend to be younger and that their digital start-up usually represents their first enterprise and their first forays into the business world.

While digitalisation does not necessarily reflect a wholesale undermining of the fundamentals of management theory, researchers began noticing how business models were evolving to meet the new demands of e-commerce. Kickul and Walters (2002) note how electronic marketplaces necessitate alternative entrepreneurship models. Their research seeks to understand how firms identify and evaluate new business opportunities. They also find that the personalities of individual entrepreneurs play a critical role in influencing how firms implement innovation, build external networks and cultivate productive relationships with employees. These factors are critical to successful entrepreneurial outcomes in e-commerce contexts. Outside of trait-based perspectives but equally concerned with appearance, Baskerville et al.

(2001) theorised that shortening product release cycles in the digital age led to leaner production practices and business models. In this instance, the outward appearance of the firm was changing, but the quest for greater efficiencies is nothing new in the business world.

5.1.2 E-ENTREPRENEURSHIP & WEB 2.0

A second discernible phase in the development of digital entrepreneurship research can be identified and is more directly concerned with e-entrepreneurship as a distinct entrepreneurial phenomenon and builds upon these early insights (Zaheer et al., 2019). While research in the first phase also discussed the growing influence of digital technologies in enterprise and innovation, in this later phase, research seriously considers e-entrepreneurship as a novel entrepreneurial phenomenon rather than a mere online extension. For example, Kollmann (2006) develops the concept of electronic value chains demonstrating how firms can create value not only through physical activities but also on an electronic level. Elements of digitalising value-adding activities are incomparable with analogue precedents, particularly concerning how information becomes a new form of saleable product. Comparably, Carrier et al. (2004) conceptualise the cyberentrepreneur as someone whose venture is founded entirely upon the premise of e-commerce and uses internet technologies to generate revenue through online networks.

Further, Coleman and O'Connor (2007) study several Irish software developers to understand how tech firms work to improve their production processes. They find that while companies are tailoring their processes to fit their operating context, most innovation occurs reactively in responding to external stimuli such as competition and new technological developments. In contrast with earlier iterations, research in this era

begins entertaining the idea that digital and internet technologies may produce novel phenomena contrary to received business-management logic.

The rise of e-entrepreneurship exemplifies that much of what was once physical has already been or is being digitalised (Hull et al., 2007). This idea means that, while the entrepreneurial drive to digitise content persists, new ventures seek to digitise business processes in servicing the growing number of internet users. Nevertheless, scholarship surrounding e-ventures of this era (i.e., Web 2.0) remains wedded to the idea of a user base still tied to their desktop computers. In practice, however, novel internet technologies such as broadband and smartphones, coupled with the growth of social media and user-generated content, were beginning to inform how the internet will be in the future; that is, mobile and interactive.

Today's age of ubiquitous computing requires new approaches to understanding digital phenomena. The following section will review more recent theoretical and conceptual developments in this vein, looking more in-depth at the current state of digital entrepreneurship research following the seminal interventions of Satish Nambisan (2017) and Autio et al. (2018), amongst others. This section has provided a brief overview of the foundations of digital entrepreneurship research from early internet theorising in strategic management and entrepreneurship. These early examples are limited in their narrow conceptualisation of the internet and digital technologies as mere tools or strategic addenda to orthodox (analogue) business practices. Nevertheless, in recent times, theorists have begun to consider (more seriously) that the digital revolution can produce unique, distinctive phenomena requiring novel theorising and re-conceptualisation.

5.2 DIGITAL ENTREPRENEURSHIP & UBIQUITOUS COMPUTING

The field of digital entrepreneurship today extends from Nambisan (2017), who theorises how digitalisation has rendered entrepreneurial processes and outcomes less bounded and more unpredictable. That is, ‘a shift from discrete, impermeable, and stable boundaries to increasingly porous and fluid boundaries’ (Nambisan, 2017 pp. 1029-1030). Less bounded outcomes relate to the structural boundaries of a digital enterprise (i.e., the features, scope and market offering of a product or service). Digitalisation allows for greater flexibility in products and services by separating medium from contents and form from medium, making entrepreneurial outcomes always incomplete or in-the-making (Kallinikos et al., 2013, Nambisan, 2017, Autio et al., 2018). Less bounded processes relate to the breaking-down of spatial and temporal boundaries of entrepreneurship (Nambisan, 2017). Digitalisation blurs the boundaries between when and where entrepreneurship can occur and transcends existing distinctions between phases of an entrepreneurial journey. This shift means that, today, entrepreneurial processes experience greater unpredictability and nonlinearity in how they unfold (Nambisan, 2017).

Digitalisation has also led to less predefinition in the locus of entrepreneurial agency (Nambisan, 2017). Less pre-definition in the locus of entrepreneurial agency refers to a digitally-enabled shift from predefined, focal entrepreneurial agents to a dynamic collection of actors (i.e., broader, more diverse, and continuously evolving) with varied goals, motives and capabilities. Modern digital infrastructures such as crowdfunding and social media platforms have resulted in more collective forms of opportunity formation and value creation. Such transformations to traditional understandings of entrepreneurship render extant theorising limited, requiring significant reformulation in

the digital era. In response, Nambisan (2017) attempts to furnish entrepreneurship theorising with a new approach which integrates digital technology-related concepts, constructs and perspectives with existing ones already studied in entrepreneurship, termed the digital technology perspective of entrepreneurship.

The digital technology perspective considers how digital technologies are multi-layer structures; constituted by the coalescence of digital platforms, digital infrastructures and digital artefacts. These factors (and other non-digital factors) combine to form the broader entrepreneurial ecosystem. The digital technology perspective of entrepreneurship, or digital entrepreneurship, has become popular in entrepreneurship studies, recognising the wholesale transformation of entrepreneurial processes (generally) and not just limited to online or digital ventures.

Autio et al. (2018) further develop the notion of entrepreneurial ecosystems (Nambisan and Baron, 2013) and introduce the concept of affordances into theories of digital entrepreneurship. Nambisan's (2017) intervention draws attention to the unique characteristics of digital technologies and how they actively shape and condition the nature of entrepreneurship. Entrepreneurial ecosystems are a distinctive phenomenon of the digital economy, a category of entrepreneurial cluster in which technological affordances facilitate entrepreneurial opportunity pursuit by new ventures characterised by ongoing, radical business model innovation. Autio et al. (2018) also introduce the concept of (technological) affordance to digital entrepreneurship.

Studying entrepreneurship (i.e., entrepreneurial ecosystems) from the perspective of affordance allows researchers to focus on or isolate the unique properties of a given environment and theorise how these properties play a role in shaping or conditioning entrepreneurial practices (and processes) that happen within their (porous)

boundaries. Digital affordances combine with spatial affordances (i.e., proximity related) to support distinctive environmental dynamics. Digital entrepreneurship research locates this phenomenon's physical expression in the practices constituting new ventures' creation (formation) and strategic growth (i.e., scaling up). The relationship between spatial and digital affordances is another valuable way of conceptualising the digitalisation of musicianship. Using these terms, the autoethnographic vignette which opens this thesis translates easily into a case of privileging the exploitation of digital over spatial affordances in band strategizing.

Digitalisation and developments in communications technologies have resulted in leaner business models (and practices). This idea was noted already in section 5.1. However, what distinguishes this more recent phase of digital entrepreneurship theorising – alongside the digital technology perspective, entrepreneurial ecosystems and digital affordances – is researching what has been termed the lean revolution in business management (Ries, 2017). The lean revolution refers to business model innovation, specifically the lean start-up; a faster, smarter methodology for launching an enterprise, threatening to make orthodox business plans obsolete (Blank, 2018). Once again, perfecting the craft of content production while the band was on tour (i.e., autonomising it) also translates into a lean business model.

Lean start-ups combine agile development practices and manufacturing processes (Ghezzi and Cavallo, 2020) with experimentation and iteration (Zaheer et al., 2019). Much the same as in the early years of internet entrepreneurship and digital strategic management, the most impactful literature in this stream comes from those investigators (and industry insiders, consultants) interested in searching for the best tools, models or best practices to rapidly conceptualise business models that incorporate iterative collaboration and reduced risk (Osterwalder and Pigneur, 2010,

Ries, 2017, Blank, 2018). There are also examples of academic researchers taking a similar approach: privileging practice over theory (Trimi and Berbegal-Mirabent, 2012, Ghezzi, 2019, Ghezzi and Cavallo, 2020).

We also see that the fascination with business model innovation in the digital age is mirrored in the field of Information Systems Research (Bharadwaj et al., 2013). Scholarship in this field develops an understanding of how the lean start-up model applies in the digital economy (Zaheer et al., 2019). For example, Duc and Abrahamsson (2016) elaborate upon the concept of the minimum viable product (MVP): products with just enough functioning features to facilitate learning (i.e., user data which influences future development). The MVP increasingly becomes the focus of business strategy and product development in software industries (particularly in the early stages of new venture formation). Furthermore, these business model innovations, which increasingly originate in digital contexts, are increasingly mirrored or appropriated in (seemingly) unrelated industrial contexts (think customer service chatbots used to prop up creaking customer service departments). Today, the core focus of digital entrepreneurship research is understanding how the ongoing development of digital technologies impacts business practices (in terms of new venture formation or business model innovation) and how these practices co-evolving with the fluid and shifting technological landscape.

To summarise, this research considers a stage of digitalisation in which applying digitising techniques to ever broader social and institutional contexts has rendered entrepreneurial processes and outcomes less bounded and more unpredictable. Technological developments are blurring the boundaries between when and where entrepreneurship can occur, transcending any pre-existing distinction between phases of an entrepreneurial process and unfolding with greater unpredictability and

nonlinearity. Digital technologies also amplify the distributedness of entrepreneurial processes, meaning digital entrepreneurship researchers must refocus their attention away from established, pre-defined (focal) entrepreneurial agents to a more dynamic collection of spatially dispersed and differently motivated actors.

Studying this phenomenon necessitates an eco-systemic approach. Entrepreneurial ecosystems consist of digital technologies (i.e., the digital technology perspective), multilayer structures assembled in a fluid constellation of digital artefacts, digital platforms and technological infrastructures. Digital entrepreneurship research portends to continually integrate new technology-related concepts, constructs and perspectives in explaining these changeable entrepreneurial phenomena. The affordance-based perspective of digital entrepreneurship shows how within entrepreneurial ecosystems, digital affordances coalesce with spatial affordances resulting in novel and distinctive environmental dynamics. Such dynamics are essential in business model evolution as the technological landscape is in flux. The lean revolution originated in the software industry but became increasingly evident as agile practices spread across previously distinct industrial settings, where once-extreme business models such as the MVP are de rigueur.

5.3 KEY ELEMENTS OF DIGITAL ENTREPRENEURSHIP

The preceding discussion, tracing the development of digital entrepreneurship, presents the case for complementing the cultural study of entrepreneurship with a digital technology perspective. Section 2.2 of this chapter presented a review of contemporary cultural entrepreneurship theorising. Cultural entrepreneurship, or the

distributed, intertemporal processes of cultural making (Gehman and Soublière, 2017), determined a suitable theoretical home for this research to develop an understanding of contemporary music production practices. However, the discussion found that while cultural entrepreneurship theory and its related concepts and assumptions provide a good grounding for speaking of transformations in cultural (production) practices, the field was lacking in its account of the impacts of digital technologies.

The review of digital entrepreneurship (above) helps devise a more appropriate, more sophisticated account of the digital to infuse contemporary insights into cultural entrepreneurship with theoretical means of explaining contemporary cultural production. The frameworks provided by Nambisan (2017) – the digital technology perspective – and Autio et al. (2018) – digital affordances and entrepreneurial ecosystems (Nambisan and Baron, 2013) – can be utilised to concretise the theoretical research question further. Section 2.3 reviewed the key elements of cultural entrepreneurship and applied them to the empirical research question – how is music-making transformed in the digital age? This effort produced one overall theoretical research question:

> How are processes of cultural entrepreneurship being transformed in the digital age?

The following three sections will each review an essential element of digital entrepreneurship (i.e., digital technology perspective, digital affordances and entrepreneurial ecosystems) to assess the extent to which digital entrepreneurship (theories and concepts) can contribute to our understanding of musical production (i.e., of cultural entrepreneurship).

5.3.1 THE DIGITAL TECHNOLOGY PERSPECTIVE

The digital technology perspective draws necessary attention to the constitutive elements of the digital, responding to an observed lack of technical sophistication in extant internet business theorising (Nambisan, 2017). Digital technologies have rendered entrepreneurial processes and outcomes less bounded. Digital technologies have also led to less pre-definition in the locus of entrepreneurial agency. Digitalisation has allowed for greater flexibility in products and services by separating the medium from contents and form from medium, making entrepreneurial outcomes incomplete or in the making (Kallinikos et al., 2013, Nambisan, 2017, Autio et al., 2018). Think about buying a new laptop, for example. The machine you purchase will come with a specific operating system installed. The computer I am working on came pre-installed with Windows 10, but when purchasing the laptop, I was promised a free update to Windows 11, the latest OS due to be released imminently. While the machine I bought remains more or less the same, the new OS marks an essential change to the product I bought, infusing it with the latest technology and functionality.

Another example would be your Netflix subscription. The service remains the same today as when you first began your subscription. However, the content is changeable as titles are dropped from the service and new ones are released. That movie you were excited about and saved to your list but never quite got the time to watch is no longer there. To answer questions about digital transformation and probe this more profound ontological concern, we must begin explicitly theorising about digital technologies and their characteristics, infusing existing entrepreneurship theories and concepts with more technical insights (Nambisan, 2017).

Digital technology consists of digital artefacts, digital platforms and digital infrastructure. Digital artefacts consist of components, applications, or media content which can exist as a standalone product or service or as part of a platform. Platforms are shared digital services hosting an array of complementary digital offerings, including artefacts and infrastructure as tools and entrepreneurial support systems. Adopting a digital technology perspective makes it possible to isolate the role of the digital in entrepreneurial processes. Drawing on Nambisan's conceptualisation, we can rephrase the research question(s):

> How are digital technologies (digital artefacts, digital platforms and digital infrastructures) affording processes of cultural entrepreneurship within contemporary entrepreneurial ecosystems?

5.3.2 DIGITAL AFFORDANCES

The digital technology perspective draws attention to the unique characteristics of digital technologies (Nambisan, 2017). Autio et al. (2018) furnish the digital technology perspective with conceptual means of understanding how the unique characteristics of the digital actively shape and condition the nature of entrepreneurship and entrepreneurial processes. The concept of affordance originates in ecological psychology, in the work of Gibson (2014), who sought to supersede orthodox representational models of understanding the subject-object relation. Representation models of subject-object relations (cognition) held an inferential view of perception; that is, symbols (i.e., representations, signs) require pre-knowledge of the object in order to recognise (i.e., disambiguate) its meaning. This view models perception into a three-term system; subjective positionality vis-a-vis the object, the object itself and its representation cognized by the seeing (using? knowing?) subject. For example,

how the words on this page reflect onto your eyes before being recognised (processed) by your brain. The retina or eyeball (medium) becomes a core component.

Gibson, however, felt that this view centred undue analytic focus on the mediating component. Instead, Gibson's concept of affordance operates under a direct perception model where subjects are not always reliant on pre-existing knowledge but can draw upon contextual cues to guide action. Affordances of a given (technological) environment are what it offers, provides or furnishes, good or ill; affordance refers to a subject situated in a contingent environment, implying the complementarity of subject and object (context) (Gibson, 2014). Affordance-based perspectives abound in contemporary humanities research. The context of digitalisation reflects a complexifying dynamic that fundamentally affects the relationship between subjects and objects. Research seeking to understand this changing relationship - unfolding rapidly before our eyes – would do well to focus on the role of technological media in this evolving milieu.

Analysing the affordances of these objects uncovers that the social dynamics of technology are inherently political, and this politics unfolds (i.e., takes shape) in practices and action; through interaction with human subjects. More specifically, affordances are how objects take shape. It is important to state that technologies do not make people act in a certain way; more accurately, they nudge or encourage desired behaviour and practices; they push, pull, enable and constrain (Davis, 2020).

5.3.3 ENTREPRENEURIAL ECOSYSTEMS

Recall that entrepreneurial ecosystems are a distinct type of entrepreneurial cluster that specialises in harnessing the technological affordances of digital technologies and

infrastructures. Digital affordances derive from the technical architecture of digital infrastructures and support an economywide redesign of value creation, delivery and capture processes (Autio et al., 2018). Spatial affordances support cultivating and disseminating (cluster-level) architectural knowledge of a business process. That is a shared understanding of effective business practices (business model innovation, start-up and scale-up). Autio and colleagues (including Nambisan) look to distinguish entrepreneurial ecosystems and digital affordances from traditional enterprise clusters, such as incubators and venture accelerators. Primarily, entrepreneurial ecosystems can be distinguished through an emphasis (in practice) on the exploitation of digital affordances and business model innovation; both of which influence the organisation of entrepreneurial opportunity; discovered or created (Autio et al., 2018).

Entrepreneurial ecosystems are a distinctive phenomenon of the digital economy, a category of entrepreneurial cluster in which technological affordances facilitate entrepreneurial opportunity pursuit by new ventures characterised by ongoing, radical business model innovation. While entrepreneurial ecosystems invariably incorporate structures that evolved in the pre-digital era, a digital technology perspective (Nambisan, 2017) can generate important insights into how they function. Therefore, to understand contemporary entrepreneurial ecosystems, researchers must first understand how digitalisation and the unique properties of the digital shape value creation processes in both economic and socio-behavioural terms. Once again, we can continue to draw lines of comparison between cultural and digital entrepreneurship. While entrepreneurship at heart is a process of value creation, both fields relevant to this research are keenly interested in how extra-economic factors shape value production and, equally, what value consists of, how value is measured and, or recognised.

5.4 GROUNDED PROBLEMATIZATION

5.4.1 DIGITAL ENTERPRISE AND THE TECHNOLOGICAL DIVIDE

The discussions above demonstrate how digital entrepreneurship theorising has increased in sophistication as digital penetration deepens and technologies become increasingly complex. Nevertheless, this complexity is often overlooked as the mass dissemination of digitally enabled devices with internet connectivity sees popular discourse herald digital entrepreneurship as a means to economic empowerment or greater economic participation for under-resourced and socially marginalised people (Martinez Dy et al., 2018). Such emancipatory rhetoric rings shallow as evidence mounts of a growing evidence digital divide (Van Dijk, 2020) between the information rich and poor (Berry, 2008). Most existing examples of digital entrepreneurship theorising rests upon a flat ontology that does not fully consider the enabling conditions needed for a successful digital enterprise (Martinez Dy et al., 2018).

A striking example of this from the data was Lola, whose story stood out in the research. Lola's story perhaps exposes a largely hidden subset of artists who struggle to understand technical processes often taken for granted by most artists, most of whom have received formal training in music technologies.

Lola is (primarily) a solo artist; her uniquely powerful singing voice is matched only by her idiosyncratic style of guitar playing. Self-taught, she rarely employs recognised tunings but instead exploits the dynamic range of possible harmonisation made possible through the (detuned) guitar. With delicate fingerpicking and a fluid left hand, Lola plays by feel rather than with practice or received technique. She learnt by looking up songs she loved on UltimateGuitar.com, at first, but later using YouTube:

> I just sat there and taught myself how to read the chords, and just did it […] working out where me fingers went!.

When we speak, Lola is partway through a bachelor's degree in popular music she started during the pandemic, meaning her first year of study was almost entirely online. While she regrets not being able to spend more time in the studio during her course so far, it has helped familiarise Lola with the use of musical production software, which she was able to work on from home.

Lola recalls feeling out of the loop, overlooked and sometimes embarrassed in the studio recording her work, not knowing what the producers were talking about when discussing field-specific actions and processes. She felt her lack of technical knowledge and language stifled her creative vision. She could not create what she wanted because she could not express it as a professional producer would understand. Furthermore, due to Lola's unfamiliarity with the technicalities of record production, essential information was lost in translation. Therefore, She has taken it upon herself to do a degree in music production to realise her creative vision more authentically or at least autonomously.

Lola's drive for autonomy in her musicianship is familiar to many of the musicians I spoke to during my fieldwork. However, the autonomous potential of digital technologies is always curtailed by the musicians' capacity to acquire the requisite tools and develop the dexterity to master them. In other words, entrepreneurial ecosystems afford, but they never afford equally; it is not simply a matter of affordance alone. It is on the entrepreneur (or the role of entrepreneurship) to realise the potential of digitalisation.

According to Martinez Dy et al. (2018) the widespread adoption of information and computing technologies has, in recent years, popularised a notion of increased entrepreneurial possibility in the digital age. Because digital ventures – it is assumed – require minimal resources to create and operate – digitalisation facilitates enterprise and, by extension, is expected to enable greater economic participation for socially marginalised people, creating broader economic benefits. Furthermore, successful digital entrepreneurs feature heavily in online news and print media, and leading digital platforms encourage such activity (Martinez Dy et al., 2018).

> With low entry barriers, no required qualifications and no application process, attainment is assumed to pivot upon the energy, determination and innovation of the individual to identify and enact opportunities; success is, therefore, seen as an indicator of individual effort made manifest through the auspices of neoliberalism. Critics, however, dispute the notion of entrepreneurship as a meritocracy, arguing that the realisation of entrepreneurial potential through successful new ventures is dependent upon the resource base of the firm [a]ttainment is fuelled neither by ingenuity nor agency alone, but by resource accrual. (Martinez Dy et al., 2018)

Despite this, very little evidence concerns the effects of participating in digital entrepreneurship, particularly for marginalised and disadvantaged people more likely to experience structural barriers. In other words, critiquing the popular claim that digital entrepreneurship represents a pathway to emancipation lacks empirical support (Martinez Dy et al., 2018). Nevertheless, the trend within entrepreneurship studies to neglect structure in favour of agency limits the explanatory capacity, as shown in both this study and others drawing on critical realism to consider structure and agency in more depth. Critical realism (section 1.3) and a depth (or layered) ontology allow us to answer questions of how social structures enable or constrain entrepreneurship and

to what extent the agentic use of technology enables structural barriers to be overcome (Martinez Dy et al., 2018).

Their study (Martinez Dy et al., 2018) finds, much the same as here, that while digital technologies do offer the potential for improving work efficiency and scalability, they do not fundamentally alter the basic resource requirements for new ventures. Instead, the nature of resources required has shifted in the digital age, and while rental costs for physical premises may have reduced, costs for developing and maintaining a web presence and distributing and marketing goods have taken their place. While making and marketing a record from home may be possible, it is a very different story when trying to generate steady revenue.

Recent work by Nambisan and Baron (2021) also begins to somewhat deepen the assumptions of digital entrepreneurship studies by considering the costs of digital entrepreneurship. While digital platforms and entrepreneurial ecosystems provide a promising new environment for entrepreneurs, engaging in digital entrepreneurship produces stress which arises out of role conflict between the two positions digital entrepreneurs must maintain; they must simultaneously manage to be a member of the ecosystem and a new venture leader. The conflict between several roles for the same person that require different or incompatible behaviours and expectations engenders the downside of digital entrepreneurship.

As a member of an ecosystem, a digital entrepreneur must work within the vision, goals, and structures set forth by the ecosystem leader, which requires that the venture's goals, priorities and strategies align well with those of the ecosystem. Simultaneously, as a venture leader, the digital entrepreneur must secure a long-term survival of the new venture independent of the fortunes of the particular platform

calling for sufficient differentiation of the venture's value proposition and market strategies vis-à-vis those of the platform and the adoption of technology and business goals that would help sustain the new venture even if the particular digital platform declines (or fails). In other words, digital entrepreneurs must consider potential conflicts between what success means for the ecosystem and what it means for an individual member (Nambisan and Baron, 2021).

In response, Nambisan and Baron (2021) propose that the degree to which the technology and governance structure of the ecosystem is open or closed mediates the impact of role conflict. This source of role conflict is a factor unique to digital platform ecosystems. Openness refers to how the digital ecosystem affords entrepreneurs freedom concerning their venture-related decisions and actions. The stress caused by role conflict can be effectively dealt with through self-control (Nambisan and Baron, 2021). That is, digital entrepreneurs must adopt a problem-focused strategy for handling stress.

Despite constant reference to ecosystems, the analysis here (Nambisan and Baron, 2021) still rests upon isolated platforms. The examples in this paper focus on software developers who may only develop programmes specialising in one platform, one programming language or for particular purposes or hardware, and so on. Essentially, there is a trade-off between playing by someone else’s rules and achieving optimal distinctiveness (Nambisan and Baron, 2021).

If we think back to the model of musicianship presented in section 4.3.2, we see that this idea of role conflict is nothing new for musicians who must balance authenticity with popular commercial appeal. Nevertheless, the sense of melancholy and diminished autonomy (i.e., creative freedom) which emanates out of theme 3 (section

4.2.3) would suggest that there is something deeper which means existing stresses (or pressures) of musicianship co-mingle with the stresses (or costs) of digital entrepreneurship (in terms of additional role conflict) and are amplified in the digital age; exaggerated perhaps but at least certainly made more visible.

The following discussion turns to the growing body of work in management studies which also becomes increasingly aware of the potential downsides of digitalisation. Introducing the concept of alienation contributes to these existing perspectives. Drawing upon critical theory, it becomes possible to problematise the issue of digitalisation further by assuming that stress and role conflict are built-in features and represent contradictions that cannot simply be meditated (or wellness apped) away.

5.4.2 DIGITALISATION AND SOCIAL ALIENATION:

The critique of digital entrepreneurship studies developed in the above section – i.e. that digital entrepreneurship relies upon a flat ontology - misses significant structural barriers delimiting the entrepreneurial capacity of enterprising agents. However, this critique can be taken one step further. The fundamental concepts of digital entrepreneurship produce more refined research questions, as performed in section 4.3. However, problematising the core assumptions which underlie much digital entrepreneurship research (section 4.4.1) opens this research up (once again) to alternative (or conflicting) explanations. Interrogating a given topic or issue using several competing viewpoints (or theoretical perspectives) is generative in producing critical realist knowledge (see section 1.3.2 for more detail).

The following, therefore, introduces a reading of digitalisation that can help reposition this investigation, adding critical nuance to the formulation of digitalisation outlined in

section 1.3.1. Here, we introduced digitalisation as (the process of) applying digitizing techniques and logic to broader aspects of social organisation. This formulation is nevertheless accurate but, as has become clear, also rests upon a flat ontology in leaving this process's value or broader implications unquestioned. Note how, throughout theory retroduction, the discussions have moved from understanding the musician-in-context towards seeking a more sophisticated means of theorising the context. Alternatively, Berry defines digitalisation as the simplification and standardisation of the external world so that it can be stored and manipulated within code (Berry, 2016 p. 54). Whilst this definition reads very similarly to that adopted by digital entrepreneurship scholars (describes the same phenomenon), the inclusion of terms such as simplification, standardisation and manipulation suggest an added degree of nuance and understanding missing from digital entrepreneurship studies and missing precisely because of this narrow or flat framing. In other words, with this approach, we are using a more informed conceptualisation of the context (i.e., digitalisation) to re-read the practices of musicianship and build understanding in this way.

Digital entrepreneurship similarly neglects the growing influence of inhuman power (Dyer-Witheford et al., 2019) in the form of artificial intelligence and machine learning algorithms fundamentally transforming the entrepreneurial process. Today, artificially intelligent agencies become essential actors in gatekeeping, processes of legitimation, management and organisation (Kellogg et al., 2020, Lindebaum et al., 2020). Ongoing digitalisation is a sociotechnical process of applying digitising techniques to increasingly broad contexts and is constitutive of broader, longer-term processes of techno-economic shift. In the past, a techno-economic paradigm shift would typically occur every half-century. A techno-economic paradigm shift refers to the emergence

of interconnected technological breakthroughs that fundamentally transform patterns of industrial activity and economic organization (Autio et al., 2018). Such processes are also seemingly subject to acceleration (Rosa, 2013) and intensification (Jameson, 1998, Fisher, 2009), meaning theoretical assumptions, concepts and constructs (frameworks) conceivably become outdated or irrelevant at an increasing rate. Recent work in management studies is becoming increasingly attentive to the seriousness of issues relating to rapid technological development. Lindebaum et al. (2020), for example, draw upon E. M. Forster's classic short story The Machine Stops illustrates the process of human enfeeblement.

In this story, the machine, which has come to satisfy humanity's every want, need and desire, slowly begins to break down. The destruction of this world backgrounds the story of Kuno, whose longing for maternal nurture forces him out of his chamber to find his mother and feel her embrace. Over the generations, since some undefined natural catastrophe forced humanity to live below the earth's surface, the knowledge of how to operate or fix the machine has been lost. Humanity begins to worship the machine, and when it begins breaking down, nobody can fix it; all anybody can offer are hopes and prayers. The story seeks to polemicize the tendency for over-fetishising the achievements of humanity and provides an early critique of the technologically-determined trajectory of society in the age of machines.

Lindebaum et al. (2020) translate this story into the digital age, where the possibility for machinic agency becomes increasingly real and explore possible consequences for social trajectories drawing upon classic sociological theories of reason and rationality—specifically, Weber's notions of formal and substantive rationality to scrutinise algorithmic decision-making. Formal rationality refers to means-end calculation towards the ultimate maximisation of outcomes. Substantive rationality,

conversely, refers to subjective decision-making, i.e., decision-making which flows from individual decision-maker's personal qualities and experiences or situational idiosyncrasies' (Lindebaum et al., 2020, p. 4). Algorithms are supercarriers of formal rationality because algorithms rely upon formal rationality. After all, their decision-making logic flows directly from calculations that favour maximising total outcomes.

Secondly, algorithms reinforce formal rationality in their domain of application (Lindebaum et al., 2020, p. 7). Authority is increasingly expressed algorithmically (Pasquale, 2015). The crystallisation of formal rationality 'sets in motion a process driven by best intentions, but in doing so, it transforms from a heuristic that informs what one can do best in a particular situation into a rule that invariably applies to all situations [which] progressively numbs human capacities for [the] reflexivity and disobedience that can inspire and empower us normatively toward a future that is worth living' (Lindebaum et al. 2020, p. 29).

From Marx through to the multitude of critical approaches that exist today, it is often thinkers in these traditions that profess the loudest to be the intellectual vanguard in the fight-back against the enfeeblement of humanity via the diminished capacity for substantive reason. The concept of alienation and championing a humanist form of reason in the face of increasingly machinic, instrumental rationality is the very foundation upon which Marxist critique is premised but has fallen out of favour in recent times:

> For the concept of alienation—a product of modernity through and through—presupposes, for Rousseau no less than for Marx and his heirs, a conception of the human essence: whatever is diagnosed as alienated must have become distanced from, and hence alien to, something that counts as the human being's true nature

> or essence. Philosophical developments of the past decades on both sides of the Atlantic have put an end to such essentialist conceptions; we now know that even if we do not doubt the existence of certain universal features of human nature, we can no longer speak objectively of a human "essence," of our "species powers," or of humankind's defining and fundamental aims. One consequence of this theoretical development is that the category of alienation has disappeared from philosophy's lexicon. And nothing signals more clearly the danger that Critical Theory might become obsolete than the death of what was once its fundamental concept (Honneth, 2014 vii).

Neoliberalism's supposed freeing of the enterprising individual closely aligns with the freeing of subjectivities in postmodernism, i.e., from any constraining idealisms of essentialist theory (Hall, 2011). However, as the potentially totalising nature of digitalisation becomes increasingly apparent, identifying what is human in an age of intelligent machines re-emerges as a vital concern at a time where multiple and competing crises jostle for scholarly attention and policy formulation.

Within the field of management and organisation studies, there is increasing attention towards theorising the problem of digitalisation (Beyes et al., 2022). As discussed, Lindebaum et al. (2020) use a Weberian lens to interpret digitalisation, while others turn to Bourdieu (Alaimo, 2022), Gramsci (Steinberg, 2022) and Gregory Bateson to think more ecologically about the digital (Márton, 2022, Mikołajewska-Zając et al., 2022). Examples within mainstream management studies of researchers drawing explicitly upon critical theory and the Frankfurt school are few and far between. While most implicitly share an assumption that the development of digital technologies harbours the potential for catastrophe, few are willing or able to interpret digitalisation using critical theory in mainstream management outlets (Beverungen et al., 2019,

Lindebaum et al., 2020, Beyes et al., 2022). Critical theory sought to understand why something as abhorrent as the holocaust was possible in a world of best intentions and the maximisation of total outcomes. If digital technologies are harbouring the potential for existential catastrophe in the form of best intentions gone awry, then the thought of the Frankfurt school is perfectly attuned to diagnosing the problems and pathologies of digitalisation.

Drawing primarily upon the work of David Berry (Berry, 2008, 2015, 2016) but also infusing key concepts with detail from their original thinkers, the following section outlines a critical alternative to the flat ontology assumed in existing digital entrepreneurship research (Martinez Dy et al., 2018). The problem of digitalisation is much deeper and more complex than its shallow conceptualisation in digital entrepreneurship studies belies. Addressing this, we can turn to the digital humanities research field in seeking critical explanations for the social phenomena emerging today in an age of ubiquitous computing.

5.5 TOWARDS GROUNDED RE-CONCEPTUALISATIONS I

In responding to the empirical findings of the previous chapter, this chapter reviews the field of digital entrepreneurship studies. This chapter began by tracing the development of digital entrepreneurship studies from its origins in strategic management (5.1.1), where leading business thinkers (Porter, 2001) sought to allay common fears that the digital revolution would make traditional management theory obsolete (section 5.1.1). The advancement of digital technologies in recent decades

has seen the field evolve alongside it in trying to keep pace with the latest developments (5.1.2).

Section 5.3 introduces the digital technology perspective of entrepreneurship (Nambisan, 2017), drawing upon insights from more technologically sophisticated disciplines (Yoo, 2010, Kallinikos et al., 2013)to imbue entrepreneurship studies with more advanced means of theorising entrepreneurial phenomena in the digital age. The notion of entrepreneurial ecosystems complements this perspective that existing spatial affordances fuse with digital affordances to create new possibilities for enterprise (Autio et al., 2018).

However, returning to the data as incorporating more recent contributions to digital entrepreneurship studies, we see that the digital technology perspective – as currently formulated – rests upon a flat ontology which is blind to – or remains ignorant of – the many structural barriers delimiting entrepreneurial potential (Martinez Dy et al., 2018). Discussions throughout section 5.4 begin questioning the explanatory capacity of digital entrepreneurship and suggest this research adopts a more radical approach in explaining the findings in my complicated third theme (4.2.3).

CHAPTER 6: CONCEPTUAL REFINEMENT

This chapter introduces a critical theory of the digital (Berry, 2015) which helps elaborate upon social alienation in the digital age. Two key ideas emerge: the softwarization of society and the reification of everyday life. Section 6.1 describes these concepts drawing primarily from the work of David Berry, who translates the thought of the Frankfurt School to produce a critical theory of the digital. Armed with these new explanations, the retroductive process takes us back to the business school in reframing these findings as contributions to management theory.

6.1 A CRITICAL THEORY OF THE DIGITAL

Central to a critical theory of the digital is considering the role of computation as a constituent part of the social totality (Berry, 2015, 2016). Digitalisation (i.e., computation) is a social phenomenon that is accelerating in its growth and ubiquity, adding to the complexity of theorising the digital adequately:

> Questioning the digital or what we might call the *computal*, [creates] the possibility of thinking in an age when thinking is increasingly being delegated to the machines. As our societies are increasingly becoming computational, and with it the attendant tendency of computational systems to reify all aspects of everyday life, it is crucial that we attend to the mechanisation of reification and the dangers presented when these processes crystallize into systems, institutions and consciousness itself. This

> reified world is ‘smart’, digital and is increasingly colonised by computationally enhanced networks, objects and subjects (Berry, 2015 p. 1).[13]

In other words, digitalisation is the transition from the analogue world; a world structured according to delimiting factors such as material constraints of physical boundaries – to the digital; ‘a computational, real-time streaming ecology that is reconfigured in terms of digital flows, fluidities and movement’ (Berry, 2015 p. 1). Referring back to the unfolding of the digitalisation of music in three waves (section 1.2.1): we are reconceptualising the digital from something static or object-like in order to study processes of digitalisation (in much the same way that we are seeking an understanding of the digitalisation of processes of cultural making or, the role of digital technology in digitalising processes of entrepreneurship). The very constitution of the digital world is, in essence, a process: a process of computation. The existence of a digital object may imply a stable representation, but behind the screen is ‘a constant stream of processing, a movement and trajectory, a series of lines that are being followed and computed’ (Berry, 2015 p. 2). Think about how social media, every time you open up the app on your phone, what you see is new or different to what was there last time you checked. The items which make up your newsfeed are increasingly fleeting, most occupying your attention for less than a second. These real-time experiential technologies are today mediating more and more aspects of reality.

Studying something unfolding this way becomes impossible without appreciating its transitory, processual nature (Berry, 2015). This fluidity and unpredictability (Nambisan, 2017) only reaffirm the suggestion made earlier in this text (section 1.3) that this study is also an unfolding process, and the picture painted in these pages can

[13] Emphasis in the original.

only ever hope to be a snapshot of the retroduction at the moments leading up to the penning of this final draft.

Computation transforms knowledge creation, use, and sharing, transforming the relationship between knowledge and freedom. The computational industries raise production to the level where the consideration of economic abundance and abolishing material necessity becomes possible (Berry, 2015). Think of how some science-fiction stories and Hollywood movies such as Ready Player One situate solace and satisfaction in virtual fantasy worlds as the real world crumbles around the protagonists under the weight of overpopulation or ecological breakdown. In the age of surveillance capitalism (Zuboff, 2018), computational overproduction becomes an end in itself, stripping cognitive capacities, both material and social, through technologies of anticipatory computation and service personalisation powered by algorithms and machine-learning technologies (Berry, 2015, Lindebaum et al., 2020):

> The capitalist system is increasingly softwarized (or becoming digital) and also that software increasingly becomes a replacement (restructures) the previous mnemono-technologies, like paper and film. Indeed, it can be said that we live in a post-industrial knowledge work society created by the management of and through, media […] further, by separating content from both form and materiality, post-industrial knowledge work initiated variable standardisation: standardisation through databases, and variability through the different interfaces that draw upon the database. These imply the formatting of social life through the use of computational technologies, influencing both the economy and the lifeworld more generally […] The digital has become the paradigmatic means of explaining what it means to live and work in the post-industrial democracies […] software,

> computation and code define our contemporary situation, becoming part of the metaphors by which it is even possible to think today (Berry, 2015 pp. 18-19).

Nevertheless, as alluded to earlier, looking at code, reading software and understanding it is exceedingly difficult and complex owing to the ephemerality of digital information and the technical skills necessary for total comprehension. A critical theory of the digital, however, contributes analytical tools through a re-articulation of the Frankfurt School critical theory towards algorithms, code and software (Berry, 2015)

The digital mediation of information (i.e., computational knowledge) also calls for a critique of the society producing that knowledge which re-opens debates surrounding the movement of instrumental reason into all aspects of social life. The essence of this critical theory of the digital consists of three components: two interrelated and unfolding processes and the product of these processes. Firstly, the softwareisation of society (section 4.5.1) transcribes Adorno and Horkheimer's classic critique of the culture industry (1997) into the present context of computed experience and computational industries. Secondly, the reification of everyday life (section 4.5.2) recentres an analysis of alienation in digitalising societies. This discussion draws upon Lukács' theory of reification to consider the possible trajectories of digitalisation and what this means for society. The third and final element of this critical theory of the digital relates to the outcome of these two processes: i.e., the softwareisation of society and the reification of everyday life. However, these two processes constitute the overall process of digitalisation. Section 4.5.3 considers what these processes may result in: i.e., what is the nature of reality in a rapidly digitalising world? Progressing from these discussions, which help add conceptual clarity in contextualising this

research, we return to the business school one final time to seek more technologically sophisticated means of theorising the digitalisation of management and organisation.

6.1.1 THE SOFTWARIZATION OF SOCIETY

A softwarized society is one in which society is computed (Berry, 2015). Today, the function and operation of digital technologies are becoming increasingly interconnected and critical to supporting our world. The invisibility or opaqueness of the underlying technologies and an inability to understand how these systems work means comprehensively engaging with the digital becomes a critical task. The digital world 'is one of complex, process-oriented computation systems that take on an increasingly complex heavy-lifting role in society. Without these technologies in place, [our] economies would doubtlessly collapse. Indeed, our over-reliance on digital technology to manage, control, monitor and support many of the aspects of society we not take for granted is predicated on avoiding the kinds of systematic failure and breakdown that occur routinely in computer systems (Berry, 2015 p. 37):

> As our reliance on these technical systems grows the technical groups responsible for these systems grow in importance – such that their rationalities, expressed though particular logics, embedded in the interface and the code become internalised within the user as a particular habitus, or way of doing, appropriate to certain social activities […] Certainly, the norms and values of a society are increasingly crystallised within the structures of algorithms and software, but also a form of rationality that is potentially an instrumentalized rationality and also in many cases a privatized one too. (Berry, 2015 p. 38).

Adorno sees social relations as historically produced, and we should not present them as objects (presented to us for study). Although social relations are constituted by the human individuals that actuate them, they have become illusory and have some form of autonomy. The introduction of computation magnifies the real illusion of social relations, crystallising certain social forms, perpetuating them and prescribing them back onto society and individuals (Berry, 2015). The crystallization of computational structures is apparent in observable (i.e., empirical) events (see section 1.3 for more details about critical realism and theorising mechanisms - i.e., the digital - which generate events in observable reality). This research, as has already been made clear, but can now be stated clearer, conceptualises my experience as a musician at the forefront of these transformations (as well as the experiences of those around me accounted for in the data) as one such manifestation of this crystallisation of digital (or computational) rationality and logics in social practices and organisation.

> Through the introduction of softwarized technical systems… we now appreciate that all around us software is running on digital computers in an attempt to make our lives more comfortable, safer, faster and convenient – although this may conversely mean we feel more stressed, depressed or empty of meaning or purpose due to our new softwarized world. Indeed, it seems more accurate to state that we live in a softwarized society (Berry, 2015 p. 55).

The software we use constitutes a broader constellation of software ecologies that become possible with the plethora of computational (i.e., digital) devices that 'facilitate the colonisation of code into the lifeworld' (Berry, 2015 p. 68). The colonisation of code into everyday life can also be described in terms of the diminished capacity for substantive rationality resulting from digital overdependence discussed in section 4.4.2.

> Software enables access to certain forms of mediated engagement with the world. By being built on physical machinery that is distributed from global cloud data centres to highly mobile intimate technologies, huge logistical questions have to be addressed and solved. This mediation is achieved via the translucent surface interface, of the interactional layer, and enables a machinery to be engaged which computationally interoperates with the world (Berry, 2015 p. 68).

The interactional layer is exceptionally plastic (i.e., malleable and manipulable). Software and algorithms generate a particular notion of truth and falsity or reality and virtual/computed reality. The computational representation of reality (usually in a visual register) can 'hold particular types of visual rhetoric that can be deployed to support or produce preferred readings of the computational as such' (Berry, 2015 p. 70). Understanding the effects of society and social reality increasingly mediated by digital technologies becomes an important topic this research seeks to address. This task requires considering not only how surface interfaces are involved in generating a sense of visible truth but also how this truth (i.e., computational or cloud truth) 'is delivered from the truth machines that lie somewhere on the networks of power and knowledge' (Berry, 2015 p. 70).

Relating this idea to the findings from initial rounds of data analysis, we can see that the empowerment of musicianship afforded by digitalisation belies a shallow (or flat) conceptualisation (3.4). Digitalisation has, in many ways, feed the musician, i.e., music-making - from the constraints of the analogue world. Nevertheless, continuities in the processes of making money from music (Hesmondhalgh, 2020) betray the idea of a digitally emancipated (Martinez Dy et al., 2018) musicianship (if we consider musicianship as a holistic term for practices of music making – see section 3.4.1 for the model of musicianship). In a softwarized society (Berry, 2015), the link between

power and visibility becomes increasingly important as ownership and control over what we see of the world are concentrated in fewer individuals' hands (Berry, 2008).

The softwarization of society also results in the aggregation of human beings through software (Cramer, 2015). That is, treating human beings as components or objects of a computational system. This form of thought is prevalent in computational design:

> Computation allows tasks to be broken down into small fragments that, using networked computational technology, can be distributed literally around the world and farmed out as piecework to workers for a few pence per job. This ‘on-demand crowd work’ allows a radical division of labour of informational and knowledge-based work. Workers’ labour power is literally incorporated and mediated through the software. This is a discretization of human activity, but it is also the dehumanization of people through a computation layer used to mediate the use of social labour more generally. This also demonstrates how the user is configured through code objects as producer, consumer, worker or audience, a new kind of multiple subject position that is disciplined through computational interfaces and algorithmic control technologies. But it also serves to show how the interface *reifies* the social labour undertaken behind the surface, such that the machinery may be literally millions of humans ‘computing’ the needs to the software, all without the user being aware of it (Berry, 2015 pp. 74-75).[14]

Recall how a noted lack of cultural entrepreneurship studies in digitalising contexts (section 3.4.3) has led us to this point. We saw how the few studies investigating cultural entrepreneurship using digital platforms (Manning and Bejarano, 2017, Gegenhuber and Naderer, 2019) foregrounded the idea that cultural-making

[14] Emphasis in original.

processes are distributed (in the sense of entrepreneurial agencies and locations or sites of entrepreneurship). They also established that in digital contexts, the same user could occupy the position of producer, consumer, or investor (as is the case with crowdfunding examples). We can now return to this idea of distributed processes of cultural making with a much-refined understanding of how digital technologies accelerate and grow, continuing to impact and transform these processes. With Berry and a critical theory of the digital, we are retroducing conceptual refinement to the initial conceptualisations of this research. This process continues as we also begin to incorporate a theory of reification, the process (or mechanism) which leads to alienation (see discussion above in the introduction to this section for more detail 4.5). Discussing reification begins embellishing the idea that digitalisation diminishes human capacities for substantive rationality, increasingly supplanted by the formal or instrumental rationality of computation (section 4.4.2). What follows explores the role of digital technologies in accelerating and perhaps amplifying this ongoing historical process of reification and alienation.

6.1.2 REIFICATION OF EVERYDAY LIFE

The reification of everyday life refers to how 'computational agencies act to transform social relations and labour into computational or code objects […] we are therefore surrounded by code objects and a world that is transformed into code objects for processing or representation to us. This is a process of reification, both ideologically and materially' (Berry, 2015 p. 121). Critical theories of reification draw from three primary sources (Jaeggi, 2014, Berry, 2015): Marx's analysis of the structure of commodities and commodity fetishisation (i.e., use-value transformed into exchange-value); Simmel's notion of the commodification of culture (the tragedy that

overproduction of objective culture in modern societies overshadows and overwhelms subjective abilities of individuals); and Weberian accounts of rationality as discussed previously above (4.5.1) and in the introduction to section 4.5. Reification permeates all levels of society and spheres of life.

Lukács' theory of reification (1972 [1923]) as an unfolding historical process informs much of the work of the Frankfurt school (proper) who – as many others have - sought answers to the question of how a form of social organisation which operates to the detriment (or denial) of so much for so many and contributes to the destruction of both the natural world and human nature continue to operate with popular consent? The concept of reification is one such attempt to answer it by seeking to understand the mechanisms creating alienation in industrial societies. For Lukács, popular consent for (consumer) capitalism is the result of a hard-won and long-fought-out process that resembles a curious case of Stockholm syndrome (i.e., false consciousness – another tenet of Marxist analysis which has fallen out of fashion recently; pandering to postmodern sensibilities however in an age of fake news and virtual reality, consciousness – true or false - becomes increasingly questionable).

The idea is that processes of reification, which result in increased alienation of an individual, can pass a particular tipping point in which the captor begins empathising with the system that contributes to their subjugation. While capitalism occludes the nature of the social relations that constitute it, reification means that social relations (reduced to thing-like objects) are once more made visible, albeit in different guises, when both producer and product are commodified (Berry, 2015). In many ways, as has been identified already by Jones (2012) and discussed further in section 3.4.1, in the example of musicians, the commodification of both the art and the artist (i.e., as symbolic good) can be considered a paradigmatic case of reification (that precedes

digitalisation by decades, even centuries. Nevertheless, it is also true to say that the artist today also exists as a digital object).

New computational technologies are becoming increasingly central to creating the world around us. Indeed, how we experience the world and go about the business of our everyday lives means that code and software have become the conditions of possibility for human living, creating computational ecologies which we inhabit with non-human actors (Berry, 2015). Note that this idea has been touched upon already in this chapter (section 4.3.3) and complements the idea of entrepreneurial ecosystems central to studies of digital entrepreneurship (Autio et al., 2018). However, as is becoming increasingly apparent throughout discussions in this chapter, approaches popular within digital entrepreneurship studies are being found increasingly shallow and divorced from (existing) structural barriers to enterprise in digitalising contexts, as it should also be becoming increasingly clear that the use of critical theory is highly effective in deepening our understanding of digitalisation.

> This computational world and how we live today in a highly mediated code-based world make up an everyday life that is deeply inscribed by the results of computational processes and also by the frameworks that are associated with such computal structures. These structures and processes enable a reification of the world and the re-presentation of the world as discrete objects subject to control and management. [Thus] reification is not just literally *into matter*, but also *into code*, as a second-order form of materiality, that is, while the digital is material in form, encoded onto magnetic hard disks, computer flash memory or distributed in the network of cables that are weaved around the world, it is also true that what we

> used to call media is suspended within a digital medium, software, and enveloped by algorithms and code (Berry, 2015 p. 122).[15]

The process of reification leads to alienation that, left unchecked, can lead towards catastrophe; 'the end result of a system of rationalisation that crates a societal struggle to keep ahead of a system that enforces the need to earn a wage and which, due to the pressures of capitalism, generates a more inhospitable environment in which to work (Berry, 2015 p. 123). To say it another way:

> Computational thinking formats things into objects as an automated process and prescribes it back onto reality, both in terms of the cognitive preformatting that is presented to the user of the computer, and in terms of the fetish of computational capitalism to remake the world in its computational image. This classificatory flattening eases market exchange, in addition to computer processing, and hence it is of no surprise that computation is widely seen as a saviour of capitalism and the capitalist. Indeed, computationalism calls for everyday objects to be radically reshaped under the terms of a computational classificatory process, whether materially; that all things become objects in physical form, or informatically, such that they are encoded (Berry, 2015 p. 127).

Understanding this process also requires an understanding of the technologies which enable it. Examples of reification technologies include web bugs (beacons, trackers or cookies):

> Web bugs are automated data collection agents that are secretly included in the web pages that we browse. Often held within a tin one-pixel frame or image, which is therefore far too small for the naked eye to see, they execute code to secrete

[15] Emphasis in original.

> cookies onto your computer so that they can track user behaviour, and send various information about the user back to their servers. Web bugs can be thought of as reification technologies, that is, they convert social relations, experience and activities into relations between objects. Here, the objects are code objects, but nonetheless they function in similar ways to everyday objects, in as much as they are understood to have properties and remain relatively stable and therefore in some sense persistent. They are also a product of capitalism both in terms of their function as providing means for the creation and maintenance of exchange, and in terms of generating consumer feedback and generating desire as part of a system of advertising and marketing (Berry, 2015 p. 134).

Variously called web bugs, beacons, pixels and tags 'form part of the dark-net surveillance network that users rarely see even though it is profoundly changing their experience of the internet in real time by attempting to second guess, tempt, direct and nudge behaviour in particular directions' (Berry, 2015 p. 135). The principal issue of how power and visibility interrelate in the digital age – or the age of platform and surveillance capitalism – becomes clearer by using the lens of reification to understand the depth of digitalisation processes. The ability of digital technologies (i.e., artefacts, objects and platforms) to supply a service commodity to the user while generating income through harvesting data about the user (sold to advertisers and marketing companies) reflects a significant source of contradiction in digital capitalism (Berry, 2015). The case of web bugs also demonstrates the extent to which users are not aware of the subterranean depths of their computational devices and the (reifying) capacity for these platforms to 'disconnect the user interface from the actual intentions or functioning of the device, while giving the impression to the user that they remain fully in control of the computer' (Berry, 2015 pp. 138-139). The increasing use of

software and code in surveillance to covertly monitor, control and mediate, both positively and negatively, is not just a case of interventions for deceiving the human and non-human actors that make up part of these digital assemblages:

> It is important that in order to undertake a critique of everyday life in terms of computationality there will need to be attention paid to how conversions and integrations [between the physical and the digital] *without resorting to conspiracy theories or notions of structural determination and other flawed accounts of history and society*. (Berry 2015, p. 125).[16]

This situation makes it increasingly necessary to consider willing compliance with this data collection regime. The surge in popularity of health-monitoring technologies, life management platforms and the quantified self-movement exemplify this phenomenon (Berry, 2015). Whilst the immediate case of the digitalisation of musical production is (on behalf of some actors) unwilling or forced engagement with regimes of digital data generation and collection (Haynes and Marshall, 2018). The practices and processes constituting contemporary musicianship cannot avoid being swept up in a quantifying totality. Importantly, re-reading my data in this way allows for 'an understanding of power, knowledge and how reason and thinking are understood in a computational context […] computationality has important implications for thinking about instrumental reason and how the instrumental is legitimised' (Berry, 2015 p. 125).

Reification is the process (or mechanism) resulting in alienation. The discussions here have highlighted how digital technologies function to accelerate and amplify these (capitalist) tendencies. In contrast to alienation, critical theorists Horkheimer and Adorno offer the sanctity of the hic et nunc:

[16] Emphasis in original.

> The here and now is what alienation disconnects us from, alienation causes the state whereby human beings have an inability to see or feel what is here, now, in front of us and that characterises our ability to think about our future and to incorporate the present and the past into schemes of life. Thus, under capitalism, consciousness is shaped and moulded within the frame of identity thinking, that is, *the subsumption of all particular objects under general definitions and/or unitary systems of concepts*. As a result, the particular is usually dissolved into the universal. Today the unitary system of concepts is supplied by computation, and more specifically by the computational categories and total system of computationality, which is, increasingly manifested in a mediated *now* supplied by real-time streams (Berry, 2015 p. 123).[17]

The idea of the here and now as the dialectic of alienation (de-reification), it becomes now clear, was at the heart of my existential crisis in the back of the tour van (section 1.1). With critical theory, we can now chip away at most of the uncertainties and confused ideas that emerged in this process of theory retroduction. The digital augmentation (i.e., acceleration and amplification) of reification also upends (analogue) notions of time and temporality. Recall that the distributedness of cultural making also includes intertemporality (2.4.2). Computation further influences (i.e., disturbs) common conceptions of past, present and future:

> The past (as stored data), present (as current data collection or processed archival data) and future (as both the ethical addressee of the system and potential provider of data and usage) are often deeply embedded in the code that runs these systems. In some cases, the future also has an objective existence as a probabilistic

[17] Emphasis in original.

> projection, literally a *code object*, which is updated in real time and which contains the major features of the future tate represented as a model […] This code object (or perhaps better, code-subject) may be better placed to work out what is best for its user than the users themselves (Berry, 2015 p. 146).[18]

Taken together, both the concept of reification and the attendant softwarization of society provide the conceptual depth and theoretical nuance capable of remedying the lack (i.e., flat ontology) of existing work in digital entrepreneurship. With a critical theory of the digital, we can diagnose the despondency described in my own experiences and those of other grassroots musicians in the digital age as a case of alienation. With musicians, not only are the artists themselves commodified along with their art (i.e., as a symbolic good), but in the digital age, this process of reification (i.e., social relations increasingly taking the form of object-like relations) supercharges (Lindebaum et al., 2020) the alienation of the aspiring artist. Similarly, the focus on power imbalance and structural delimitations of human agency within critical theory refines our understanding of important factors in the data, such as the technological divide, algorithmic gatekeeping and surveillance capitalism, and the mediation of social reality.

The final task of this thesis remains to return these latest refinements to the business school to reframe the primary contributions of this work. The following section adds conceptual clarity to the idea (found in IS) that digitalisation results in ontological reversal (Baskerville et al., 2020). Our return to IS fulfils the invitation to continually renew and reformulate the digital technology perspective of entrepreneurship by incorporating breakthroughs and insights from more technologically-sophisticated

[18] Emphasis in original.

disciplines (Nambisan, 2017). Second, we take what we have learned (couched in appropriate management school terminology) and use the accumulated toolbox of concepts, ideas, theories and approaches to reinterpret the data in producing new theoretical knowledge concerning the digitalisation of musical production.

6.2 ONTOLOGICALLY REVERSED CULTURAL MAKING

Recent developments in the field of Information Systems, and in particular relating to ontology (i.e., the nature of reality) in a digitalising world, suggest that these process, over a few decades, has resulted in what is conceptualised as an ontological reversal (Baskerville et al., 2020). Digital technologies and powerful mobile computation capabilities are in most people's hands worldwide. Vast digital platform ecosystems are shaping everyday life experiences, algorithmically curating social reality and delivering highly personalised, contextualised products or services. Artificial Intelligence and machine-learning technologies are enhancing and increasingly substituting human decision-making processes. The diffusion of robotics and explosion in 3D printing means that IS now stretches to include things and not solely the communication of information. The digital landscape has changed in profound and meaningful ways. For example, today, data is created everywhere and flows in all directions. Data no longer reports on or reflects organizations (transactions, customer and stock information), but information (data) has become a core, tradable commodity in digital capitalism (Srnicek, 2017, Zuboff, 2018). Transactions and information about transactions are products in their own right, often in significant ways. Vast ecosystems of digital services have arisen over the past decades and operate by harnessing the

power of user-created content and other forms of digital trace data to become some of the largest organisations that have ever existed. In such a way, digital technologies not only help create the physical environments in which we live but are also actively shaping and conditioning our ways of life (Baskerville et al., 2020).

IS was traditionally interested in how data reflected reality; the information contained within data merely represented the real world. By definition, Information Systems should not make the world but provide information that might be useful to humans in shaping the world. However, the ontological reversal represents a significant moment (or tipping point) in which data has evolved from information about reality to this information-making society. Albert Borgmann (1999) identified three relationships between information and reality many years ago. That is, information about reality – where information describes the nature of reality (in the form of reports and records) – information for reality – in which information prescribes the nature of reality (recipes, plans, constitutions) – and finally, information as reality – this is where information begins to rival reality (virtual reality and recordings). Baskerville et al. (2020 p. 7) build upon these foundations and postulate a novel (fourth) relationship where today, information makes reality – information now 'exceeds virtuality and takes us instead to material and physical reality'.

Similarly, El Sawy (2003) proposed three views of the relationship between data and reality. Firstly, the connection view (comparable to the tool view – section 5.1), where technology is conceptually separable from society. Second, the immersion view refers to technology's ongoing integration into everyday reality and practices. Thirdly, the fused view where technologies are so integrated into the lives of such a great majority of people that any conceptual distinction becomes impossible and wholly meaningless. Again, Baskerville et al. (2020) introduce a further dimension to this process that is

more relevant today. This formulation transcends El Sawy (2003): data now creates and shapes reality. Ontological reversal means that the digital version is created first and its physical representation second (should one even be required).

Illustrating this point, Baskerville et al. (2020) use the example of aeroplane travel, which switched to 100% electronic ticketing in 2008. Airlines, from this point, no longer produced hard copies of tickets. Customers were free to, or in some cases, were obliged to, print out a hard copy, but the e-ticket exists in the form of bits within the airline company's computer system. If a flight were delayed, for example, a passenger would miss the boarding time for their onward flight; this new information would trigger the airline's or travel agents' computer system to follow a series of algorithms and rebook the passenger onto a later flight. This computational process means that the printed-out copy of the ticket carried by the passenger may bear obsolete information but may still allow them to pass through the gates using existing barcodes that can be virtually updated to relate to the correct information within the airline's digital booking system. 'The reality of the trip is first recreated digitally; physical reality follows accordingly… it is the digital version that is real; only the digital version in the airline's reservation system gives a passenger the right to travel' (Baskerville, et al. 2020, p. 6).

Evidence of ontological reversal – the condition in which physical objects are [increasingly] the outcome of printing digital objects onto physical bearers' (Baskerville, et al. 2020, p.513) - is abound in everyday life. Branding appeals to Instagramability, increasingly common amongst hospitality and tourist industries, are a prominent example of ontological reversal (Campbell, Sands, Montecchi, & Jensen Schau, 2022). Another would be the shocking rise in cases of body dysmorphia, and the widespread normalisation of extreme and invasive cosmetic surgeries are both

commonly attributed to the desire common to many individuals who wish to realise their carefully curated, filter-distorted online selves (Walker, Krumhuber, Dayan, & Furnham, 2021).

In such cases, the non-material digital object precedes the material object, meaning that the digital reality takes precedence over the physical reality [and] the ontology is therefore reversed. However, the physical bearers upon which digital objects are printed are no longer limited to inorganic objects (or devices). Existence becomes increasingly computed, and these computed experiences are taken for granted as we listen to music, decide where to eat or go on holiday, and even which route to take when we hike or buy clothes and furniture. Our choices are driven by the computed score of rankings and reputations owing to vast arrays of complex computer algorithms that process big data. The power to manipulate these algorithmic processes implies a capability to manipulate how we see and live within the world.

The digital is increasingly manifesting in social practices, human attitudes and behaviours (section 4.2.3). Ontological reversal, therefore, has implications for how we comprehend human experience in our daily lives and how, as scholars, we can begin to understand and theorise digitalising realities. Given that digital technologies now mediate virtually every aspect of human activity, our lives are increasingly computed, enmeshed between material atoms and immaterial bits; we must begin unpacking not only the theoretical (i.e., philosophical, ontological) implications of a digital-first world but also questioning the obscured norms and assumptions which underlie the ideology of digital technologies. At the centre of this new and perhaps alien world lies the digital object, and by learning to isolate its effects and understand the world through it (i.e., the idiosyncratic affordance and defining characteristics of digital objects), we can begin appropriately theorising our digital-first reality.

6.2.1 PHILOSOPHISING ONTOLOGICAL REVERSAL

A digital-first world fundamentally undermines the nature of reality. Digitalisation blurs the lines between existing distinctions between subject and (technical) object. Although the complex relationship between the intelligible and the real has been discussed extensively throughout the history of philosophy, the core of this digital transformation of our world - ontological reversal – is a relatively novel idea but one which potentially opens the door to more extensive re-theorisation of fields far beyond the school of management (Baskerville et al., 2020).

Understanding social reality through or with technology becomes a fundamental task of contemporary theorising. In granting the digital a more prominent, elemental function in constructing reality, ontological reversal (i.e., a digital-first ontology) more accurately reflects the essence of contemporary techno-society (or post-digitality). The following discussion outlines the ontology of a digital-first world, drawing comparisons with Jean Baudrillard's philosophy of hyper-reality (Baudrillard, 1994). From here, it is reasoned that in a digital-first ontology, the digital object becomes the fundamental unit of reality which justifies the decision taken in this research to examine social reality from the perspective of digital objects (i.e., the digital objects framework developed in chapter 3 as a result of limitations found in existing approaches to both cultural and digital entrepreneurship).

It is also reasoned that in examining the unfamiliar, existing regimens for qualitative research are unsuitable for this study. Investigations that stray from well-beaten paths and question the nature of reality do not have the luxury of relying upon prescribed methods; methods formulated resting upon assumptions about reality are becoming increasingly obsolete. Epistemologising a digital-first world (4.3) is a novel task

requiring experimentation. Therefore, the question of what constitutes knowledge in or of this reversed reality becomes essential to this study.

Ontological reversal is premised upon the idea that today, the digital version is created first (digital-first) and the physical version second (if needed). Assuming that digital technologies are now creating and shaping physical reality (ontological reversal) challenges us to re-think the role of humans and technology in society:

> This ontological reversal and its obsolescing of […] classical [views of technology] has been an ongoing process. Like the landscape left behind by a receding glacier, the world around [us] has been changing so gradually, yet so steadily, that it has been difficult to notice the dramatic transformation of our world. (Baskerville et al., 2020 p. 3).

In the past, technologies mirrored social reality (i.e., representing an existing or expected reality). Increasingly today, digital technologies are shaping reality, meaning that 'with the ontological reversal, the non-physical digital version of the reality is not just as real as the physical version, it is [perhaps] more so' (Baskerville et al., 2020 p. 6):

> In this digital world, our surroundings and everything that makes up our surroundings is shaped by digital technologies. Digital technologies are not just used for business activities, as they were in the past, but are now used for everyday activities. These technologies are used for both personal and professional purposes in both organizational and non-organizational contexts. Digital technologies have become a part and parcel of our personal and professional lives. This digital world is in effect a *new digital culture*, one where everyone simply takes for granted that almost everything we do is shaped by digital technologies. There is no longer any

> hard and fast distinction between the digital and the physical world. (Baskerville et al., 2020 pp. 9-10).[19]

Similarities can be drawn here with the later philosophy of Jean Baudrillard, who observed the ontological reversal between signs and reality. The early work of Baudrillard sought to understand the meaning of everyday objects (Baudrillard, 2005). That is, the power accrued through identification with objects and the structural organisation of these objects in modern society. However, over the 20th century and with the transformation of modern society into a technological (or postmodern society), Baudrillard's philosophy evolved, too and began focusing on the simulated nature of reality (Baudrillard, 1994). The simulated nature of reality refers to how cultural modes of representation (i.e., television, computers, the internet and virtual reality) simulate reality. That is, human experience increasingly becomes divorced from physical reality;

> Today, abstraction is no longer that of the map, the double the mirror, or the concept. Simulation is no longer that of a territory, referential being, or a substance. It is the generation by models of a real without origin or reality: a hyperreal. The territory no longer precedes the map, nor does it survive it. It is nevertheless the map that precedes the territory [and] engenders the territory. It is the real, and not the map, whose vestiges persist here and there in the deserts […] the desert of the real itself. (Baudrillard, 1994 p. 1)

In philosophical terms, ontological reversal represents a technological extension of simulated hyper-reality (1994). For Baudrillard, simulations of (i.e., signs or references to) the real increasingly replace reality itself. This process happens in four stages. In the first stage, the simulation (or sign) faithfully reflects or reproduces what is real. The

[19] Emphasis in original.

second stage sees a perversion of reality. Signs and images are unfaithful in their reflection of reality but indicate or hint at a reality that the sign cannot encapsulate (i.e., semiosis). Thirdly, the simulacra – i.e., the copy without original – occludes the absence of substantive reality and the sign masquerades as a faithful copy but a copy without a physical referential. The fourth stage is hyperreality, where the simulacrum has no relationship to any reality at all, and signs merely reflect other signs. In hyperreality, signs function in a regime of total equivalency, meaning any claim relating to ontological reality can only ever be expressed or communicated using signs equally devoid of a substantive referential. In other words, signs no longer reflect reality but produce, shape and condition the world around us.

El Sawy (2003) noted a progression in the view of technology assumed in IS. Again, in a similar way to the progression of the digital in (digital) entrepreneurship (management) research (section 5.1), IS has progressed from a connection view – i.e., technology is conceptually separable from people and society – through an immersion view – technology becomes integrated with social reality – to fused – i.e., technology and the social world are conceptually inseparable. Ontological reversal is the natural progression from a more-balanced fusion towards a formulation with greater emphasis on the role of technology in shaping reality. The substitution of signs of the real for the real itself has profound ontological implications. In a world where the digital inseparably intertwines with the physical (Baskerville et al., 2020), it becomes necessary to work towards isolating the digital in theory.

The existence of digital objects is owing to the processes of computation, which brings them into being. As already discussed in section 6.1, the computed nature of reality is another crucial ontological consideration alongside the nature of digital objects:

> Every digital object that comes into being requires some form of computation. A digital photo on a computer screen, a musical piece played on an MP3 player, or a quiet vibration on a wearable device – all of these are the outcomes of computations. Our human experiences are shaped by this computational world and the digital objects it produces. Importantly, the digital world shapes our experiences by seamlessly and inseparably interweaving the digital with the physical. (Baskerville et al., 2020p. 10).

Today, digital technology mediates (virtually) all aspects of human action, and digital technologies are increasingly shaping our human experience. This situation means that today, human experience is increasingly computed (Yoo, 2010, Baskerville et al., 2020). These developments in IS align with the insights proposed in Berry's (2015) critical theory of the digital. Computed human experiences in a digital-first world rest on "the possibility of complete or partial mediation of the four dimensions of lived human experiences by digital technology" – time, place, artefacts, and actors (Yoo 2010, p. 219):

> Surrounding our computed human experiences are physical and digital reality. With the increasing penetration of digital technology into all dimensions of our lives, our experiences in a world of digital-first are shaping and shaped by both physical and digital realities. A digital world that surrounds us consists of the enmeshing of material atoms and immaterial bits, some directly interacting with users, while others are invisible to them. [T]his notion implies dual realities, one embodied by the physical world in which we live, and the other embodied by digital codes and signals in networks and computer processing devices. Human experience is shaped in the intertwined duality of both realities. (Baskerville et al., 2020 pp. 14-15).

In the past, this duality was principally shaped and conditioned by the reality of the physical world. The codes and signals that constitute (digital) reality represent or reflect the physical world. Ontological reversal changes this, and the digital world's reality becomes the principal aspect because it both defines and shapes the physical world. Furthermore, there are elements of the digital world that cannot exist in the physical world, the digital objects hidden in the back end of computer programmes (Hui, 2016, Baskerville et al., 2020). While computation is the process through which digital objects are realised (i.e., come into existence), we also have to consider how digital objects become real in that they take on a spatial presence.

> With digitization, digital objects are not simply a representation of the physical activities by firms and users; rather, digital objects are created first and these objects prompt physical activities and production of physical objects. With the ontological reversal, physical objects are the outcome of “printing” digital objects onto physical bearers (Baskerville et al., 2020 p. 12).

Printing digital objects onto physical bearers does not solely refer to printing out an aeroplane ticket or the digital objects taking shape on your device's screen. Digital objects can also be printed (i.e., physically manifest) in other ways. For example, Google Maps begins with a digital object printed onto our smartphone (connected to Google’s cloud infrastructure). As we drive, our digital device interacts with other digital assets embedded in the physical environment, such as telephone network towers and satellites. Triangulating this information means Google can determine our precise location and compute the most efficient route. This computed experience (brought to you by Google) decides what we see and where we go, integrating the driver into digital assets, algorithms and capabilities outside their control (Orlikowski and Scott, 2015, Baskerville et al., 2020). It is the same with social media and streaming

websites, which influence what you see, whom you listen to and how you perceive the world around you.

Other examples exist with services such as Air BnB and Uber. These companies transform car journeys and spare rooms into digital objects, orchestrating reality by sourcing and mobilising existing physical resources. That is, reality becomes an imprint of what a handful of private companies determine what we see, know and can utilise in the world around us. Furthermore, the shocking rise in cases of body dysmorphia and the mass normalisation of extreme and invasive cosmetic surgeries could also be considered a form of digital printing. This malaise of the digitalising condition is attributable to the desire common to many individuals who wish to manifest their carefully curated, filter-distorted online selves in the real world. Ontological reversal, therefore, also raises questions about issues such as human values, ethics, safety and autonomy.

This discussion has underscored the value of adopting a digital-first ontology. Firstly, section 6.2 determined that ongoing processes of digitalisation increasingly blur the line between what is physical and what is digital (in origin). Over the last decades, the growing influence of the digital has largely gone unnoticed. Only recently have scholars begun to comprehend the conceptual inseparability of the digital and physical worlds. The magnitude or significance of this transformation tends to be missed or generally understated, and the emergence of artificial intelligence (i.e., inhuman power) means that researchers should begin focusing on how the digital world shapes and creates the physical world rather than merely analysing how both either entail one another in practice or imbricate through affordance. Instead, the discussions determined that a digital-first approach is most suited. A digital-first approach means designing research around theorising through and with the digital. Understanding

computed human experiences in processes of cultural making, the task becomes developing a digital-first framing for this research. It follows that a framework capable of isolating the digital can lead to more accurate diagnoses of the pathologies of digital-first musicianship and draw direct lines of causality with the post-digital condition. Making normative (critical) judgements based upon more accurate and refined information becomes possible.

Furthermore, epistemology (i.e., what constitutes knowledge in or of a digital-first world) represents an important contribution that this research can make. A digital-first framework is an initial foray into the empiric analysis of a reversed ontology. Studying ontological reversal necessitates an uninhibited, exploratory approach to research design. In other words, the novelty of this approach requires a just suspension of convention in the reasoned pursuit of an idea, but an idea which can potentially open doors to re-theorising digitalisation or producing novel accounts and explanations (Feyerabend, 2010).

6.3 TOWARDS A DIGITAL-FIRST FRAMING

Section 6.1.1 considers the softwarization of society and the crystallisation of digital (or computational) rationality. By incorporating Berry's re-reading of critical theory, we can build upon the insights that are more recently emerging in management studies (Kellogg et al., 2020, Lindebaum et al., 2020) with increased conceptual and theoretical nuance and sophistication. With the help of critical theory, we can begin to unpack the context of my crisis of alienation and identify transformations and processes that explain my line of questioning (see section 1.1. for more detail).

The purpose of this chapter was to address limitations found in n existing approaches to digital entrepreneurship. With the concept of alienation, we can begin unpacking the implications of digitalisation on the entrepreneurs studied in this investigation. Furthermore, by returning to the field of information systems, this research can contribute to the continual refinement of the digital technology perspective of entrepreneurship. The following chapter draws upon recent work in IS to produce a digital-first framework.

CHAPTER 7: GROUNDED RE-CONCEPTUALISATIONS

This chapter will develop an appropriate theoretical framework through which the ethnographic data collected for this research project will be re-analysed. The framework presented here will draw upon the work done in the field of Information Systems research, particularly concerning the nature of digital objects. The analysis finds that digital objects are (i) embedded. Second, digital objects are (ii) interactive. Thirdly, digital objects, in a more general sense, are inherently (iii) malleable. The fourth and final feature identified in research and completes the digital objects perspective framework proposed by this thesis concerns digital objects' (iv) sociomateriality. Using a critical theory of the digital (Berry, 2015), this investigation proposes an alternative perspective of sociomateriality, a perspective that can account for growing machinic agency in entrepreneurial ecosystems (largely absent from mainstream management accounts).

The first section briefly reviews the Information Systems (IS) literature which engages with the IT artefact (7.1). Section 7.2 begins with a review of existing studies in IS which concentrate on the properties of digital objects. Out of a confusing array of conceptual terminology, a close analysis of these terms reveals a straightforward means of simplification which leaves us with four key features of digital objects from which to construct a digital-first analytic framework. Section 7.4 explains the four fundamental properties of digital objects and what this conceptual lens promises to reveal about the nature of digital-first entrepreneurship and analysis. Finally, section 7.5 takes stock of the discussion across these last chapters, closing with a final

formulation of the theoretical research question answered through analyses and discussion in the following chapters.

7.1 ENGAGING WITH THE IT ARTEFACT IN IS RESEARCH

IS research is premised on understanding the centrality of information technology (IT) in everyday life. Nevertheless, it was only in the early years of this century that scholarship began to engage more deeply with the IT artefact, i.e., what perhaps should have been considered the core component of the IS agenda (Orlikowski and Iacono, 2001). Before this, digital technologies had remained undertheorized in the field of IS, meaning researchers were drawing upon commonplace and received notions of technology, resulting in unproblematised, taken-for-granted conceptualisations of IT artefacts (i.e., the tool view as discussed in 5.1).

Alternatively, Orlikowski and Iacono (2001) promote an ensemble view of technology which emphasises the dynamic interactivity and relationality of IT objects within and across the groups involved in their development (construction), implementation and (mis)use. In their analysis, Orlikowski and Iacono (2001) see the ensemble view as the only approach to encapsulate the complexity, dynamism and embeddedness of IT artefacts in modern life. Previously, the IT artefact remained under-theorised, absent or black-boxed, abstracted from social reality. The ensemble view of technology represents a welcome shift away from the taken-for-grantedness of previous attempts, moving towards more nuanced theorising, which considers how the cultural and computational capabilities of IT exist within contingent socio-historical, institutional contexts.

Moving away from monolithic views of technology implies a conceptualisation which treats IT artefacts as multiple, fragmented, partial and provisional, emerging and evolving, and complexifying within broader processes of techno-social change. In reaching such an account, research must emphasise the embeddedness of IT artefacts and refocus attention away from the technologies themselves in favour of an agenda considering the practical (i.e., applied) use of technologies (in action). Building upon the productive elements of the ensemble view of technology, alongside previous work (Orlikowski and Iacono, 2001), foregrounds the duality of technology and social organization (Orlikowski and Scott, 2008). propose sociomateriality, an approach aimed at overcoming limited views of techno-social relationality.

7.1.1 SOCIOMATERIALITY

Sociomateriality as an approach to socio-technical relationality contrasts with approaches that treat technology and practice as separable entities (Orlikowski and Scott, 2008, Scott and Orlikowski, 2014). Sociomateriality is concerned with understanding how the materiality of objects becomes intrinsic to everyday activities and relations' rather than focus, in the past, remaining drawn to views of socio-technical relations either as discrete entities of people and technology or ensembles 'of equipment, techniques, applications, and people (Orlikowski and Iacono, 2001, Orlikowski and Scott, 2008). In this way, the sociomateriality perspective transcends existing approaches (i.e., the tool view), contributing to studying the sociology of technology by moving beyond (unidirectional) determinist accounts of how technologies influence humans to more pluralist accounts which assume people and things can only exist in relation to one another (Orlikowski and Scott, 2008). Analytic focus is instead realigned to foreground agencies amongst composite and shifting

assemblages of actors, objects, technologies and infrastructure (i.e., entrepreneurial ecosystem).

The relational ontology assumed by sociomaterialist approaches presumes the inherent inseparability of the social and the material meaning they must entail one another in practice. Whilst sociomaterialist research has made a commendable contribution to our understanding of enmeshed social and material agencies in the digital age (Faulkner and Runde, 2019), its hyper-relational ontology (i.e., denying the existence of wholly distinguishable, fixed entities) would also deny the existence (in isolation – i.e., from practice or use) of digital objects. As Faulkner and Runde (2019) have pointed out, IS scholarship remains wedded to studying technologies by focusing on the human and organisational implications rather than developing an understanding of the devices (or technical objects) themselves.

7.1.2 IMBRICATION THEORY

Alternatively, the imbrication approach to sociomateriality (Leonardi, 2010, 2011, 2013) to represents a more viable alternative to the hyper-relationality of Orlikowski and Scott (2008). This ontology assumes that the world bottoms out in relations (i.e., entanglements) and everything in it is the product of intra-action in a mutual constitution of objects and agencies (Barad, 2007, Scott and Orlikowski, 2014). Such assumptions undermine the core idea that digital objects are independent outside (use in) practice(s). To imbricate means successively patterning (i.e., overlapping) elements that are analytically distinct but interdependent in function (Leonardi, 2011). Meaning that imbrication theory favours analysis of how human action interacts with and is mediated by (with) pre-existing artefacts and technological affordances. The imbrication approach to sociomateriality focuses on the fixed properties of objects and

how they afford and constrain action and identity formation (Leonardi, 2010, 2011, 2013). While these approaches share the assumption that human and material agencies are both transformed in their interactions, they diverge on this key ontological distinction (that technological objects exist -i.e., have some sense of materiality – outside of our use of them).

Imbrication is a metaphor for how human and material agencies create infrastructure (Leonardi, 2011). Infrastructure exists through routines and technologies people use to work (Leonardi, 2011). The imbrication metaphor suggests that by approaching the study of technology from a human agency perspective, analysis of affordances and constraints (of a given technology/technological environment) can offer explanations of socio-technical change which usefully incorporate notions of material agency (Orlikowski and Scott, 2008, Leonardi, 2013). Routines and technologies are the infrastructure that the imbrication of human and material agencies produces. Routines and technologies, too, consist of the outcomes of human and material agencies. Outcomes arise only when humans and material come together, but their interdependence does not belie their distinct characters.

Although they exist in relation and interact directly, human and material agencies are supposedly meaningless when analysed separately (Scott and Orlikowski, 2014) but become important in their imbrication (Leonardi, 2011). This approach means that sociotechnical relationality (i.e., people and technology or technical objects) interlock in sequence, producing, sustaining and changing routines (i.e., how we use technologies and how technologies become imbricated in our everyday lives) and technologies (i.e., technology changes also through an imbrication of both technical affordance and human effort or ingenuity).

Sociomateriality, on the other hand, is interested in how material objects are realised or materialised in practice (Orlikowski and Scott, 2008, Scott and Orlikowski, 2014). Imbrication, however, seeks to understand more about material agencies in these assemblages by using analyses of human agency as they transform one another (to-and-fro – humans and technologies) in their interactions (Leonardi, 2010, 2011). Imbrication theory offers this research a more congruent ontological approach relating to how people and technology come together. Consistent with assumptions relating to (imperceptible) pre-existing elements, imbrication theory also posits the existence of digital artefacts manifest in human action through observation and analysis of their unique affording properties.

7.1.3 SOCIAL POSITIONING

Social positioning is the idea that entities (by virtue of being assigned a position within some system by some community) assume social identities associated with their position. 'A social position is a specific status within a system that locates its occupant as a component of that system' (Faulkner & Runde, 2019 p.1289-90). Social positions can exist independently and prior to its occupation (occupant – in this case, both human, nonhuman, organic or synthetic), which further applies to the identities they form. Furthermore, social positionings within systems apportion particular roles/positions with different rights and responsibilities. These rights and responsibilities depend on the particular function expected of the position/occupant.

With artificial (synthesised, technical) objects, usually produced with a specific function in mind, objects can also perform different, unintended functions within different systems. Think again of the example of the cookie (technologies of reification – 6.1.2), which went from a simple mechanism to improve web functionality to constituting the

critical resources of digital capitalism (Berry, 2015). Rights and responsibilities associated with particular positions tend to be two-sided, with the rights of one position aligned with specific responsibilities (i.e., of the role).

This conceptualisation reflects the internal relatedness, i.e., self-referentiality of social positioning. In the case of digital objects, accounts sensitive to their social positioning vis a vis (un)intended functionalities are more adept than existing ontologies in accommodating continuity and change in the digital realm whilst remaining mindful of relational and performative aspects of digital objects in use without losing sight of intrinsic properties. Examining the social positioning of digital objects in building an account of socio-technical relations bridges the ontological gap between sociomaterialist accounts and imbrication approaches. Studying digital objects can remain interested in the (relatively) fixed intrinsic properties of objects (in context) without committing wholesale to a relational ontology.

Technological developments in recent decades have transformed what was once considered little more than a glorified calculator into vast, dynamic (hybrid) ecosystems that fuel complexity by fostering hyper-connections (at hyper-speed experiencing hyper-turbulence) amongst humans, technological artefacts, processes, organisations and institutions (Baskerville et al., 2020). Daily experiences with mundane tools such as Google or social media result from unpredictably complex sociotechnical systems and diffusions, at odds with the relative (surface) simplicity of the digital objects we engage with. Embracing such complexity (Benbya et al., 2020) but embracing it in such a way as not to overwhelm becomes the task of this research, and it is for this reason that studying the world through digital objects (i.e., the distinctive characteristics and affording features and properties) becomes the primary focus of the remainder of this thesis.

The growing incursion of artificial intelligence and machine learning technologies into everyday life suggests that a reappraisal of socio-technical relations is required. Whilst imbrication theory assumes material agencies exist alongside and directly interact with human agency, both imbrication and sociomateriality perspectives neglect to account for computed agency (Chapter 6). It, therefore, becomes the task of this present research to develop a perspective on socio-technical relations, which can also account for this third, more (in a sense active) agency. AI and machine learning further add to the complexity of sociotechnical relations, and more recent work in IS attempts to account for this situation.

The concept of alienation introduced in the previous chapter (6.1) is suggested here as a complementary means of developing our understanding of the implications of this incomprehensible complexity. Furthermore, a critical theory of the digital also questions the implicit neutrality (i.e., inertia) of technology assumed in most of these approaches. Perhaps less so the case with imbrication theory but almost certainly the case with hyper-relational approaches to sociomateriality. Social positioning acknowledges the changeable role that digital objects play depending upon their context of use (Faulkner and Runde, 2019). Nevertheless, as already suggested above, the rapid rise of artificial intelligence and an age in which human decision-making is increasingly deferred to machines (Berry, 2015), accounting for the material agency of these machines is imperative not only for this study (i.e., clarifying and explaining theme 3 – section 4.2.3) but also diagnosing and understanding the pathologies of the digitalising human condition. The next section follows the construction of a digital-first framing and begins by reviewing the theorisation of digital objects in IS research.

7.2 DIGITAL OBJECT FRAMEWORK

There exists a dedicated stream of IS research which seeks to understand the nature of digital objects in terms of their essential features and affordances (Ekbia, 2009, Faulkner and Runde, 2009, Kallinikos et al., 2010, Faulkner and Runde, 2011, Kallinikos et al., 2013, Faulkner and Runde, 2019). This literature is the primary source of Nambisan's digital technology perspective on entrepreneurship. This body of work in IS stems from Yoo (2010), who called upon the field to begin researching experiential computing. Information systems, as a field, emerged out of a desire to understand the nature and consequences of computer communication technology in modern organisations—an artificial science for an artificial age. The rapid development of digital technologies continues to make computers and computing a part of everyday life, and IS theorising was failing to keep up (Yoo, 2010). The call was, therefore, to expand intellectual boundaries and embrace the study of experiential computing as a new field of inquiry. Experiential computing involves digitally embodied experiences in everyday activities through everyday artefacts with embedded computing capabilities (Yoo, 2010). Furthermore, the digital mediation of four dimensions of human experience (time, space, actors and artefacts) enables this computational condition. Note the overlaps between these ideas in IS and the ideas discussed in the previous chapter detailing Berry's (2015) critical theory of the digital.

Properties of digital objects							
	Manovich (2001)	**Zittrain (2008) Benkler (2006) Lessig (2006)**	**Ekbia (2009)**	**Yoo (2010) Yoo et al. (2010)**	**Faulkner and Runde (2009, 2011, 2019)**	**Kallinikos et al. (2010); Kallinikos et al. (2013)**	**Baskerville et al. (2020)**
Research Focus	New media objects	Generativity and innovation	Digital artefacts	Digitalised artefacts, digital infrastructures	Non-material technological objects	Digital and new media objects, metadata	Digital objects
Attributes	• Numerical representation • Modularity • Automation • Variability • Transcoding	• Leverage, • Adaptability • Ease-of-mastery • Accessibility • Transferability	• Largely unstable • Unbounded • Resisting reification	• Programmability • Addressability • Sensibility • Communicability • Memorizability • Traceability • Associability	• Non-material • Non-rivalry in use • Infinite expansibility • Recombinability	• Editable • Reprogrammable • Open • Transfigurable • Distributed • Interactive	• Heterogeneous • Computed • Non material • Interactive • Reprogrammable
Summary	The new logic of individual customisation contrasts with the industrial logic of mass standardisation.	Modularity and granularity of tasks and projects as well as the end-to-end architecture of the internet puts productive activity under the control of the individual and contributes to innovation.	Digital artefacts are quasi-objects defined as processual and relational entities.	Digital artefacts are embedded into layered, modular architectures that help separate content from devices and information infrastructures.	Ontological complexity of digital objects qua objects. Distinguished by non-material bitstrings separate objects from their material bearers. The existence of computation depends upon and contributes to the existence of digital objects.	Digital artefacts are embedded in wider and constantly shifting ecosystems. Ontological ambivalence renders the value and utility of these artefacts contingent upon shifting webs of functional relationships with other artefacts.	Digital objects are now creating and shaping physical reality. This ontological reversal is where the digital version is created first and the physical version second (if needed), challenging received thinking about the role of humans and technology in society.

Figure 6 - Properties of digital objects. Adapted from Kallinikos et al. (2013 p. 359).

Studying computed experience means emphasising the mediating role that digital artefacts play in enabling this condition. Experiential computing is enabled through the embeddedness of digital artefacts within highly complex architectures[20] and afforded by properties of digital artefacts. The literature review identifies several affording properties, including programmability, addressability, sensibility, and communicability (2010, Yoo et al., 2010). Following Yoo (2010), theorising the nature of the digital – and its distinguishing features or properties - has become a critical conversation in the field of IS, spawning a series of contributions over recent years (Faulkner and Runde, 2009, Kallinikos et al., 2010, Faulkner and Runde, 2011, Kallinikos and Mariátegui, 2011, Kallinikos et al., 2013, Faulkner and Runde, 2019, Baskerville et al., 2020).

Earlier work by Ekbia (2009) had defined the ontological nature of digital artefacts as quasi-objects, owing to the largely unstable, unbounded nature of digital technologies. Outside of IS, communications researchers such as Manovich (2001) as well as legal scholars Zittrain (2008), Benkler (2006) and Lessig (2006) all contribute to understanding new industrial logics and how generative properties of the digital afford business model innovation and infinite scaling. Later, Kallinikos et al. (2013) look to distil Yoo's findings (2010) and highlight digital artefacts' editable, reprogrammable and distributable properties. Another essential contribution of this literature is the incompleteness of digital artefacts. The nature of digital affordances is due to such incompleteness or ontological ambivalence (Kallinikos et al., 2013). From the work of Kallinikos et al. (2013), Nambisan (2017) draws inspiration for the digital technology perspective of entrepreneurship. Despite assurances that digital entrepreneurship theory would continually incorporate the latest technology-related concepts and

[20] Note the similarity between Yoo's complex architectural structures and the entrepreneurial ecosystems of digital entrepreneurship studies. The difference is merely syntactic and both refer to the same phenomenon.

constructs (Nambisan, 2017), very few recent developments in IS research are reflected in digital entrepreneurship research.

7.2.1 THEORISING THE DIGITAL OBJECT

Recent contributions to theorising digital objects (Faulkner and Runde, 2019, Baskerville et al., 2020) remain unaccounted for in digital entrepreneurship studies. However, both works can complement the approach taken in this research. The work of Baskerville et al. (2020) has already been discussed in greater detail in section 6.2. In essence, ontological reversal refers to processes of digitalisation producing a situation where today, the physical world increasingly becomes a purposeful product of the digital. The digital object comes first and its physical version second should one even be required (which increasingly becomes the case as our digital devices appropriate the functionality of many previously distinct objects). Taking this idea seriously means constructing an appropriate conceptual framework (or theoretical lens) through which we can begin accounting for and explaining shifting practices, attitudes and behaviours which (this research assumes) arise from the affording (and constraining) properties of digital objects. Theorising digital objects, Faulkner and Runde (2019) suggest a more fundamental, base-level theorising of the digital object itself which can then be built upwards and allow more sophisticated theorising of digital objects (sociomateriality).

Objects are either material or non-material. Digital objects, however, can also exist in a hybrid form (Faulkner and Runde, 2019). Most digital objects remain invisible, hidden in the back-end of a computer program or storage device. Digital objects (and those with which we have the most direct experience) also take shape on your device's screen (Hui, 2016). In this instance, digital objects (while remaining fundamentally

non-material) are printed onto a physical medium and take a material form. Digital objects are made up of non-material bits. Bits are syntactic objects that consist of symbols arranged into expressions adhering to the syntactical and semantic rules of the language which phrases (or articulates) them. Here we refer to programming languages and binary form, but this can also be true for any spoken or human-readable language. Bitstrings (i.e., series of bits) are syntactic in that they consist of 1s and 0s that transcode written information into a homogenous machine-readable format. Bitstrings are computer files and therefore are the cornerstone of digital technologies. There are two types of computer files, programme files and data files. Programme files consist of codified instructions (i.e., sequences of logical operations) for computing on different types of hardware; operating systems, applications, games and other softwares are contained within programme files. Data files encode data in ways that are readable by computers, such as documents, datasets, images, videos, and audio recordings.

Digital objects are made of one or more bitstrings and hosted by material and nonmaterial bearers. Material bearers are perhaps more familiar and refer to the devices mentioned above, such as smartphones and computers, which allow digital objects to be made visible and manipulable (cognizable) through a screen. In this definition, a material bearer becomes a hybrid object (Faulkner and Runde, 2019). David Berry theorises the digital (code) object similarly and describes the double-articulation of code as both symbolic and material objects (Berry, 2016).

Accounting for the nature of material bearers becomes important for IS studies in recognising how material bearers afford and constrain different capabilities. For example, due to their non-materiality, digital objects do not degrade with use, as with material objects in the physical world (Faulkner and Runde, 2019). A material object's

suitability as a bearer depends on its fundamental properties. For a human user to read the contents of a digital object, then the material bearer must possess suitable material properties such as a clear screen that offers high-resolution reproductions of digital object (information).

Material bearers refer not only to (re)presentational devices, i.e., those with screens or integrated interfaces, but also to physical storage devices such as CDs, DVDs and memory cards. To be accessed (read, edited, or engaged with), a digital object must be borne by some (form of) material object (Berry, 2015, 2016, Faulkner and Runde, 2019). The nature and affordances of this bearing object will necessarily influence how the digital object interacts.

Furthermore, digital (i.e., nonmaterial) objects are also borne by other nonmaterial bearers (Faulkner and Runde, 2019). Modern computing automates the processing and manipulating of information encoded in binary form (i.e., syntactic language). Therefore, Bitstrings are simultaneously the fundamental element of digital objects and play a role as bearers of (other) nonmaterial (digital) objects in computational processes. The term digital object then is scalable and can refer to individual programmes and data files but also ranges from the home computer and smartphone (i.e., individual devices) to large-scale computer networks and information systems as well as to the broader digital ecosystems in which each of these objects are embedded.

Computation brings digital objects into existence but cannot exist without them (Berry, 2015, 2016, Faulkner and Runde, 2019). Computation lies in existential duality alongside digital objects. Computation can be about using existing digital objects to achieve a desired outcome. Computation can also result in the production of new

digital objects. Cookies, for example, arise when internet users browse web pages and track their movements. In our previous discussion of a critical theory of the digital, we have considered these digital objects and conceptualised them as the technologies of reification. The significance of such meta-objects comes into view when we consider how the fortunes of digital capitalism involve optimising the processing and computation of this data at a mass scale and selling the outputs to advertisers. This example shows how the creation of new bitstrings also entails the creation of new material and nonmaterial bearers, enduring, if not only temporarily, and in various locations, reflecting the distributed complexity of modern computing. The complexity of modern computing and its role in mediating the human experience of everyday life means that analysing how people and technology interact comes to the fore.

We have already discussed sociomateriality at length in the preceding section. The hyper-relational ontology of (Orlikowski and Scott, 2008) interpretably denies the existence of digital objects outside of human (social) practice (interaction). Alternatively, the imbrication approach to sociomateriality (Leonardi, 2010, 2011, 2013) potentially offers more congruent grounds for theorising through digital objects. With Orlikowski, we cannot fully isolate the digital, which becomes necessary in this approach. In sociomateriality, the world bottoms out in relations, and everything in it is the product of intra-action in a mutual constitution of objects and agencies. Imbrication theory, by contrast, focuses on the fixed properties of objects and how they afford and constrain action (or social positioning/identity formation).

Whilst both approaches hold a common assumption that human and material agencies transform (one another) in their interactions, they diverge on this key ontological point: whether the technical object has distinctive (characteristic) properties (or affordances) outside of our interaction with (or knowledge of) them. However, Faulkner and Runde

(2019) present an alternative view which foregrounds the digital (to an even greater extent than the imbrication approach) and its positionality. The social positioning approach transcends the ontological divide between orthodox sociomateriality (Orlikowski and Scott, 2008) and the imbrication approach (Leonardi, 2011). Nevertheless, ontological reversal means that digital object takes a primary position in the constitution of reality, meaning it is increasingly the task that scholars begin formulating means of theorising social reality, giving due recognition to the role digital objects play in shaping its condition. Having established a working understanding of the fundamentals of IS theories of the digital and approaches to socio-technical relationality, it remains to construct the theoretical framing of this research by drawing upon the features of digital objects.

7.3 CONSTRUCTING A DIGITAL-FIRST FRAMING

I became increasingly immersed in IS literature, seeking inspiration for a theoretical framework that could help understand (or explain) the results of my pilot study. I began experimenting with the concept of digital objects and sought to isolate the digital in my analysis. I found that the IS literature, which looked at properties and defining characteristics of digital objects (and therefore of digital technologies), proposed congruent means of building a framework capable of isolating the digital in my data. The product of this effort was the literature reviews presented in sections 7.1 and 7.2 of this chapter.

Digital Object	Classification	Field	Jones (2012) categories
Webinar	Digital media artefact	Production:Consumption	Business
pre save link	Digital media artefact	Consumption:Distribution	Business
Pirated digital music objects	Digital media artefact	Consumption:Distribution	Commodity
Digital Videos	Digital media artefact	Production:Distribution:Consumption	Commodity
Liverpool Digital Music Festival	Digital media artefact	Production:Distribution:Consumption	Commodity
Listening party	Digital media artefact	Consumption:Distribution	Commodity
Digital deluxe album	Digital media artefact	Production:Consumption	Commodity
Virtual concert	Digital media artefact	Production:Distribution:Consumption	Commodity
Fake artists	Digital media artefact	Production:Distribution:Consumption	Commodity
Fake streams/followers	Digital media artefact	Production:Distribution:Consumption	Commodity
Avatars	Digital media artefact	Production:Distribution:Consumption	Commodity
Selfie	Digital media artefact	Production:Distribution:Consumption	Commodity
Playlists	Digital media artefact	Production:Distribution:Consumption	Commodity
Podcast	Digital media artefact	Production:Distribution:Consumption	Commodity
Reels	Digital media artefact	Production:Distribution:Consumption	Commodity
Digital Images	Digital media artefact	Production:Distribution:Consumption	Commodity
Digital Music	Digital media artefact	Production:Distribution:Consumption	Commodity
Live stream	Digital media artefact	Production:Distribution:Consumption	Commodity
MP3s	Digital media artefact	Production:Distribution:Consumption	Commodity
Text messages	Digital media artefact	Production:Distribution:Consumption	Everyday
Click Track	Digital media artefact	Production	Musician
Digital Music Object (Demos)	Digital media artefact	Production:Consumption	Musician
VR Artists	Digital media artefact	Production:Distribution:Consumption	Musician?
FN Meka	Digital media artefact	Production:Distribution:Consumption	Musician?

Figure 7 - Extraction from larger analysis document.

Referring to Figure 6 (7.2), we can see over 20 different terms listed relating to the properties or attributes of digital objects. It would be much too burdensome to assimilate each term into a neat framework fully. To simplify this task and construct a digital-first framing to reinterpret my data, I initially drew upon the categories proposed by the digital technology perspective of digital entrepreneurship (digital artefacts, digital platforms and digital infrastructure). During this time, it was becoming increasingly clear that the contribution of this research lay not primarily in theorising changing practices of cultural production using cultural entrepreneurship but, perhaps more importantly, seeking new ways of explaining digitalisation. These ways refine existing management theories with additional technical specification and sophistication when theorising the digital.

With this in mind, I returned to my analysis to make a comprehensive list of all the digital objects mentioned in the data. This effort produced over 100 individually named digital objects. With this list, I tried to categorise the objects in different ways. I classified objects based on my reading of digital entrepreneurship literature and the digital technology perspective (digital artefacts, digital platforms, digital infrastructures). I also broke the music-industrial process into three sub-processes: production, distribution and consumption (Jones, 2012).

Finally, I added a fourth dimension which would categorise each digital object and link them with the dimension of musicianship they corresponded to (or afforded). In this respect, the musicianship model developed in Chapter 4 (section 4.3.2) proved helpful in facilitating the visualisation of how digital technologies are transforming musicianship in four dimensions. Nevertheless, in terms of an analytic framework, it was fruitless. It was not easy to draw anything neat and useable from this approach

without force-fitting categories and too much crossover between themes for it to be of any (clear) analytical value.

In another attempt at constructing a digital-first framing, I returned to Figure 6 (7.2) and the mass of terminology used to describe the properties of digital objects in IS research. Duplicates and related concepts were deleted in the analysis. For example, the table shows programmability (Yoo, 2010, Yoo et al., 2010) and two iterations of re-programmability (Kallinikos et al., 2013, Baskerville et al., 2020). It makes no sense to have both, particularly when a term such as editable (Kallinikos et al., 2013) can encapsulate several properties listed in the table. Similarly, malleability becomes an umbrella term for many of the properties listed in the table. This second attempt at constructing a digital-first framing produced four key properties of digital objects and digital object theorising.

Firstly, and primarily, digital objects are embedded. They are embedded because they are so ingrained (enmeshed) and integral to many activities that they represent indistinguishable, inseparable components of our lived realities. Ongoing digitalisation means that the embeddedness of digital objects is becoming increasingly complex. Such complexity, however, can be broken down into more manageable chunks by looking at digital objects used in action. The two properties related to digital objects in use (or affording properties) include interactivity and malleability. Digital objects are interactive, highlighting how digital objects are both active and actant.

Digital objects are also inherently malleable. Many different terms for the manipulability, editability, openness, accessibility, adaptability, and variability of digital objects appeared in the literature. It was decided to group these properties under the larger umbrella turn for analytic clarity. The final element of this framework considers

the sociomateriality of digital objects. This theme foregrounds the complex ontology of digital objects, analysing how the ontological nature of digital objects influences (shapes and conditions) entrepreneurial practices, processes and outcomes. As suggested in this research, one of these outcomes is alienation resulting from the reification of everyday life and the softwarization of society (6.1). The following sub-sections delve into each of the four dimensions of this framework and culminate in a modelling of how the (affording) properties of digital objects coalesce and are embedded in entrepreneurial ecosystems.

7.3.1 EMBEDDEDNESS OF DIGITAL OBJECTS

This subsection develops the initial theme of embeddedness. Alongside the interactivity of digital objects, their malleability and sociomateriality, the embeddedness of digital objects combine to form a digital-first analytical framework. The literature shows that digital objects are embedded in complex, fluid, distributed and shifting environments (Kallinikos et al., 2013). The embeddedness of digital objects owes in no small part to their modularity and granularity (Yoo, 2010). Modularity concerns relationships between blocks; granularity entails the stuff of which these blocks are made (Kallinikos et al., 2013).

Modularity refers to distinct, self-sufficient blocks of items and operations that constitute a system. This structuring allows for independence (of objects) within broader networks of functional relationships (Kallinikos et al., 2013). These relationships, however, tend to be mediated through (digital) interfaces of various kinds. Modularity becomes a fundamental principle of design representing the technical realisation of the idea that integrated objects or systems are more difficult to control or manipulate, and while modularity can apply to physical and digital objects

(or systems), the modularity of digital objects runs much more profound; to a granular level. The unique degree of modularity digital objects afford (i.e., how easily they can be combined) relates paradoxically (Faulkner and Runde, 2019) to both their fixity (i.e., endurance as objects) and flexibility (incompleteness, open editability). The feature of digital objects that affords this functionality is the capacity to fully decompose any digital object (down to a single bit). The literature calls this the granularity of digital objects (Kallinikos et al., 2013).

Granularity refers to the minute, resilient (enduring) elementary units that constitute digital objects. The granularity of digital objects relates directly to their numerical constitution. Analogue artefacts are rarely granular. Granularity also refers to how deeply digital objects can be analysed but attests to how deeply engrained or embedded digital objects are in affording environments (i.e., entrepreneurial ecosystems). The nature of digital objects (as a homogenised expression of information) enables unprecedented degrees of tracing and deep diving into their baseline constitution (Kallinikos et al., 2013). Digital objects are decomposable and traceable down to their elementary units. Whilst physical objects can also be considered modular, the granularity of digital objects creates an ultimate distinction.

Yoo (2010) suggested that to understand our complex, digitalising reality, the IS community must expand its intellectual boundaries and embrace the notion of experiential computing (7.2). Computed experience means increasing degrees of everyday life, becoming digitally mediated and embodied. As suggested in previous discussions (6.2), the embeddedness of digital objects in our physical reality has reached a precipice (Baskerville et al., 2020): ontological reversal (i.e., the real world becomes a product of the digital). Operationalising ontological reversal as a topic for empirical security means that theorising must begin from the assumption of total

embeddedness. Taking this approach means that the embeddedness of digital objects becomes the baseline for this framework (see Figure 8 below).

From this perspective, the fundamental entity becomes the digital object, and theorising must proceed through it by isolating properties unique to the digital. Modularity and granularity furnish digital objects with distinctive affording properties (Kallinikos et al., 2013), primarily digital objects' interactivity, malleability and sociomateriality. As we progress through this list of attributes, it is also worth noting that each is co-constitutive of the constellation of affording properties digital objects possess (Nambisan, 2017, Autio et al., 2018).

7.3.2 MALLEABILITY OF DIGITAL OBJECTS

The malleability of digital objects is an encompassing theme which seeks to draw together several related ideas. Under this umbrella category of malleability, the IS literature refers to the unbound (Ekbia, 2009) openness (Kallinikos et al., 2010, Kallinikos and Mariátegui, 2011, Kallinikos et al., 2013) of digital objects; this is in some way owing to their incompleteness (Ekbia, 2009) and accessibility (Benkler, 2006, Lessig, 2006, Zittrain, 2008) or, ubiquity (Yoo, 2010, Kallinikos et al., 2013). The incompleteness of digital objects implies an inherent instability (Ekbia, 2009) which perhaps undermines the suggestion that digital objects endure (Faulkner and Runde, 2019). In combination, these ideas suggest a fundamental editability (Kallinikos et al., 2010, Kallinikos and Mariátegui, 2011, Kallinikos et al., 2013, Benbya et al., 2020) of digital objects achieved with relative ease (Benkler, 2006, Lessig, 2006, Zittrain, 2008). Digital objects are (re)programmable (Henfridsson and Lyytinen, 2010, Yoo, 2010, Benbya et al., 2020) and transfigurable (Kallinikos et al., 2010, Kallinikos and Mariátegui, 2011). These features are related to the modularity and granularity of

digital objects rendering inherent flexibility and (re)combinability (Faulkner and Runde, 2009, 2019). We also experience properties such as the variability of digital objects, as manifest in the mass customisation or personalisation of products and services available to users/customers (Manovich, 2001); the affordances of digital technologies in this way have transformed not only the production of goods but equally transformed the way they are marketed (print on demand, for example).

The primary property of digital objects that affords malleability is their openness. Openness is a distinguishing feature between material and nonmaterial entities. Openness means it is (always theoretically) possible to access and modify digital objects, but access is only possible with other digital objects. Kallinikos et al. (2013) term this phenomenon the ‘interoperability’ of digital objects. This property enables much deeper interaction and interpenetration within an affording environment and is owing to digital objects' inherent modularity and granularity. This openness stems from the incompleteness of digital objects. Digital objects are ontologically incomplete (unfinished) and always in the making (Kallinikos et al., 2010). Such incompleteness presents problems and opportunities.

The opportunities presented by the incompleteness of digital objects related to the unbounded nature of related tasks and operational links that an artefact can (or could) accommodate. On the other hand, however, incompleteness also reduces control over the artefact and how it is (ab)used (Kallinikos et al., 2013). We can relate this feature to the proposed ambivalent ontology of digital artefacts. This ambivalent state ‘opens up ample potential for innovation, enabling the mixing of inputs/outputs across the traditional and usually fixed industry borders associated with standard physical products (Kallinikos et al., 2013).

Digital artefacts differ from physical entities because they are pliable, and it always remains possible, at least in principle, to continuously and systematically modify and update them (Kallinikos et al., 2013). The editability of digital objects is manifest in numerous forms. This feature can include the manipulation of constitutive elements of the digital object, adding or deleting existing elements, or even changing some aspects of its functionality. Edibility (i.e., malleability) is intrinsic to the digital object and this property not only affords but also invites continuous engagement.

The malleability of digital objects is, therefore, generative, affording innovation and change. The decision to foreground digital objects in this study reflects the decision to move away from actor-centric approaches and instead focus on the correspondence of musicians and digital objects. The ontological ambivalence or incompleteness of digital objects offers opportunities for innovation but also means digital objects are often fleeting and only temporarily in the hands of their creators. Developing an account of how such properties are used (and abused) in music industries is crucial to this thesis.

7.3.3 INTERACTIVITY OF DIGITAL OBJECTS

The theme of interactivity encapsulates all of the properties and features of digital objects which mediate or afford action between users and objects, other users and other objects (digital objects primarily interact with other digital objects). Interactivity confers digital objects with an entirely new spectrum of possibilities directly relating to digital objects' modular structure and granular constitution. This property of the digital means that digital objects can be active at multiple layers and in different ways or combinations simultaneously without the risk of the object degrading (Kallinikos et al., 2013, Faulkner and Runde, 2019) with use (as is the case with material objects).

Digital objects possess qualities which facilitate efficient distribution (Kallinikos et al., 2013); owing to their transferability (Benkler, 2006; Lessig, 2006; Zittrain, 2008) and communicability (Henfridsson and Lyytinen, 2010). Interactivity in this sense also implies the associability of digital objects (Benbya et al., 2020), addressable (Henfridsson and Lyytinen, 2010) and identifiable (Benbya et al., 2020) by way of inherent traceability (Henfridsson and Lyytinen, 2010) and findability (Kallinikos et al., 2013). The scale and scope of interactivity in the analogue world pale in the shadow of what is made possible by the properties of digital objects, thus another feature distinguishing digital from physical objects.

Today, digital objects increasingly interact with us. This sense of interactivity is achieved by recording or sensing users' behaviour and then predicting based on past actions. The Internet of Things, algorithmic mediation and behavioural nudging transform the theorisation of digital object interactivity. Today, digital object interactivity flows both ways. Digital objects are not only acted upon by human users but are also active in shaping human behaviour and influencing our perception of reality (and each other). This shift has further consequences for theorising the nature of digital artefacts and how this nature is increasingly shaping and creating our lived experience. These ideas again tie in with computed experience (Yoo, 2010, Berry, 2015, Faulkner and Runde, 2019).

We have already discussed how computation and digital objects come hand in hand. In order to exist, digital objects must be computed in some way, and vice versa, computation cannot happen without digital objects. The point here is that interactivity refers to action between (digital)objects and human users and, perhaps to a much larger degree, between digital objects (and other digital objects). Recall how most digital objects remain hidden in the back end of a computer programme, invisible and

imperceptible to most users. In this respect, we can talk about computation (i.e., the processes through which digital objects are brought into existence) as the fundamental interaction between digital objects and users of digital objects. Understanding the evolving interrelation of human users, digital objects, and other material or nonmaterial objects is central to the theory of digitalisation this research aims to produce.

The interactivity of digital objects is a broad category which aims to incorporate all instances of action occurring with, by or between digital objects, users and other objects. Users can historically interact with digital objects in various ways and at various levels due to their modularity and granularity. We have also seen that the fundamental properties of digital objects further afford interactivity in the sense that these objects are highly and efficiently distributable, identifiable and therefore inherently finable, and traceable, which has broader connotations for the functioning of digital (platform or surveillance) capitalism (Srnicek, 2017, Zuboff, 2018).

7.3.4 SOCIOMATERIALITY OF DIGITAL OBJECTS

The decision to dedicate this final dimension of this framework to re-analysing the sociomateriality (Orlikowski and Scott, 2008, Leonardi, 2010, 2011, 2013, Faulkner and Runde, 2019) of digital objects (debate – 7.1) is justifiable because ontological reversal (Baskerville et al., 2020) upends any previously held assumptions about their fundamental nature. The discussions around the ontology of digital objects (or technological artefacts) have been purposely non-committal because this research can find productive elements in each conceptualisation.

Sociomateriality, imbrication and the social positioning approach to theorising socio-technical relationality offer this framework and its constituent elements with capacities for more nuanced explanation than possible if one approach over the others. For

example, the sociomateriality of Orlikowski and Scott (2008) foregrounds social action in the analysis, which contributes to explaining the interactivity of digital objects and how their embedded nature shapes practice. Secondly, the imbrication approach (Leonardi, 2011) tells us more about what digital objects mean they afford in the way they do. Social positioning (Faulkner and Runde, 2019) adds further nuance, demonstrating that the same digital object affords different users differently in different contexts.

Finally, a critical approach to sociomateriality draws upon a critical theory of the digital (section 6.1) and highlights important (normative) issues surrounding the nature or materiality of the digital. This approach means looking at how digitalisation (and ontological reversal) produce new effects and manifestations. Ontological reversal means that the digital comes first and is (if required) printed into physical reality; however, this study suggests that printing goes one step further, imprinting human users who increasingly become bearers of digital objects. This condition follows the reification of everyday life and social softwarization, producing a supercharged (Berry, 2016, Lindebaum et al., 2020) sense of social alienation (6.1).

Collating these insights and integrating the complex array of terminology used in IS research to discuss the properties of digital objects produces the figure below, which illustrates the affordances of digital objects embedded in entrepreneurial ecosystems. Note how the terms from Figure 6 are now much more categorised and therefore operationsalisable in empirical analysis.

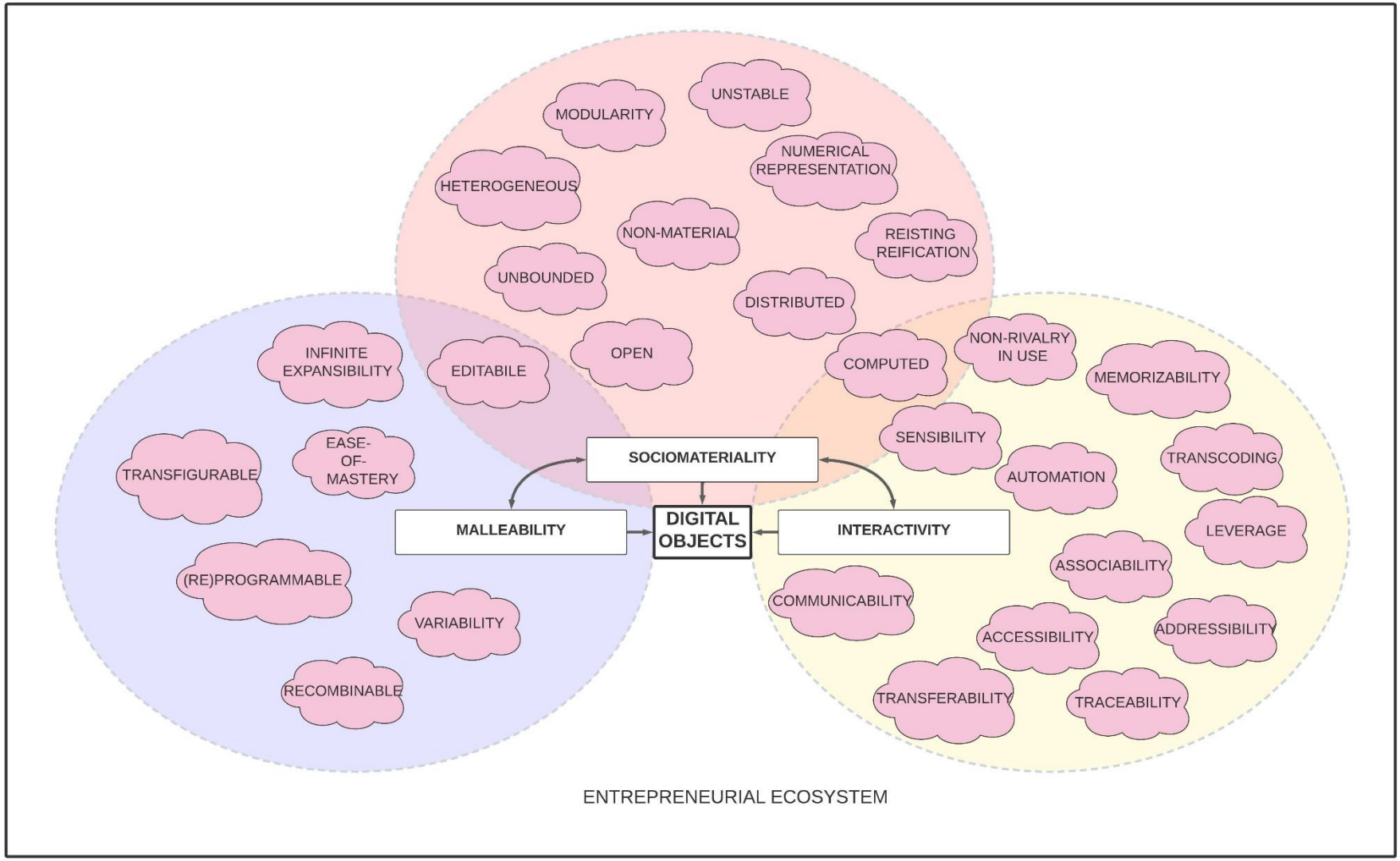

Figure 8 - Digital object embedded in entrepreneurial ecosystem

The objective of this chapter was to review recent developments in IS to develop a framework appropriate for studying digital-first musicianship. From a list of 35 properties of digital objects mentioned in IS literature, the analysis reduced this to - a more easily digestible - four properties. Digital objects afford in the way they do because they are embedded in the devices, structures (i.e., ecologies) and systems where we conduct our daily lives. Embeddedness relates to the essential construction of digital objects. Malleability also relates to the ontological nature of digital objects. Past research in IS has centred mainly on the quasi-objecthood of the digital object (Ekbia, 2009), its non-materiality (Faulkner and Runde, 2011) or ambivalent ontology (Kallinikos et al., 2013). More recent theorising (Faulkner and Runde, 2019) offers fresh insight towards framing the digital in ways that do not misrecognise digital objects' powerful influence. By incorporating insights from critical theory this research can begin unpacking the implications of the growing influence of digital objects for musicians and music making practices.

CHAPTER 8: A DIGITAL-FIRST FRAMING

This chapter presents the results of this final analysis, structured according to the digital objects framework developed in the previous chapter. We describe how deeply embedded digital objects are in contemporary musical ecosystems. It is found that by discussing the embeddedness of digital objects, we can produce a rich account (i.e., thick description) of the entrepreneurial ecosystems in the processes of music making. We find ontological reversal occurring in compositional processes and the business of music-making. Section 8.2 discusses the malleability of digital objects and how the unique properties of digital technologies create a reality distortion field where reality becomes increasingly malleable.

The following section (8.3) details evidence around the transforming nature of the subject-object relation in a digital-first world relating to artificial intelligence and machinic agencies. Discussing the interactivity of digital objects focuses attention on how today, not only do digital objects afford a greater distribution of the processes of cultural making (in both spatial and temporal terms) but also that the growing influence of AI and algorithmic mediation means that humans no longer interact with digital objects but that digital objects are increasingly interacting with us and the world we inhabit. The final section re-considers the sociomateriality question and finds that drawing upon the reification concept can help explain and expand understanding of the digitalising condition. The chapter closes with an overview of the findings before moving into the discussion and conclusion, which close this thesis.

8.1 EMBEDDEDNESS

ONTOLOGICAL REVERSAL IN ENTREPRENEURIAL ECOSYSTEMS

The embeddedness of digital objects is undoubted. This discussion is not arguing whether digital objects are embedded, nor would we be assessing the depth or permanency of this embeddedness. Instead, we are using the idea that digital objects are embedded to generate an account of digitalisation. That is, ontological reversal becomes the result of embedding digital objects. In other words, digitalisation is a process of digital objects becoming increasingly embedded in everyday practice, the softwarization of society. Discussing the embeddedness of digital objects produces an account of softwarized music making.

8.1.1 MAKING MUSIC

The compositional practices of musicians studied in this research illustrate the embeddedness of digital objects within contemporary musicianship, and this condition, in turn, contributes to shaping compositional practices. As discussed in section 4.2.1, the digital emancipation of musicianship stems from the ubiquity of digital audio technologies. Digitalisation empowers musicians to capture and create almost anywhere, from the microphone on your smartphone to cheaply available digital audio interfaces.[21] Portable note-making and voice recording enable instant capture and

[21] Interfaces refers to the hardware devices which allow musicians to plug their instruments into the computer and record audio directly from the instrument into the digital production software programme without the need for using microphones (i.e., capturing the noise which emerges from a guitar amplifier for example). Recording 'live' instruments requires technical knowledge about microphone placement, a sound-proofed room as well as the cost of microphones, etc. Most digital production software today can emulate the sound of guitar amplifiers and the acoustic dynamics of the 'room' are completely editable.

storage of everyday creative stimuli. Revisiting one case from the data demonstrates the embeddedness of digital objects in compositional practice.

Singer-songwriter Laura talks me through her process. She usually composes on her guitar but sometimes on piano, depending on the mood. What is consistent through her compositional practice is that her phone is always close to her hand:

> I will just kind of mind map or list words and themes that I'd want to be in a song. It might be a title, it might be just lines that I like, and it'll be something that I'm just constantly adding to through everyday life. So, I'm always looking out for inspiration, or ideas or things… (Laura).

Inspiration can arise anywhere or at any time. Having your phone constantly to hand means creative stimuli can be noted (or stored) conveniently and reliably. These ideas are digitised and stored for when the time comes to write. When writing, Laura retrieves the bank of ideas stored in her phone, browses the file and may fall on something she can 'run with' and begin crafting the song around the digital object. In our interview, I asked her to tell me more about how she develops these initial ideas:

> All of the songwriting I do myself, so I'll write the song by myself. I'll kind of put it into Logic, do like a rough demo. And then bring it to the band and say okay, 'this is the song'. 'This is how I want it to be, how I've pictured it to be arranged'. We might have like a little bit of back and forth trying to find the right drum beat or that kind of thing, but I direct the sound (Laura).

In Laura's writing routine, digital objects are embedded within the entire compositional process: the mind mapping of ideas on the go; the production of a demo version; sharing the demo file with others; realising the digital object (i.e., performed in rehearsals or later at live concerts perhaps even recorded in a professional setting).

Examples of similar routines abound in the data. Eddie describes how creating new music with digital technologies becomes an everyday activity, and in a similar way to how Laura uses the note-making application on her phone to capture creative stimuli from her daily life, Dan describes how he uses the voice notes recording feature on smartphones.

Whilst not primarily a dedicated or specialised software for musical production, this rudimentary audio recording technology has become crucial to compositional practices today. Usually, Dan begins with the guitar but increasingly uses keyboards and synthesisers, noodling around and feeling where the instrument takes him. Usually, a riff will take hold or a sequence of chords, a beat or a rhythm. Upon working out something that resembles an idea, he will take out his phone and record what he has written. Listening to these scraps of ideas without performing them yourself frees the composer to think about additional parts—melodies, vocals, and accompaniments.

> Obviously, it wasn't like that 15 years ago, you'd have needed a specific device which would cost hundreds of pounds, which is not accessible to everyone. Now you can just put your phone down and listen to what you've written… like when you're playing guitar, you can't really think of how the vocal should sound or whatever, so it's stuff like that, it lets you concentrate on one thing at a time, which is definitely good (Fran).

What is interesting about digitalisation is the unexpected outcomes which arise out of these new contexts, particularly prevalent during the pandemic. For example, in the case of Michelle, a technology designed to allow people separated by a geographic

distance the possibility of communicating also presents artists (in this example) with extended potential for sonic innovation and experimentation.

> During the pandemic, we would do Zoom writing sessions, which actually went quite well… we've recorded a couple of things over Zoom for this most recent project. We recorded the guitars with his iPhone, recorded through Zoom and it sounds really cool and different and interesting. There's a lot of sending files back and forth (Michelle).

It is also worth recalling from the discussion in the previous section that voice memo technologies built into most smartphones enable the reliable capture and storage of creative inspiration. Similarly, in my practice, as a band, we will share audio files and rough demo recordings in chat groups such as WhatsApp, which allow us to revisit, comment upon, critique and rework the idea at our convenience in advance or after rehearsals, performances or studio recordings. Instant messaging, video chat and filesharing technologies allow artists to share ideas with band members and collaborators, meaning services such as Zoom, WhatsApp, and Facebook Messenger become key co-creation sites in meaningful ways like those described above. The pandemic served to amplify the uptake of virtual co-creation but has further legitimated this practice for many active in the industry today.

Recalling my practice, frequently, the live performance of a new song (i.e., in front of an audience) comes after its digital rendering (finalisation). The lines are blurred further between the nature and origin of my sound when we consider that my analogue bass guitar is generally plugged into a digital multi-effects pedal plugged into a solid-state (digital) amplifier. At a gig, the sound engineer will usually have a direct line from

my amplifier into their mixing board which then sends sound to the front-of-house PA speakers, which pump noise into the ears of the audience.

This example perhaps contrasts with the ontological reversal, which posits that the digital version comes first. In my live performance, the original noise made by my bass guitar is not digital, i.e., my plastic plectrum strikes the metal string, which produces vibrations picked up by an electromagnetic field, translating the sound into electrical signals. Nevertheless, before the sound reaches the audience, even my ears on stage, it has been through multiple digital (and non-digital, i.e., acoustic) manipulation. However, we must not forget that generally (in my practice at least), I am using the digital effects and the sonic properties of the (usually digital) amplifier to emulate the sound of the studio recording, my live performance and the skills and tastes I have developed in digital manipulation are employed in an effort towards reproducing, as much as possible, the digital original.

Such examples illustrate the embeddedness of digital objects in music-making. Furthermore, locating the digital in the data inspires new readings of familiar situations (for me, at least), facilitating learning that would not have been possible in another way (such as the grounded analysis described in Chapter 4). Moving away from music making, we turn to the musicians' second essential function, a text maker, selling themselves to audiences. Re-interpreting the data through the lens of critical theory allows us to describe the reification of the artist as they become commodified along with their art and how this is any different today compared with the pre-digital age.

8.1.2 MAKING AUDIENCES

On one level of analysis, the digitalisation of music has, in many ways, unshackled the musician from traditional constraints, posing alternative routes to market and allowing artists to take control of their art and self-manage the direction of their artistic career. Whilst the commercial star system remains firmly in place, independent, grassroots DIY artists can once again trouble the top of the charts, whether this is the traditional singles or album charts or the list of trending profiles on social media sites such as TikTok or Instagram. We can consider this as the viral route to stardom.

This phenomenon is not just limited to music, of course. The desire for online approval and social legitimation through accumulated likes, clicks, shares, and so on (i.e., digital symbolic capital) is a central feature of digital media and has contributed to the success of many platforms (i.e, Facebook, Instagram, Twitter and more recently, TikTok). These behaviours form part of entrepreneurship of the self, where highly-visible engagement statistics provide dynamic and easily accessible measures of how well one is doing. In music industry terms, an aspiring band appealing to gatekeepers (legitimating agents) would hope to demonstrate their viability as an attractive prospect with an active, engaging online presence that boasts good numbers: numbers that equate with value or worth.

Social media engagement data and streaming statistics are essential because the users reflected in this data (usually) represent real, existing human people. Reaching and engaging with increasing amounts of people produces more data which can be computed (algorithmically) and automatically distributes your music or media posts to seemingly infinite users that resemble those with whom you already engage. Not only the curation (or) personalisation algorithms have access to such data. This information is readily available for artists to access and exploit using applications provided by

media platforms. Artists can see who it is that is listening to their music, the age of their listeners, gender, sexuality, location and when they are listening.

Figure 9 - Screenshots of data and metrics from various social media and streaming service back-end applications.

In a conversation with local music entrepreneur Django, he discussed how access to these technologies and data insights are incredibly “powerful tools” for artists and their teams; they empower musicians to take control of their careers, building, understanding and developing their audiences. “You’re now allowed to be independent, and you can make money independently, and you have your stats, and you can connect with your audience independently… you can see about your audience, how you can deliver, how you can engage”. The importance of effectively using social media in developing musical careers was a central topic of conversation with all participants, most of whom described active, often deep engagement with their online audience data.

Eddie, for example, “look[s] into all the insights… when our audience are mostly online... what days are better... what time is better”. His efforts are in working towards maximising the online reach of his music. “We find 7 o’clock tends to be quite a good time to post, Monday to Friday”. The power to know your audience and catch them at just the right time is perhaps something artists and managers in past generations would have dreamed of. More experienced participants such as Phil and Don, who came of age in the pre-internet era, recognise this when they say that digitalisation affords a more democratic music industry. Nevertheless, empiric reality rejects such a simplistic assessment and reveals a constantly evolving multiplicity of digital services and online media platforms, creating increasingly complex ecosystems that aspiring musicians must learn to navigate.

Another example of the digital shaping of everyday musicianship is Bandcamp's influence on artist strategizing.[22] During the pandemic, music platform Bandcamp initiated Bandcamp Fridays, where the company would drop all their commission fees charged on sales meaning artists could keep every penny they made each Friday. This new development has led to increased artists scheduling releases for Fridays and other forms of strategizing based around this weekly event, such as releasing new merchandise, special issues for Bandcamp Fridays, and offering reduced prices, discounts and offers. The tradition of Bandcamp Friday has continued into life post-pandemic as the company positions itself as an artist-friendly alternative to Spotify and the other major platforms.

[22] Bandcamp is an online audio distribution platform which has since expanded into allowing artists to advertise and retail their merchandise. Artists and labels can upload their music to Bandcamp which allows greater freedom with regards to how they sell it when compared with streaming platforms such as Spotify. Bandcamp allows musicians to set their own prices and even offer users the option to pay more. Bandcamp is often considered (or is positioned) as a more artist friendly alternative to the mainstream platforms.

Nevertheless, the emancipatory potential of the internet is somewhat clouded by the air of uncertainty and doubt surrounding best-use practices. Referring back to Eddie, he tells me that despite his strategizing efforts, “Sometimes we’ll just do a spontaneous post, whether it’s after a gig on a Saturday night or Sunday morning, and it will get a ridiculous amount of likes. Sometimes you just do that one post, and there's no real understanding why it did so well”. Another participant, Nige, disclosed how he had filled most of a notebook with information about his band’s social media data and tips and tricks for gaming the algorithm on all social media and streaming sites, i.e., trying to hack his way to success.

Knowing what to post is another essential factor in musicians’ complexifying situations (options and decision-making). During the research, I came across a photograph of a press release purported to be distributed by Instagram to influencers advising best practices for the latest feature: reels, i.e., short bursts of video recordings social media users can use to engage with their followers.

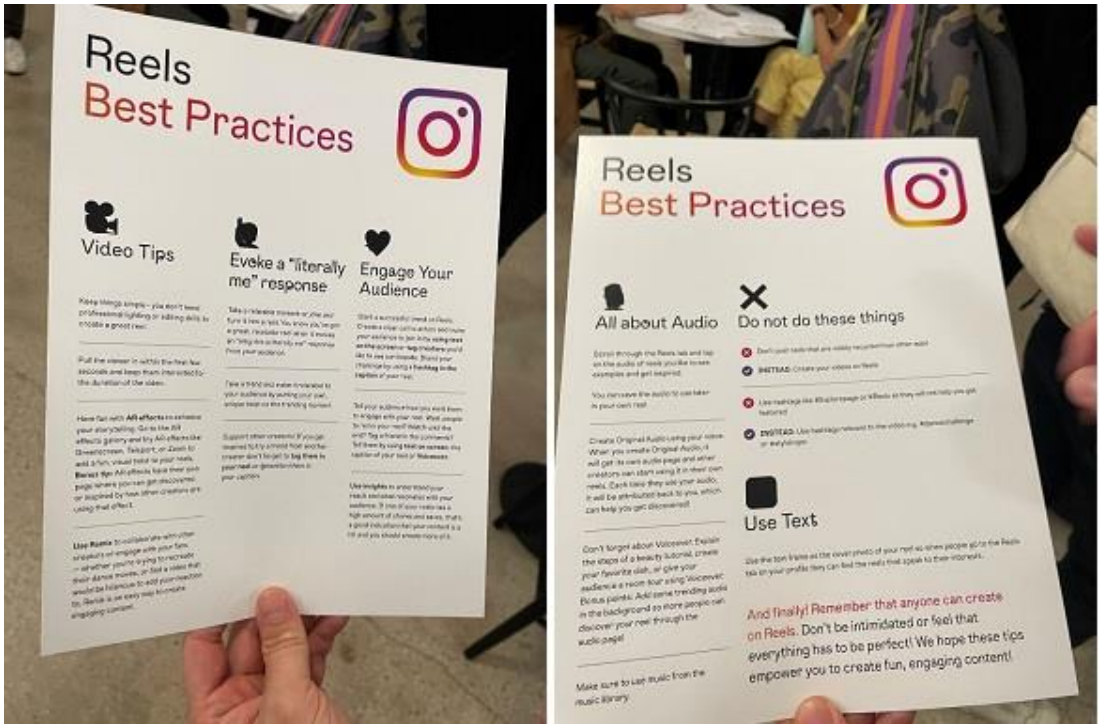

Figure 10 - Image taken from Twitter of information leaflet from Instagram detailing best practice for the new feature: reels.

The issue of reels comes up in my interview with local artist manager Megan. “The landscape is so skewed, and it’s all because of Tik Tok”, she tells me. Megan started working with a new artist shortly before the pandemic. Since getting involved with the artist, she doubled her Instagram followers from around 900 to over 2000 when we spoke. “It’s just about being clever with it” he tells me, “knowing what works, what doesn’t”:

> This stuff is hard to keep up with and I wouldn’t know about that unless I paid my mate £50 to consult on [the artist] so she can understand some of it as well. So, when we found that out, we switched everything over to reels, we don’t really do pictures anymore, and that’s why I feel sorry for bands because a lot of people won’t know that (Megan).

The power of social media as a promotional medium is undoubted, but accessing knowledge about best-practice or how to use it most effectively is limited to those in the know. These findings echo the discussion concerning the technical skills gap alongside the flat ontology used to problematise digital entrepreneurship theory (section 5.4).

However, sometimes these social media stats are not considered powerful tools but are trivialised and become novel sources of amusement while away time spent on the road. Phil, the frontman of a local band who enjoyed some mainstream success in the late 80s and early 90s, spoke of a game he and the band now play together while on the tour bus. The game consists of band members searching for various artists on Spotify and asking the rest to guess how many followers, streams or likes a particular song artist has achieved. It can also be 'Who has more followers, x or x?'. In my own experience, my band and I have played similar games during many long hours in the van. Phil also makes a light-hearted yet salient point about the inconsequentiality of this digital data (for most):

> It's been good for people listening and watching, but unfortunately, hasn't been great for the artists… unless you're in the bracket of Ed Sheeran. With The Clash, they probably didn't get a lot of money out of the music industry through records… you've now got 9 million monthly listeners. Should I stay? Or should I go? That is 663 million [streams], so nearly as much as the Beatles, so, I'm sure Mick Jones will be getting quite a bit… we've had 500 streams in Warsaw. So, you'd hope if you went to Warsaw, you'd get 500 people there, but it doesn't work like that. Streaming [though] is a worldwide shop, isn't it? Did anyone buy our records in Warsaw? I doubt it (Phil).

Whilst it has been many decades since the music artefact started becoming digital, recent years have seen artists increasingly assuming the form of digital objects (i.e., the artists' online presence). We are not just talking about digital music objects or the online (digital) representations of the artists (on social media, for example), but the constellation of digital (metadata) objects which also constitute contemporary musical ecosystems. The phenomenon this refers to is related to something we can call digital symbolic capital. Digital symbolic capital is the accumulated total of likes, shares, streams, followers and comments that any particular artist can produce. These forms of data are doubly important. They are essential in the first instance because they represent an outward display of an artist's popularity and success (potential). This metadata also feeds into algorithmic calculations determining who will hear your music.

The concept of entrepreneurial ecosystems emerged from observing just how deeply integrated digital technologies are in our personal and professional lives. Entrepreneurial ecosystems consist of both digital and spatial affordances. In a digital-first world, however, this relationship is reversed and no longer are digital affordances just complementing extant spatial affordance; instead, the digital now plays a role in shaping, conditioning even creating the physical world around us. The evidence presented in this section describes ontological reversal in the practices of musical production (i.e., composition) and the role of digital objects in the development of musical careers (i.e., text making).

In the last analysis (section 4.2), the stories told in this section certainly relate to the digital emancipation of musicianship but read through the lens of digital objects and a digital-first framing, we can produce a detailed account of digitalisation musicianship and how it is afforded within entrepreneurial ecosystems in which digital objects are

inseparably embedded and are furthermore actively involved in musical production as the following sections will make increasingly clear.

8.2 MALLEABILITY

DIGITAL OBJECTS AND THE REALITY DISTORTION FIELD

Many years ago, after a gig in my hometown, I talked with one of the scene's elder statesmen. What he said has remained with me for many years. We were talking about the art of making-it in the music business; how to be successful in winning the support of the mainstream. “It’s all smoke and mirrors, mate” he tells me. The music industry (and the star system more generally) abounds with myth and legend; it can often be tricky to exact fact from fiction. Artful manipulation of media perception remains a fundamental part of the artistic craft. The malleability of digital objects, not only their manipulation in audio production but (ab)use in media marketing today, add a further dimension in contributing to the musicians’ arsenal of reality distortion field apparatuses. This section explores the smoke and mirrors 2.0 afforded by the complex malleability of digital objects.

8.2.1 FAKE IT UNTIL YOU MAKE IT

Alongside digital audio manipulation, digital image manipulation also represents an essential function in the production of popular music; this includes both static and moving images in the form of promotional shots, ‘casual’ social media posts but also music videos, reels and all of the various things demanded by social media platforms.

Musicians' capacity to deal with Photoshop and video editing software programmes has become more important. Online platforms have become key sites for creation and curation (i.e., visual representation) in the contemporary practice of musical production. This idea does not mean to suggest that music has not always been a visual art form. In the popular music tradition, bands in the early days of commercial music were dressed and fashioned to look a certain way to appeal to specific demographics, a tradition that has continued until today.

We will argue that this degree of professionalised image curation was reserved for artists manufactured for the mainstream or grassroots artists picked up by professionals and getting mainstream-ready. Today, however, this task increasingly falls upon musicians at all levels. I recall several times at gigs with very sparely populated audiences, our frontman's partner would try to take photos of us on stage that would make the room look busier, angling herself behind the heads of the largest group of people standing near each other in the room. We would spend time later adding filters and other edits to make our midweek jaunt to Newcastle look worthwhile to those not in attendance.

Discussed already in section 4.4, Lance explained how the different demands between and across social media platforms complexify musicianship with additional cultural dimensions particular to each destination which can further serve to shape and condition promotional activities as artists must become attuned to inter-platform idiosyncrasies. Catering (i.e., adapting) for the different cultures of competing platforms is an important point that ties in with the problematization of cultural and digital entrepreneurship discussed in sections 4.3 and 5.4.

Posting high numbers on social media is (considered) fundamental to advancing a musical career. For musicians, there seems to be a logic which suggests that if your online presence(s) have a high follower count, high degrees of engagement with other users (interactivity), and high numbers of streams on my music, some unknown influential person will notice and sweep them along to fame and success. It is not just about appealing to some influential gatekeeper or intermediary but also looking impressive to others. Many musicians I spoke to discussed how people might not give their music a chance because they do not have many listeners on Spotify. The legitimating aspect of digital objects in the form of online symbolic capital holds such an allure over the practice of musical production today that artists are employing digitally enhanced forms of traditional smoke and mirrors perception management.

> I know that there's a few bands out there, I'm not gonna name any, but there's a few in particular who buy their followers, they buy their streams and fake that they've got this massive audience and they've just bought everything. (Eddie)

Relatedly, I recall from my own experience that when I first joined the band that I am in now, when we released a new song, we – as a five-piece – streamed the new song on repeat (muted on our phones) constantly for days or weeks on end during times that we were not listening to Spotify for our enjoyment. We racked up thousands of plays and could shout about it all over social media. However, noticing that artists of a similar level were being playlisted on algorithmically curated lists, they also had features such as ‘related artists’ or ‘artists radio’. We hypothesized that the algorithm was not picking up our music because we had no related artists (because the only people who listened to us were us five, which is pretty much all we listened to), and we vowed never to do it again.

Over six months to a year, we began to see the ‘related artists’ feature appear on our artist profile, and we began to appear also in automated playlists. We felt validated in our decision until we became aware of funding available for local artists with over 100,000 streams on one particular song. When faced with the decision to earn £600 to record new music or lose our related artists feature, we decided to stream the song repeatedly until we hit 100k. The malleability of digital objects in this way is related to their ambivalent ontology, which fluctuates in value depending on time and context (social position).

A prominent example of hacking success is the American neo-funk band Vulfpeck. They found an audience online using YouTube to showcase a gang of music school nerds jamming out to infectiously goofy lo-fi funk grooves, all through a cliched 70s-looking grainy TV filter. The band were able to exploit the ambivalence of digital media and streaming technologies to fund their first tour of the US. The band released an album on Spotify of several silent tracks, all just over 30 seconds long (this being the point at which a stream triggers a royalty payment), by asking their fans to stream this release on their phones on repeat all day, every day that they were not listening to Vulfpeck already for their enjoyment (of course). The 30-second maximum for tracks ensured the most efficient streaming return for the time involved. This neat trick raised enough revenue for the band to go on their tour, and they have since become a hugely successful act selling out venues such as madison square garden just before the pandemic.

These examples show how integral digital object malleability is to the everyday realities of digitalising musicianship. This feature of digital objects impacts the value of online symbolic capital (i.e., digital objects), which manifests differently to different people in different contexts. My band initially wanted to show off our many streams

and give us things to post about on social media. Once we realised that perhaps our reach was being curtailed by these activities, it became more about appealing to social media algorithms to grow our listenership through more 'organic' means. Nevertheless, the value of this was questioned once again when it became apparent that real funding was available (much more than we could have ever hoped to accrue through streaming alone) if we had a certain number of streams on a particular track. Conversely, Vulfpeck, who could already command a sizeable online influence, used this fanbase to generate enough revenue to support a full US tour.

The desire to appear legitimate online means musicians must accumulate digital symbolic capital. Accumulating digital symbolic capital is leeching on many musicians' creative energies and capacities today. These pressures have increasingly led to artists looking to fake it online. Faking it, however, is not only the preserve of the musician; major music companies are also exploiting the affordances of digital technologies to dodge legislation and undermine national sovereignty (8.2.2).

One final illustration of digital object malleability came during the writing up of this research. In recent months, Beyonce and Lizzo have re-released singles after audiences took offence to the use of ableist slurs in their lyrics (Diviney, 2022). Both artists released tracks containing (the same slur), only to remove the problematic version following public outrage on social media. Digital technologies allowed the artists to quickly revise their singles, respectively, and rerelease versions without the problematic phrase as though the original had never existed.

As we see here, discussing digitalisation in terms of the properties of digital objects solicits a new perspective in untangling the messiness of digitalisation and sociocultural transformations. The malleability of digital artefacts can contribute to how

artists create and recreate their art in an environment of instant globalised feedback and audience appraisal. Technologies are, therefore, also impacting the intertemporality of cultural making. In theoretical terms, digital object malleability not only impacts processes of valuation and legitimation (i.e., the constitutive processes of cultural making) in terms of the value of digital objects (i.e., fluid and contingent upon factors such as social positioning) and the degree to which malleability affords manipulation. Examples show that manipulation also includes the ability to erase the past and re-narrate stories used to win (or retain) legitimacy.

It is not the place of this research to judge or evaluate the ethical merits of this development but rather to probe the more profound consequences of this shift. What is the nature of reality increasingly devoid of physical referent (Baudrillard, 1994)? Subjecting the idea of ontological reversal to empirical scrutiny in this chapter is an example of one-way research can begin answering this question.

8.2.2 FAKE ARTISTS

During my period of field immersion, a fresh controversy concerning Spotify's use of so-called fake artists in their most popular playlists. This strategy was seen as an attempt to avoid paying unnecessary royalties to real artists when data shows passive listeners are uninterested in the artist less than they are in the vibe of the music. The issue concerns Spotify commissioning songwriters and producers to create music for particular playlists that accrue many streams. The size of these playlists can range anywhere from the ever-popular tropical house playlist, which at the time of writing has over 2.1 million likes, Deep House, 2022, with 4.5m likes to mood playlists like chill, hits with 7.5 million likes.

In paying songwriters a one-off fee for the music, Spotify can mitigate how much money they pay out royalties. Songwriters may or may not be known or famous but usually appear under pseudonyms. It is strange to think that one of your favourite tracks could be from an artist brought into existence only to shore up the profitability of a streaming platform. We can also see examples of similar practices in the film music world. Composer Joanna tells me that US platform companies such as Amazon and Netflix try to commission work using buyout deals, legal in the US but illegal in Europe and most of the world. This situation sees composers, similarly to Spotify's fake artists, selling their rights to their work, i.e., ownership in exchange for a flat fee.

Figure 11 - Views on social media

These examples demonstrate how the malleability of digital objects contributes to a digitalising condition where it is difficult to know what is or is not real. The nature of reality has been a consistent theme throughout these findings chapters and will continue into the next as we attempt to discover what is realised by digitalisation when we consider digital object (im)materiality. To summarise this section, we have seen how the art of manipulating digital objects is something that has become central to the practice of contemporary musicianship. Not only in producing new music and new musical possibilities but also in producing a musical career, building fanbases on and offline, and reinventing the notion of smoke and mirrors media perception using the

malleable affordance of digital objects. We have also seen how these properties of digital objects serve to black-box social reality altering our perception of one another and how we perceive reality.

The discussion in Chapter 7 concerning the malleability of digital objects highlighted how their open editability is fundamental to the affordances of digital objects. The incompleteness of these objects, i.e., that digital objects are always in the making and realised in use or application, means that malleability becomes one of the fundamental properties and one which has facilitated in this case of pseudo democratisation of access and affordance. This idea relates to apparent divides across society regarding the distribution of digital dexterity, as seen in section 5.4. Widespread access to the requisite technologies and digital apparatus is undoubted, but possessing the dexterity and technical know-how to realise the power of digital technologies (i.e., the successful manipulation of digital objects) is rare and rarely possible alone.

The data discussed describes an entrepreneurial context drenched in Californian ideology (Barbrook and Cameron, 1996) but in which the prevailing discourses serve not only to misrecognise musical realities but also interpellates (Althusser, 2014 [1970]) eager (willing, easily seduced) subjects into a false consciousness privileging the social media roulette wheel of viral stardom over the time-honoured tradition of networking your music into the right hands (or mouths).

Nevertheless, malleability is not as simple as digital objects being accessible and easily reprogrammable; their malleability refers to other features, such as whether digital objects are visible to human users or hidden in the back end of a computer programme where their workings and origins are unknown and obscured. While digital objects are theorised in the IS literature around their locatability, addressability, and

identifiability, who (or what) has access or this knowledge and information remains an important issue. We are talking about black boxing of social relations (Pasquale, 2015), which inadvertently (by design or otherwise) implicates social practice, behaviours and attitudes.

The implications (i.e., lived experiences) of the black boxing of social relations come to the fore in the data collected in this research providing valuable insight into the dark side of digitalisation. In this way malleability of digital objects becomes a two-way street; manipulable and manipulating. Section 5.4 describes the technological divide in contemporary musicianship, revealing the myth of digitally enabled (emancipated) musicianship.

In this re-presentation of the data, however, we consider the malleability of digital objects in this second sense, in their mirrored manipulability, their (in)visibility present in the controversy surrounding fake artists, fake fans and fake streams, the fruitless quest towards hacking success. The next chapter takes this second sense of malleability one step further and considers the ontologically reversed interactivity of digital objects and how digital objects transform from manipulable to manipulating.

8.3 INTERACTIVITY

MACHINIC INTELLIGENCE AND DIGITAL OBJECT AGENCY

The interactivity of digital objects should be considered broadly to encapsulate the multiple and fluid features and properties of digital objects, which afford (equally constrain) action between users and objects. Essentially, this section is interested in understanding how digital objects are involved in musicians coming together with

others in working to create art and realise its value. Nevertheless, as has already been discussed, ontologically reversed digital object interactivity suggests a new relationship between the subject (user) and the object. The rise of AI and algorithmic intermediation certainly shifts sociotechnical relationality into a novel situation where the digital increasingly interacts with (even produces and creates) the physical world.

8.3.1 DIGITAL OBJECTS INTERACTING WITH MUSIC

Existing approaches to socio-technical relations are lacking in their account of growing digital agencies. We must not forget, however, that people design AI and algorithms, and their agency reflects particular human intent. Algorithms are computational processes in which data is amassed and calculated according to a particular purpose (i.e., with a goal in mind). The streaming era can be distinguished from the download era by this new approach to music distribution, which is an algorithmic recommendation (see section 1.1.3 for more detail about the dichotomy between download vs streaming). In the early days of Spotify, service users would find the music they wanted to listen to by searching for artists or tracks they already knew or had been referred to by someone else (friends, teachers, parents, even total strangers). The success of Beats Music's algorithmic approach to playlisting and song selection has completely revolutionised the way we discover new music but has also changed how artists make music with this newly complexified, distributive landscape in mind (section 1.1.3).

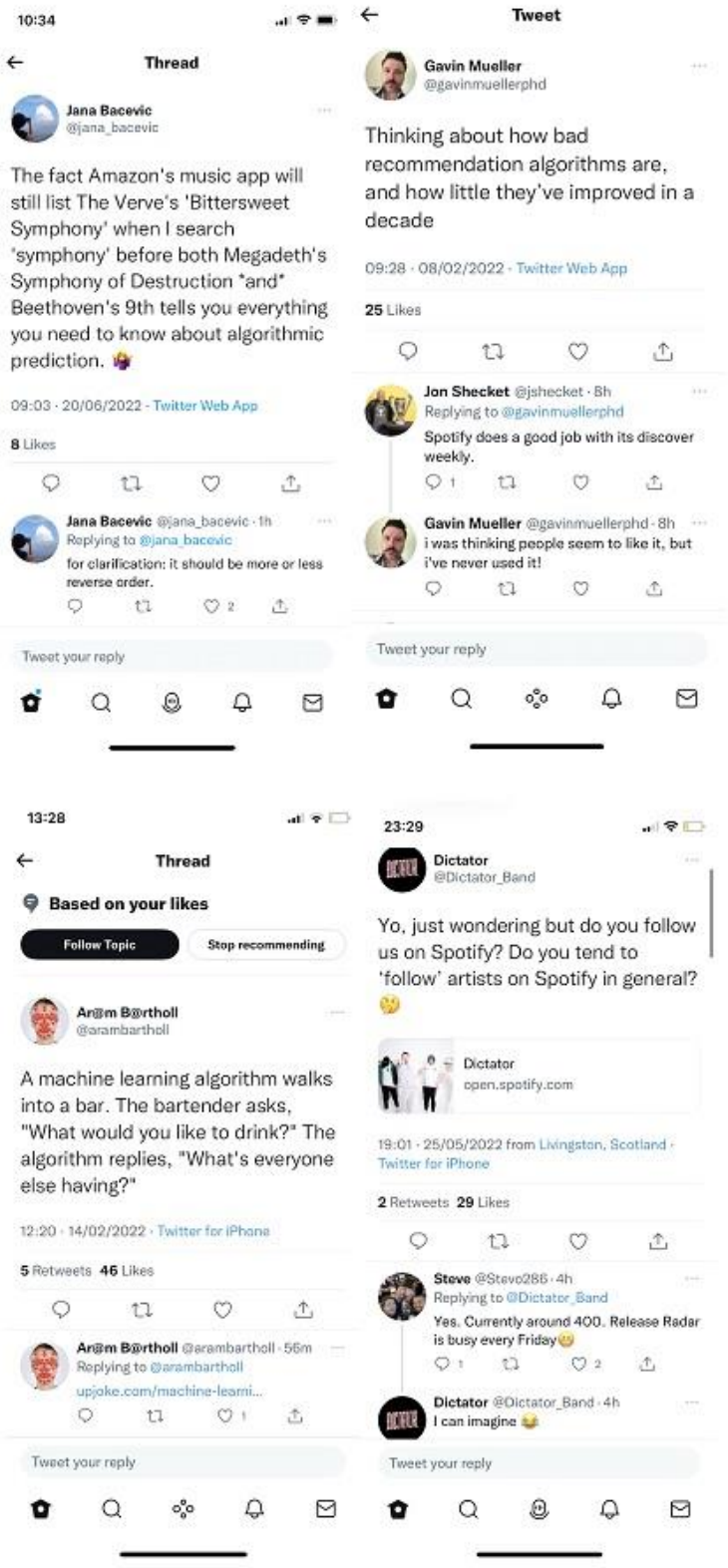

Figure 12 - Screenshots of views on curation algorithms taken from immersion diary

Commenting on the effect of algorithmic recommendation on the musical aesthetic, musician Jack believes that “everyone’s just gone for this focus group attitude”, too afraid to innovate or try something new; “the idea that people will only buy what they bought before. Everything is becoming derivative, and you’re being encouraged to be like this”. Singer-songwriter Lola agrees, “everyone is trying to be the same thing too much; trying to have a broad appeal and do what you want to do is hard”. Music producer Alexa makes a salient point in this regard. She notices shifting attitudes around artists being compared to and comparing themselves with other artists. As discussed in section 5.4.1, attaining optimal distinctiveness is a constant source of role conflict for musicians, which also means a source of alienation. While this is not unique to the digital era (cf. Nambisan 2017), it is perhaps amplified or supercharged owing to the added complexities of navigating (music) entrepreneurial ecosystems.

Another example of the interactivity of digital objects shaping and creating music relates to the devaluation of the record (i.e., album or track). By this, I am referring to the surplus of recorded music at our fingertips. Previously we would have perhaps heard a song on the radio and been enamoured enough to go into town at the weekend to buy the single or the whole album. It could be argued that because of this additional investment of time and money (directly rather than the more passive parting of cash that happens with subscriptions which have resulted in a considerable increase in average yearly spending on music), the buyer would be more willing to dedicate more time to the record in order to evaluate its worth or merits properly (Arditi, 2018). Today's relatively inexpensive option of skipping a song that does not immediately take your fancy has changed the value of music.

Another example of streaming culture transforming artistic production comes from Joanna, a music composer for film and TV - both for traditional broadcast and

contemporary streaming media. In our interview, Joanna describes how digitalisation has transformed his industry, shortening project timelines and increasing expectations which conditions (i.e., creates and shapes) the music produced.

> Time restraints force us to go in the box a little bit, but if you listen to [movie] scores, there are quite a lot of big orchestral moments and some of it, you couldn't actually reproduce with a live orchestra. Samples have given you a size and scale that's not actually realistic but that doesn't mean it's bad. It's a new aesthetic. There's a set of changes that the technology has afforded, and allows you to add new colours to the traditional palette, and be more experimental and be more manipulative of organic and acoustic sounds. (Joanna)

Digital audio affords composers means of generating sounds that would be impossible to (re)produce with analogue instruments, but with these new developments comes a new set of expectations. Efficiencies always generate a demand for more which, as seen in section 4.2.3, feeds into supercharging alienated musicianship in the digital age.

8.3.2 DIGITAL OBJECTS DETERMINING LISTENING

In the second half of 2021, Spotify launched a new feature called Discovery Mode. This innovation has given artists the choice of surrendering a percentage of royalties per stream in favour of being featured more prominently in algorithmic recommendations. Interpretably, Spotify has always, in a way, asked artists to accept reduced royalty payments in exchange for distributive potential. This development, however, marks a more explicit step in revealing the extent to which algorithms are now key gatekeeping intermediaries in cultural industries. This development was met

with widespread backlash and even solicited an intervention by Congressional representatives who reached out to Spotify CEO Daniel Ek for clarity:

> For artists […] who often struggle to access capital, the premise that they must now pay in order to be found by new consumers on Spotify represents an especially serious problem. [Musicians] only benefit if Discovery Mode yields more total streams for an artist across their entire catalog, not just the track covered by the program. And if two competing artists enroll their newest track in the program, any benefit could be canceled out, meaning that the only profit goes to your company's bottom line. We would ask that Spotify publish, on a monthly basis, the name of every track enrolled in the program, and the royalty discount agreed upon. Without this transparency, you are asking artists to make a blind choice, and it represents a classic prisoners dilemma. (King, 2022).

Congress' letter brings up an important point about the openness of algorithms and how digital objects that remain hidden in the back end of a computer programme can have such an effect on (entrepreneurial) outcomes. This new relationship in the interactivity of digital objects has profound implications for our understanding of socio-technical relationality and the important role digital object (in)visibility plays functioning of digital capitalism. Control over what (information) is hidden and what is made visible represents one of the key sites of contention and power imbalances in digitalising contexts (Berry, 2015).

In IS, we have seen already that a sociomaterialist approach which emphasises realisation in use or action cannot account for the material agency of digital objects. Imbrication theory approaches go some way to remedying this in assuming material agencies, but the material object is still agentic only insofar as it affords and constrains

specific paths of action. This is not to suggest that algorithmic recommendation and personalised service curation cannot be understood with an affordance-based approach but are limited only to the degree that objects remain passive. The digital agency of algorithms and machine learning technologies endow digital objects with a more active agency that shapes and creates in addition to affording (and constraining). This development also raises important ethical issues concerning the interactivity of digital objects, which will be taken up further in the section.

Today, artists recognise the use of strategically appealing to curation algorithms in attempting to have their music reach new audiences online. The practical implications which emanate from the demands of (endless) streaming media and black-boxed music distribution become a key area of discussion in the final section concerning the sociomateriality of digital objects. This research interprets the logic of digital media as materialised in practices, attitudes and behaviours involved in contemporary musicianship. Here, we can point to the controversy surrounding the proposed implementation of Spotify's Discovery Mode to illustrate the value of algorithmic recommendations for emerging artists. One further example of digital object interactivity with ethical concerns is the proliferation of AI music. That is, music composed by AI programmes fed with (or learn from) existing music.

8.3.3 DIGITAL OBJECTS MAKING MUSIC

Throughout my research, several prominent examples of AI music emerged. The first concerns the band Nirvana whose frontman Kurt Cobain committed suicide in 1994. An AI composer was trained using all of Nirvana's back catalogue, from which it could write a new Nirvana song called "Drowned in the Sun". The vocalist is unmistakably Kurt Cobain but fails to bridge the uncanny valley, and the recording sounds distinctly

inhuman. The song is one of a few in a larger project called the Lost Tapes of the 27 Club referring to the pop-culture phenomenon where several famous, renowned artists died at the age of 27 (Amy Winehouse, Jim Morrison from the Doors and Jimi Hendrix amongst others).

While the world of popular music lore has a morbid fascination with death and a glamourisation of public self-destruction, using technologies to try and realise the many what-ifs of pop music lore brings up further ethical and moral issues about using technologies to reanimate the dead. Similar examples include the holographic performances of other deceased artists, such as Roy Orbison, who recently went on tour with an orchestra and Tupac, who was murdered in 1996 but reappeared to perform on stage at Coachella festival in 2012. Evidencing consumer demand for artificially resurrecting the past is the massive success of ABBA's hologram show in London.

One final example of AI artists which came up during the research is the case of FN Meka, the first AI artist to be signed by a major label following a meteoric rise on Tik Tok. The machinic intelligence which produced FN Meka in 2019 used deep learning technologies to analyse popular songs and video games in order to generate suggestions not only for the music (i.e., lyrical content, chords, melody, tempo and timbre) but also the character and appearance of the avatar represented as a black male cyborg (Stassen, 2021). FN Meka, however, also became the first AI artist to be dropped by a major label following perceived racial stereotyping of black people, including using the n-word in his debut single with Capitol Records (Cain, 2022). This example serves as a reminder that the digital world does not and cannot exist outside of the real world, and digital objects should be held accountable to the same standards as we expect from material entities.

Figure 13 - FN Meka

Developing the idea of digital object interactivity further, let us look at examples from the data of creative application of algorithmic and computational technologies. Music producer Alexa was forced to change her business model during the pandemic from producing music in a studio to mixing and mastering home recordings sent to her. In our discussion about the sonic quality of home-produced audio recordings versus recordings made in a professional studio, Alexa singles out vocal recordings as particularly difficult. This difficulty is primarily owing to the acoustic properties of peoples' bedrooms or wherever it is at home that they are capturing the sound.

Sonically (i.e., acoustically) treated professional studios ensure a certain level (or expectation) of sound quality. With guitars, keyboards and synthesisers, these instruments can be plugged directly into an interface which means capturing high-quality recordings does not represent as much of a challenge as when recording using microphones, where physical positioning and acoustic conditions are essential factors in capturing quality audio. Algorithmic technologies, however, have changed this somewhat in recent years.

> The only thing that you really need a big room for is drums. I don't feel like there's a need for big, amazing control rooms that have been acoustically treated. Yeah, its amazing if you can get that but now, I use a little app on the computer called Sonarworks that fixes all the problems in my room. People would have killed for that 20 years ago (Alexa).

Sonarworks is an intelligent software that detects the audio (acoustic) properties of a given playback or listening device (i.e., speakers, headphones, sound card, DAW) and automatically equalises the sound to produce a flat representation of the audio across playback devices. Essentially, playback or listening devices can 'colour' audio with their particular equalisations or acoustic properties (primarily with loudspeakers affected by the physical properties of their space). A producer mixing an audio track must aim for consistency across listening devices so the song sounds great on all devices. Sonar works allow producers to hear audio without any device colouration and synthesise a range of acoustic environments to test their mix (on a car audio system, for example, or in a nightclub scenario).

I can also add to this from my own experiences of computer-assisted song production. I recognise the difficulties I experience programming drums myself, but handily,

Apple's Garageband DAW software includes an virtual drummer functionality.[23] There are a series of named drummers (Kyle, for example), each with their skills and capabilities, i.e., jazz drummer, rock drummer, and Latin specialist. The beat, number of fills, level of swing and type of drum used are all modifiable, and each drummer has their characteristics. You can also instruct the drummer to play for you, and you jam along with them or record your music and instruct them to devise appropriate rhythmic accompaniment.

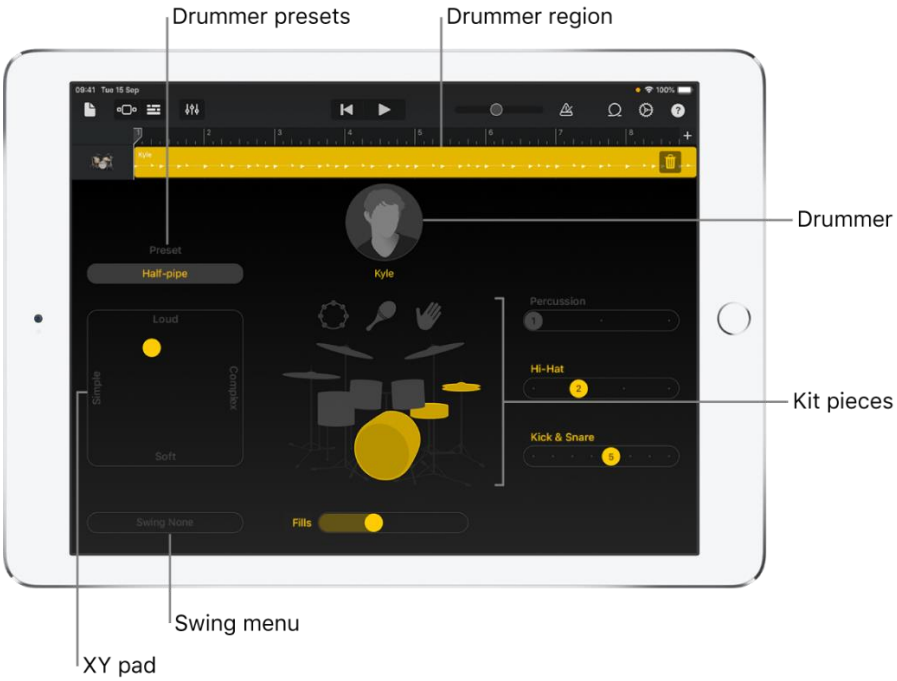

Figure 14 - A screenshot of Kyle, my virtual drummer and songwriting companion

[23] From GarageBand 10 onwards.

In many ways, we now have an inhuman songwriting partner. We can also refer back to examples given in the previous sections where the computer (i.e., the technology or interface) inspires musicians such as film composer Joanna and experimental sound artists Layla; the technology and the sounds, timbres that it can produce are not reproducible with analogue instruments. This phenomenon is nothing new, given how a particular instrument's material affordances can inspire a song to go in a specific direction. However, as has been said already in this section, the AI element gives these non-material objects an added degree of materiality but also a further sense of agency which must be accounted for in any theory of digitalisation.

By considering the interactivity of digital objects – in the sense that digital objects are no longer just interacted with but as increasingly themselves interacting – we can foreground machinic agencies in the analysis of digitalising entrepreneurship. Crudely formulated, entrepreneurship theory assumes ultimate agency for enterprising agents. The evidence presented here and throughout the development of this investigation shows that these assumptions are increasingly questionable in the age of artificial intelligence and machine agencies. These assumptions were already questionable, and the data presented in section 5.4 helped problematise this approach. The data and growing evidence elsewhere highlight the structural barriers that delimit entrepreneurial agency. This development in the research warranted a critical theory of the digital to deepen our understanding of power imbalances in digital capitalism. Continuing this line of critique, we arrive at the idea that digitalisation amplifies alienation owing to the softwarization of society and the reification of everyday life. The strategic appeal to personalisation algorithms in working to realise a viral route to success is emblematic of this phenomenon. This example is the digital shaping and

conditioning of musicianship. The following section returns to this idea to the data to continue developing this theory of digital-first musicianship.

8.4 SOCIOMATERIALITY

DIGITALISATION SHAPES AND CONDITIONS MUSICIANSHIP

Here, sociomateriality is synecdochically applied to represent the collected approaches towards theorising socio-technical relationality in IS literature. Discussions in Chapter 7 showed that digital objects are essentially nonmaterial. They are syntactic objects which use mutually understood symbols to transcode data about the real world. IS research offers several ontological approaches to studying and understanding the digital object. The sociomaterialist approach of Orlikowski and Scott (2008) remains probably the most popular approach. However, as we have seen already, in assuming the materiality of digital objects realised only in enacted, purposeful practice, this approach is limited in its account of the digital objects we do not interact with directly but are interacting amongst one another in behind the screen or in the back end of a computer programme. It is important to remember that these back-end processes are becoming increasingly influential in how we experience our everyday lives.

Social imbrication theory represents another possible alternative to the perceived shortcomings of sociomaterialist approaches. With imbrication theory, which focuses analytic attention on the affordances of digital objects, Leonardi (2011) advances the

idea that we can come to know the nature of digital objects through what we (i.e., contingent, highly contextualised users) can and cannot do with them. This development marks a significant advance and allows digital objects' existence (i.e., materiality) to be distinct from their enaction (in use). Similarly, social positioning looks specifically at how the positioning of a digital object in an act or process determines its nature and properties. Nevertheless, approaches to empirical analysis from the perspective of a digital-first ontology are missing from these accounts.

8.4.1 DIGITAL OBJECT MAKING

Ontological reversal means that the digital object comes first, and its physical manifestation – if necessary – is printed onto a material bearer in physical reality. Whilst the digital object may be wholly immaterial, this essence manifests (i.e., is materialised) in many ways, not only in practice and affordance but also in behaviours and attitudes. Chapter 6 describes how – in accounting for the ontologically reversed sociomateriality of digital objects – we can turn to critical theory to account for and explain the implications of this process. Using the combined concepts of alienation and the reification of everyday life, this research suggests that speaking of material bearers of digital objects, we must incorporate human actors into the analysis to produce an account of the digitalising totality. Today, musicianship is involved in producing digital objects over and above the production of music in a process of cultural homogenization, where all becomes a source of content.

Illustrating this point, Megan brings up a series of anecdotes about bands who “blew up” during lockdown but have been unable to replicate or deliver upon the success their social media standings would suggest. “There’s artists who launched during lockdown who got way too much hype too early. It all looks great online, but I think that

the reliance on digital media as a way of judging an artist from the get go is gonna die down soon because people are starting to get shown up".

She brings up one local artist enjoying consistent airplay on BBC Radio One, many streams on Spotify, and sponsorship from brands like Dr Martens but struggling to sell tickets in her hometown. "The reason it's not selling" Megan tells me, "is because all of those things don't actually matter". These cases show that while attaining digital symbolic capital is critical to making it, it is more important to demonstrate the ability to translate online successes into tangible gains. The digital object (i.e., the artist in this case), printed into reality, fails to meet the expectations that accumulated digital symbolic capital would suggest or equate to.

Musicians today must perform digital objects in more ways than one. As we have seen, there is a performative aspect concerning producing and reproducing digitalised sounds in compositional and live performance practices. There is also the performative aspect of seeking a viral route to success in the music industries. In this way, musicians increasingly perform the logic of social media and streaming platform service algorithms. For example, at my band's first hometown show since the pandemic, we anticipated that there would be some demand but could not be sure that we could pull pre-pandemic numbers. For our final show in Liverpool before the first lockdown, we had convinced around 200 people to buy tickets, but much less than that turned up because of the threat of COVID-19. We scouted several venues around the city, again because we were unsure what had survived the pandemic. We wanted to find somewhere that had around 100 capacity in order to try and sell it out in advance. Selling out a venue would give us something to shout about on social media and show that we were back with a bang.

The venue we decided upon would only hold 80 fans. Everything else in the city was only 250 and above, and we thought we would not want a sparse-looking room on social media if the gigs were supposedly sold out. We are guilty ourselves of looking at photographs of other bands' social media posts from gigs that were supposedly 'sold out' and were hypercritical of any gaps in the room. We had also been guilty of pulling the same trick, inflating the number of tickets sold and telling everyone that it was selling out to try and stimulate more demand. Not a new trick by any means, but what is important is to note how the hypervisibility of social media shapes how we think about where to play.

To continue with this example: we booked the 80-capacity venue and then began conversations on how to market the gig. The discussion was about how much to charge for tickets. We had noticed other bands charging £10+ for tickets that would have perhaps been a few pounds less than before the pandemic, but also that these gigs were not selling out. We had prioritised that we wanted our first show back to sell out, so we decided to charge only £5 per ticket. £4 goes directly to us and £1 to the digital ticket retailer. With the venue hire costing around £150 with a sound engineer for the evening, we would make less than £250. As already stated, we were willing to forego revenue to sell the gig out and produce content, i.e., photographs and videos from the gig that look extremely busy. We, therefore, decided to invest the rest of the profits (minus payment for support artists) in hiring a videographer from the night who agreed to reduce her rate if she did not have to edit the footage but send us the raw files.

As mentioned in previous chapters, two out of the band's five members are semi-proficient in video editing skills owing to their careers outside of music alongside a general interest and curiosity, which technological dissemination has facilitated and

helped develop. The salient point from this example is that by foregoing revenue, which could have gone towards recording new music or financing another tour, we decided that making an impression on social media took precedence over all of these other concerns more traditionally associated with music making. Of course, there has always been a promotional aspect to commercial musicianship, but today, promotional concerns are taking precedence over and above the music itself, perhaps betraying what it is to be a musician. Are we now just content creators instead? These examples show how ontological reversal manifests in different forms during processes of cultural making.

We have discussed this idea already in section 4.2. We can relate this supercharged importance of digital symbolic capital in musicianship (strategising). We can also relate it to cultural entrepreneurship in that value is multivocal and subject to multiple and competing principles of legitimation such that in the digital age, the value of digital symbolic capital can outweigh the physical or material concerns of generating cold, hard cash. Artists are making cash investments hoping to return increased digital symbolic capital.

Such challenges amplify for self-releasing artists who lack expert support networks. Managers and artists must become social media experts, needing to master Photoshop, video editing, knowledge of algorithms behaviours and other digital skill sets. These issues are compounded by a reported lack of industry-led digital education and resources coupled with meagre funding for digital campaigns and staff to manage and coordinate them. Brands (clothing and instrument manufacturers) often address this lack of funding and demand more significant digital stats before funding an artist. Grassroots and self-releasing artists do not have a manager or label's advice, finance or guidance. Raising these issues with straight-talking manager Megan, she told me:

> At the end of the day, all that stuff that everyone's worried about can just come later on as long as your tunes are really good. Then you worry about how you market it. [There's] no point in marketing shit music. Until young managers and young bands actually start to realize that all people care about are ticket sales… you're just gonna keep going down the same rabbit hole trying to do something that you can't. Unless [you're] playing to full venues up and down the country, unfortunately, none of it [digital symbolic capital] actually matters (Megan).

This comment suggests that much of musicians' efforts towards curating an appealing online presence are largely in vain given that most gatekeeping and legitimation still occurs within traditional social networks. Despite assurances of digital's democratising potential, word of mouth and interpersonal recommendation remains the principal means through which aspirants can enter the corridors of power in the music industries. Regardless of whether it matters, the salient point to take away from this is that in working on curating an appealing online presence, artists hope to realise their online successes in the real world, in tangible gains, conceived here as establishing a career in making music. The digital, once again, precedes its realisation in the physical world.

Online performance now leads most musicians' daily activities, over and above new music production. The digital comes first and equally before art and even the artist. This discussion raises important questions about how much this digital effort matters. Findings reveal that while musicians mainly do it themselves, they primarily do it in seeking intermediary interest. Far from utopian promises of digital disintermediation, the digitalisation of music and culture more broadly has, in many ways, served to intensify the need for strategic, professional artist support. In an almost subconscious triangulation of my experiences, the data I generated and the existing theoretical

explanations, this discussion produces an entirely new reading of the digital emancipation of musicianship (section 3.1), adding much more nuance and sophistication to our understanding of digitalisation.

8.4.2 DEFINED BY LIKES AND CLICKS

This sentiment is echoed broadly in the data. Jack, for example, sessions for a signed artist, allowing him to take a step back from all of the PR activities. Discussing the aesthetic strategy of the artist he works with, he tells me that their behaviour "is very much defined by likes and clicks":

> He's trying quite hard to cultivate this 60s-70s cult leader kind of vibe. He's making fun of the fact that you are trying to garner this following… his fans become his congregation… worshipping or signing up for the church… that kind of thing. There's a lot of photo shoots in churchyards. If he's not posting a picture of himself, he's posting a picture of a fucking gravestone or something, so he's trying to do that the whole time. He's trying to make himself more and more interesting than the next person because he knows that putting some tunes on his Spotify just isn't gonna do it. People are required to be an all-singing-all-dancing PR machine basically, and it's become like this because of Instagram… it's all become a lot more visual. Even in the 90s, the only time you would see a picture of a band you like is going to be on the CD or record cover or in a magazine every few weeks. The rest of time, fans won't see you… bands didn't have to do anything. All you had to do was put out music, and that was it, but now it's this constant competition to be seen the whole time… you have to therefore be more interesting than the next person to garner someone's attention… you're under constant pressure to put stuff out, to put stuff

> on Instagram and that kind of thing. So, when we do photo shoots, we get him to take like a million photos so that we've always got stuff to post (Jake).

Music producer Alexa also notes how content production has become an increasing part of the studio experience for bands.

> You do see it now where, as a producer, every time I'm in the studio, it's all about all "make sure you get some photos of Dave on the drums" or whatever…whoever's doing what just cause it's that thing of you've got to be putting stuff out there regularly. I think you've got to be… all bands have got to do it, and if you don't, you'll get left behind (Alexa).

The idea that you can get left behind if your band or the artist is not regularly posting social media content is a powerful determinant in coordinating and directing musicians' efforts. While music manager Megan may say that none matters, many examples discussed in these chapters show times when it has mattered. Recall how my band won extra funding for recording by fudging our streaming figures. Note also how many musicians believe that potential fans and listeners may not be prepared to give their music a chance or take them seriously as artists without big numbers on social media. While they may not matter to professionals (i.e., to Megan's back pocket) but to artists and musicians, they matter an incredible amount as artists are going to increasing lengths to accrue greater and greater amounts of this pseudo-legitimating social-symbolic capital.

In lowering the barriers to entry into music markets, digital objects have facilitated en-masse (globalised-intertemporal) participation, creating a hypercompetitive market environment that conditions the musical aesthetic and also conditioning the strategic practices concerning musical production (both compositionally and commercially).

This research has found that artists are mainly begrudging (Haynes & Marshall, 2018) in their engagement with social media for personal and promotional purposes. They recognise its importance for the sustainability and viability of music-related projects in post-digital music industries but report how the fruitless quest for the digital ideal becomes all-encompassing, to the point where the purpose of being a musician (to make and perform music) becomes secondary in need to become an all singing, all dancing PR machine (Jack).

These observations of musicians' behaviour reflect a growing crystallisation of social media logic-rationality in musical decision-making (Lindebaum et al., 2020). Supplying appropriate and informed (strategic) content feeds social media algorithms which then reward the user (artist) with an increased reach (online influence) which can then be exploited for and transformed into capitals of varying forms further invested (deployed) in the growth and development of an artistic career. However, artists are devoting increasing amounts of their productive (creative) efforts towards producing digital (social media) content, reportedly at the expense of composing new music. This sense of alienation produces harmful implications not only for music but also for the musicians themselves.

8.4.3 THE CONTENTIFICATION OF EVERYDAY LIFE

The viral route to stardom – i.e., feeding, hacking or playing the algorithm - necessitates the production of evermore 'content' to post online (new pictures, videos, music). The pursuit of shareable content increasingly impinges on the performance of everyday musical practices, even relating to non-musical related activities, which now become sources of content to feed the insatiable algorithms of social media platforms. It is common amongst the musicians I spoke with that producing a consistent, steady

stream of social media content is vital in securing greater reach and online visibility (Nige, Lance, Fran, Eddie, Lola, Jack). However, many participants also recognised the disparity between online presence and fanbase, manifesting that value in tangible gains (Finn, Lou, Fran, Laura, Nige, Django).

Recognising this, many music industry professionals, in contrast to the artists themselves, often disregard the importance of online numbers. We have already seen that to be the case for music manager Sam who argues that selling lots of tickets is the only credible marker of artistic success. In this view, efforts spent growing online audiences without tangible or physical gain are a worthless waste of time; pursuing the viral route to success is largely fruitless. The salient point is that musicians' efforts towards social media perfection are largely misguided and should instead focus on writing better music or making money more directly. Nevertheless, in digital-first musicianship, musicians are increasingly performing and acting for the benefit of their online selves over and above other more important concerns.

The musicians surveyed, however, largely agree that the demands of digital promotion and the work involved in growing online audiences with constant content production can become a full-time occupation (Lance, Lola, Nige, Joanna). This pressure to post on social media to maintain an active, engaging presence means that music often takes a back seat in daily prioritising activities and strategic behaviour (Lola, Fran, Lance, Eddie, Jack, Django). Musical response to this has been a rationalising of creative practice. This shift has produced what one respondent described as a focus group attitude (Jack) to musical composition, resulting in a perceived homogenisation of style and genre aesthetics. This situation has left musicians feeling like social media has "taken over" music (Alison).

However, many musicians I spoke to discuss how little time they spend making music. Music composter Joanna tells me that a minority of her time is spent composing music. Also, Lola, whom we discussed in the last section, talks about her struggle to write new music, having spent so much time trying to get that music heard on a stage.

> I spend too much time doing the other things rather than doing the music. You spend that long trying to make your brand a certain way… I remember like playing gigs and thinking, 'I'm still playing these songs because I spent that long doing that'. I'm too worried about that and how it looks and all the emails that I'm sending to get people to get onto these gigs… I think I'm here at the gig, but I'm playing the same songs I was six months ago… where do you get the time to do that? Like, where do you get the time to write the new songs if all you're doing is trying to get songs you wrote two years ago onto a stage? Nightmare (Lola).

Music entrepreneur Django echoes these sentiments, pondering the future of artistic excellency in these conditions. "[Today], the pathway so fast you don't get a chance to actually hone your skill, your craft […] once you get to a certain point of influence, you are asked to make that influence broad, you're asked to work on branding to extend what you can do. But what you're not doing is spending all that time working on your vocals." He asks me if I think we'll ever see another Beyonce, Prince, Michael Jackson or the Beatles?"

The never-ending pursuit of content can become "all consuming" (Lola), with many informants reporting they become obsessed with their social media and streaming performances with unpleasant consequences for musicians' mental well-being. During my field immersion, the theme of artists experiencing digital burnout arose not only in broader music industry discourse but relayed by all of the artists and professionals I

spoke to. The Music Managers Foundation (MMF) published a report in 2022 following an explosion of post-pandemic burnout in professional discourse (M.M.F, 2022). Managers noticed that the musicians they work with and their colleagues in the music industry were discussing or experiencing severe digital burnout. This issue arose when household names began to spearhead a backlash against the demands and pressures managers placed on their artists to create daily content for TikTok.

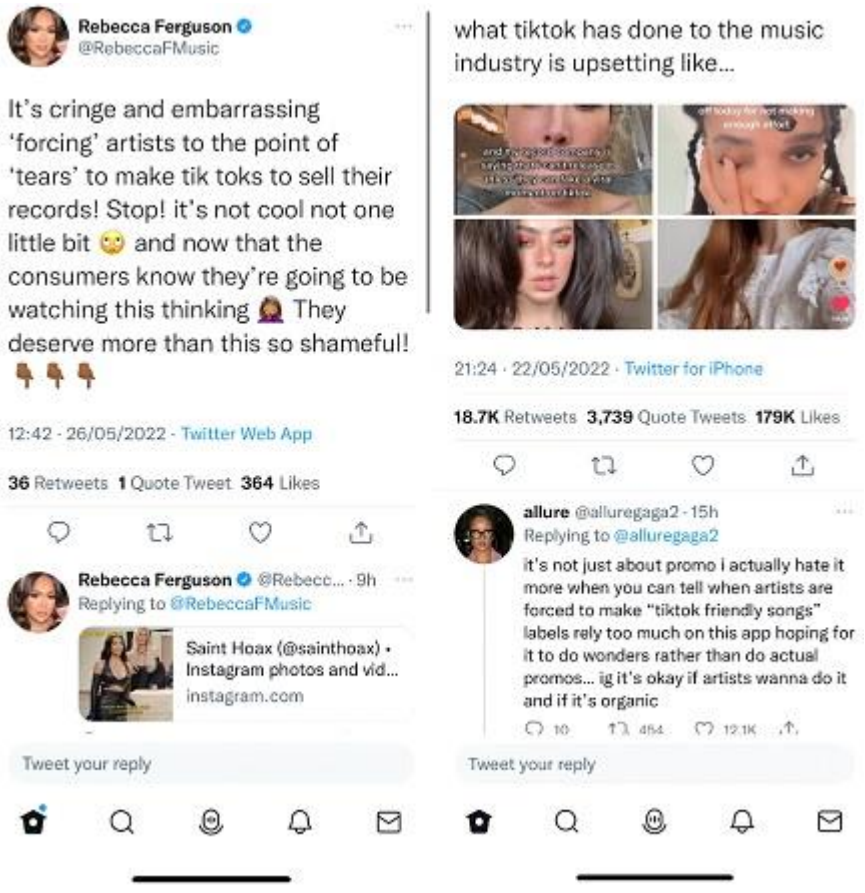

Figure 15 - Digital burnout on social media.

MMF's report describes digital burnout as an 'issue that's been simmering away for some time'. The report also noted changes in recent years over the nature of

commitments in artist contracts (24 tracks, up to 3 years). Labels have therefore sought to reinvest marketing budgets into producing new releases, which moves the responsibility for marketing onto the artists themselves. The sheer volume of releases and content demands are reported to be crippling for artists, a situation exasperated by the hypercompetitive nature of the digital marketplace. Artists must command a significant social media following to receive playlisting and marketing support. Managers also felt like too much time and resources were needed for social media, compromising mental health and commercial decisions and reducing the time and space needed for artists to be creative (M.M.F, 2022).

The demand for social content has become insatiable, and the report highlights that labels' insistence on increased engagement leads to stress, anxiety and other mental health issues. The report recommends greater transparency in the relationship between artists-managers, labels and digital service providers, particularly regarding the inner workings of algorithms which can allow for more efficient planning and strategizing, leaving artists with more time and space to work on their art. Social media compromises the protection a manager or label can offer an artist – social media exposes typically sensitive people to front-line criticism, trolling and bullying, which affect creative choices and diminish self-esteem and confidence (M.M.F, 2022).

8.5 ALIENATION

THE PATHOLOGIES OF DIGITAL-FIRST MUSICIANSHIP

The last decades have seen growth in the power and influence of online social networking, where network size and influence are highly-visible, and artists continually

measure their success relative to others (Lance, Lola, Layla, Paul). The affordance of social media to quantify and make visible previously hidden (easily obscured) levels of popularity and fame means that musicians and aspiring artists must now compete for numbers (Kyle, Phil, Paul, Nige). A busy, active social media presence is (believed to be) crucial to developing a career in making music.

> If you're releasing music now as an artist and you're new and you're trying a make your way in the music industry then you need to be on social media…simple fact… 'if you don't have a strong social media game. You might as well just hang up your instrument… I totally agree with that (Don).

The constant exposure and inherent toxicity (perhaps by design) of highly visible, metricised (i.e., measurable) hyper-competition of online markets for music leave many musicians dejected, questioning the worth of all their efforts. In responding to the pressures of online competition, musicians are increasingly adapting to the demands of social media and streaming services and metrically-driven ranking/classification logics of online marketplaces. The speed and regularity with which musicians must produce new content impact the musical aesthetic and the musicians themselves, raising important questions concerning creative (therefore, human) agency in the streaming era.

The musicians surveyed agree that the demands of digital promotion and the work involved in growing online audiences with constant content production can become a full-time occupation (Lance, Lola, Nige, Joanna). We saw already in the first results chapter that the issue of musicians experiencing social media (digital burnout) rose to prominence in the music industry discourse following the increased necessity of online networking and pseudo-engagement with fans over the internet during the pandemic.

The MMF report on digital burnout highlights how the stress involved with labels' insistence on increased engagement has led to musicians feeling anxiety, lowered self-esteem and other mental health disorders. The report calls for greater transparency in how musicians use social media and asks labels and other music companies to shoulder some of the burden. The musicians I spoke to also stressed the toxicity of social media. Sound artist Layla prefers to stay away, finding "the internet hugely distracting, very toxic and not good for my mental health". Michelle also discusses the mental health side effects of social media:

> I think it is very detrimental and destructive and toxic… I can speak for myself… I don't think it's healthy for me to use it because of the comparison and the constant exposure. I think one of the things that is really bad about it is that you always only see the final product and never the process… then you always think, why am I stuck in the process and can't finish stuff… you keep comparing yourself with people's polished work… it's very difficult… (Michelle).

Michelle also acknowledges the benefits of the Internet and online social networking. We have already discussed how this artist and others believe they would not have received success and opportunities without the Internet. This view is common to many of those I spoke with that the internet and digital technologies certainly possess an emancipatory potential, but the realities of attempting to realise this potentiality result in harmful, destructive, alienating practices. What was perhaps intended to allow users to measure and make sense of their social influence (i.e., the impact of their art) has developed into an influential social ranking system.

This system observably produces concurrent (contradictory) effects in, on the one hand, connecting users (fans) and artists directly to an unprecedented extent and

scale but in quantifying these social relations, successes and failures in a highly visible (exposed/highlighted) fashion enables a degree of superficial competition and (obsessive) constant comparison and instant judgement. This situation produces both divisions amongst musicians and an atmosphere of toxicity in how artists relate to one another, manifest in reported feelings of jealousy, inauthenticity (falseness), and bitterness towards others' deserved (or as often expressed in the data: undeserved) successes. Given that this research has found that such efforts are perhaps (in the early stages of a musical career at least) misdirected in abandoning the pursuit of artistic excellence in favour of producing the digital ideal, both music and musicians suffer as a consequence.

This ire is held not only for the social networking giants but also for Spotify and the oligopoly of music distribution (i.e., streaming services). Concert promoter, music manager and former musician Don hold particularly strong views regarding the streaming industry but views which reflect a shared sense of dismay and displeasure with how the digitalisation of music has unfolded for musicians.

> When the CEO of Spotify is richer than Paul McCartney, and he's never written a song in his life, then something is seriously wrong. Obviously, it's the business model that they've created… vulture capitalism at its worst… absolutely parasitic (Don).

Despite most participants holding similar or comparable views towards Spotify and the power imbalance within music industries, everyone admitted to being subscribed, albeit perhaps reluctant, users.

> I'll hold my hands up and say I put my money in Spotify because as a platform that gives you access to the amount of music that it does… it's so successful because it satisfies the user need so perfectly. (Don).

> I use Spotify a lot; I am a premium Spotify account holder even though it's pretty rubbish for the industry (Joanna).

In a particularly capitalistic way, however, the moral conundrum of whether to use these demonstrably unethical services is resolved by claiming to support artists they enjoy more directly. For instance, Joanna tells me she tries to support bands through things like Bandcamp (8.1). Sound artist Layla also talks about using streaming services:

> I might subscribe to a streaming service. I might discover music, and I might use that as an encyclopaedia. So I'm, you know, I'm a musician and I don't have money, but if I find something that, like, on that streaming service, then I will go and find the artist, and I'll buy that thing. You know, it's given more scope to discover things, but I think that in terms of the different kinds of consumers of different kinds of art, there is still a sense of value there… even if I disagree with the financial model of streaming services. (Layla).

The commitment to purchase music directly, in a sense, absolves the premium subscriber of any guilt they may feel relating to the role they play in propping up an unsustainable, mal-distributive system. The music fan must spend more to prove their credentials as a true music fan. Music has become a charity case and a cause for additional concern, even though people are, on average, spending more than ever before on music and music-related products (Arditi, 2018). Layla admits, however, that the music he makes is unlikely to make any music from streaming, and any money

she does make will be made from sales to listeners that “use other means of finding music”. However, streaming becomes the priority for those attempting to succeed in the mainstream but offers very little in return for musicians’ efforts.

> You put so much work in, you stick your songs on Spotify, and you get a penny back every few years or something. I think it probably annoys everyone, but that annoys me the most because you put so much effort into something, you've put so much money into it, you've worked so hard to get this money to go into a studio for three days. And then you get 20 quid off every now and again. You know what I mean? That bothers me. (Lola)

Perhaps the demands made of contemporary musicians can be best summarised in the words of Spotify CEO Daniel Ek when he suggested in 2020 that in order to make it, musicians must work harder and produce more:

> ‘In the entire existence [of Spotify] I don’t think I’ve ever seen a single artist [publicly say] “I’m happy with all the money I’m getting from streaming” […] In private, they have done that many times, but in public, they have no incentive to do it. But unequivocally, from the data, there are more and more artists that are able to live off streaming income in itself […] You can’t record music once every three to four years and think that’s going to be enough. The artists today that are making it realise that it’s about creating a continuous engagement with their fans. It is about putting the work in, about the storytelling around the album, and about keeping a continuous dialogue with your fans (Richards, 2020).

Ek’s claim clearly and conveniently ignores the objective reality of facing musicians who must compete in this hypercompetitive industry in efforts towards the continued reproduction of their art, pursuing a passion, telling their story and needing to be heard.

It tells us nothing about the cost of recording, producing new music, and finding an audience. Uploading a sound file onto Spotify is simple enough, but making money to continue reproducing your art through streaming remains unachievable for most musicians.

Ek's shallow account assumes an always-already independent (entrepreneurial) musician (agent) with the necessary tools at their disposal, all geared up for making it in the digitally democratised new music industries. The picture painted in these pages tells a much different story, with musicians shown despondent, alienated from their work and art, overwhelmed and struggling to cope, lost in a sea of indeterminacy and unable to grasp their digital futures. False promises and harmful practices characterise the contemporary field of musical production.

In truth, examples of mainstream successes of truly independent artists remain rare but certainly overrepresented in popular music discourse, attributable, perhaps, to the lingering fetishization of authenticity in the production cultures of cultural production. Pursuing a music career today means musicians increasingly engage in content production over and above music making. The highly-visible, metricised ranking systems of social media platforms and streaming services now represent a vital legitimation site for artists. Musicians are therefore investing an increasing amount of time, money and effort into growing stocks of digital symbolic capital (i.e., likes, follows, shares and streams) with the hope of transforming this successful online presence into tangible material successes (i.e., monetisation) as well as further digital kudos (influence, i.e., reach and symbolic legitimation). By no means limited to musicians, human activity today is increasingly performed following the logics of the 'gram (i.e., Instagram). The purpose of this chapter was to reinterpret the data through the lens of digital objects. By drawing upon the embeddedness, malleability, interactivity and

sociomateriality of digital objects, we can return these findings to the research questions. Answering these questions is the task of the next chapter.

CONCLUSIONS

We began this investigation by asking how digitalisation transforms music-making. The preceding chapters recount the entire process of retroduction which has taken us from my experiences as a musician and into the field of cultural entrepreneurship studies (Gehman and Soublière, 2017). We have also explored the field of digital entrepreneurship studies (Nambisan, 2017) and found a valuable approach for theorising the digitalisation of entrepreneurial processes. In addition, insights from Popular music studies (Jones, 2012) provides this research with a model of the musician which aids in refining our understanding of the practices that constitutes musicianship. With the digital technology perspective (Nambisan, 2017), it became possible to complement initial conceptualisations of music making (Gehman and Soublière, 2017) with a more technologically sophisticated approach (Autio et al., 2018).

Nevertheless, weaknesses in this approach meant our search for answers took this investigation to critical theory and, in particular, to David Berry's (2015) translation of the ideas of the Frankfurt School into the context of a digitalising age. Critical theory adds further theoretical and conceptual clarity towards understanding the context of digitalisation (6.1). The field of Information Systems research completes the assemblage of insights used in this investigation to begin properly conceptualising the digital via digital object theories (6.2 and Chapter 7). With these fresh insights we can now offer answers to the questions this research sought to address.

HOW IS MUSIC MAKING TRANSFORMED IN THE DIGITAL AGE?

In seeking an understanding of how digitalisation transforms music-making, it has been retroduced that one novel and arguably insightful approach would be to suggest that digitalisation has resulted in a process of ontological reversal. This portends to the ongoing nature of digitalisation and that these findings emerge from the observed acceleration and intensification of trends in sociotechnical development. This phenomenon (or event) is observed (i.e., experienced and therefore at least partly knowable) in the case of grassroots musical production, an entrepreneurial setting in which I was (until very recently) embedded (i.e., as a full member). Studying ontological reversal (or, more accurately, operationalising a theoretical conceptualisation of the nature of computed reality) demands an approach centred on the constitutive element of a digital-first reality; the digital object (6.3). This idea means that as much as making culture, musicians are also engaged in making digital objects. Not only this, but perhaps it would also be accurate to say that the production of digital objects (today) supersedes (even subsumes) the production of new music, art and the artist. Ontological reversal and the pathologies (i.e., reification and alienation) of the computational condition (or, the digital) provide acute diagnoses of the social issue at the heart of this research.

In the digital age, artists are compelled to follow a logic which suggests that if they have a high follower count, high degrees of engagement with other users, and high numbers of streams on their music, some unknown influential person (or unknown online masses) will notice and sweep them along to fame and success. It is not just about appealing to gatekeepers or intermediaries but also looking impressive to others online. The music industry (star system) is historically characterised by myth and

legend, making it difficult to distinguish fact from fiction. This remains the case today, where the artful manipulation of media perception and branding (i.e., marketing) remains a fundamental factor in determining successful artistic craft.

This research has found that the value of online symbolic capital is realised in different ways. This finding contributes to the idea within cultural entrepreneurship theory that value (i.e., realising it) is received and understood across multiple and fluid repertoires of meaning. This research has shown that today, the symbolic logic of online legitimation processes plays a vital role in shaping and informing cultural entrepreneurship practice. Digital-first musicianship, therefore, means artists and artistic practices appear to be more about appealing to social media algorithms to grow audiences and listenership over and above more traditional organic What was perhaps intended to allow users to measure and make sense of their social influence (i.e., the impact of their art) has developed into an influential system of social ranking.

The legitimating aspect of digital objects in the form of online symbolic capital holds such an allure over music production today that artists are employing digitally enhanced forms of traditional smoke and mirrors perception management. The art of manipulating digital objects has become central to contemporary musicianship: producing new music and new musical possibilities, producing musical careers (building fanbases on and offline). In digital-first musicianship, musicians reinvent the time-honoured notion of smoke and mirrors; fake it until you make it.

The digital not only comes first but equally comes before artists' well-being. In the digital age, cultural production becomes, in effect, the reproduction of digital objects in a perverse accumulation regime which will always favour quantity over quality. In working on curating an appealing online presence, artists hope to realise their digital

successes in the real world, in tangible gains, conceived here as establishing a music-making career. This situation forces musicians to more extraordinary lengths to produce more music, and, more saliently, content subsumes music.

The industrial demand for digital (user) content has become insatiable. Insistence upon artists' increased and continued engagement has led to reported stress, anxiety and other mental health issues. The demands made of post-digital musicianship equally result in characteristically sensitive people being increasingly exposed to negative feedback loops in the form of constant and inescapable comparison (measured in easily locatable numbers such as streaming figures, likes and shares) but also instances of front-line criticism, trolling and bullying which affect not only creative choices but also diminish self-esteem and confidence.

Most of the musicians I spoke with discussed how much of their time and effort is consumed in taking care of ancillary demands (to music making). Very little of their time is spent making music. However, it is probably true that this was never the case. We should not overly romanticise the past. Digitalisation (i.e., technological advancement) has not snatched us from some deluded idealisation of the sunlit uplands of an analogue age and deposited us in some Matrix-like machinic dystopia. Rather, theorising the ongoing transformations to music-making processes lies in understanding exactly how these inherently entrepreneurial aspects of musicianship are taking shape in an increasingly digital world.

This research augments the critique of mainstream emancipatory technological discourse by highlighting the widening divide in digital skills and expertise, exposing growing rates of digital burnout amongst artists. Furthermore, it is also found that, in many ways, these digital efforts are primarily in vain without correct guidance,

mentorship and insider knowledge. Far from utopian promises of digital disintermediation, the digitalisation of music intensifies the need for strategic, professional artist support. Musicians' efforts towards curating an appealing online presence can be considered futile or misguided given that most gatekeeping and legitimation still occur within traditional social networks. Despite assurances of digital's democratising potential, word of mouth and interpersonal recommendation remains the principal means through which aspirants can enter the corridors of power in the music industries.

This system observably produces concurrent (contradictory) effects in, on the one hand, connecting users (fans) and artists directly to an unprecedented extent and scale but in quantifying these social relations, successes and failures in a highly visible (exposed/highlighted) fashion enables a degree of superficial competition and (obsessive) constant comparison and instant judgement. This situation produces both divisions amongst musicians and an atmosphere of toxicity in how artists relate to one another, manifest in reported feelings of jealousy, inauthenticity (falseness), and bitterness towards others' deserved (or as often expressed in the data: undeserved) successes. This research also finds that to begin to understand this phenomenon and the role that digitalisation, the digital and digital technologies play in constituting this situation, we upon the distinguishing characteristics of these objects. Firstly, their embeddedness, their malleability, interactivity and finally commenting upon the status of their sociomateriality.

DIGITAL OBJECT EMBEDDEDNESS

Digitalisation is a process through which digital objects become increasingly embedded within contemporary music-making's complexifying (entrepreneurial)

ecosystem (Baskerville et al., 2020), not solely in the production of new music but also in the reproduction of musical careers (8.1). This research suggests that musical reality is now a purposeful product of the digital (Baskerville et al., 2020), making distinguishing the physical world from the virtual more difficult (6.1 & 6.2). The data shows examples of dynamic sketchbook-like applications of digital technologies and instances where smartphones become creative conduits between the artist, the world they inhabit and the art they create (section 4.2.1 & 8.1.1). Musicians use digital technologies to work and rework digital objects (i.e., demos) performed and reformed in the studio and concert (8.3). Moreover, the musical affordances of digitally enabled (i.e., virtual) realities free artists from the physical constraints of our material world and extends the realm of possibilities for what music and musical performance can be (Nambisan, 2017, Autio et al., 2018). Further, nonhuman actors such as machine learning algorithms and artificial intelligence (Glaser et al., 2021), which can manipulate digital music and determine its consumption (8.2 & 8.3), fundamentally transform processes of musical production (Gehman and Soublière, 2017).

Artists describe how accessing digital catalogues containing unlistenable swathes of the entire history of recorded sound means that inspiration and creative stimuli are only a click or two away (section 4.2.1). Moreover, the musical response to the demands of online competition has rationalised (Berry, 2015, Lindebaum et al., 2020) creative practice influencing a purported homogenisation (Faulkner and Runde, 2019, Alaimo, 2022) of style, what one responded termed ‘a focus group attitude’ to musical composition (4.2.3, 8.3.1, 8.4.3). This situation has left musicians feeling like social media has completely taken over music (Berry, 2015) and that being a musician today means performing online over and above traditional (i.e., pre-digital) activities and concerns (4.2.3 & 8.4).

Nevertheless, as has already been established using Jones' (2012) four-dimensional framework of the (popular or commercial) musician (4.3.2), alongside the musical concerns of everyday musicianship, the artist must also be engaged in the production of texts – i.e., not just music but an entire aura or branding appeals to lifestyle (Jones, 2012). In many ways, digitalisation has resulted in a technical augmentation (i.e., transformed media format) of existing (i.e., analogue) practices or demands (Porter, 2001). Musicians hope to win extra reach or online influence by posting more and more (8.1.2). Pursuing shareable (postable) content influences musicians' strategic decision-making meaning strategy concerns maximising the content potential of a particular practice, event or activity (4.2.3 & 8.4.3).

However, there is an apparent disparity between having a successful digital presence and a sizeable audience online (Hesmondhalgh, 2010, Hesmondhalgh and Meier, 2018, Hesmondhalgh, 2020, Van Dijk, 2020, Hesmondhalgh, 2021) and then realising these successes in tangible or more recognisable gains (8.1.2 & 8.2). Today's musical actors must possess the requisite technical skills and dexterity (Martinez Dy et al., 2018, Davis, 2020, Van Dijk, 2020) and obtain evolving knowledge regarding best practices (Porter, 2001) and strategizing online (4.2.3 & 8.2). As much as becoming skilled cultural operators (Überbacher et al., 2015), musicians must become skilled technical operators also (Autio et al., 2018). The data shows, however, uneven distribution (Martinez Dy et al., 2018, Van Dijk, 2020) of the requisite skills and technical dexterity for successful digital entrepreneurship (5.4.1). Researching how structural delimitations continue to shape entrepreneurial processes and outcomes in the digital age becomes an increasingly important task for future scholarship (Martinez Dy et al., 2018). A critical theory of the digital (Berry, 2015) can make a significant contribution in this regard too (Berry and Fagerjord, 2017).

The data shows how (the demands of) digitalisation conditions (i.e., shapes and influences) both the musical aesthetic and processes of musicianship (8.1). Technologies such as evolving media formats and new means of production (audio capturing and editing) will always (to some degree) impact the nature of the sounds created (Coleman, 2009, Katz, 2010), suggesting that what emerges from the data is not an entirely novel phenomenon. However, this research contributes to understanding how the unique characteristics of the digital shapes and inform contemporary practices of musical production (Gehman and Soublière, 2017). Transformations to musicianship practices – creative (8.1.1) and commercial (8.1.2) - reflect digital objects' presence and consequence (i.e., embeddedness) in all levels (Kallinikos et al., 2013, Faulkner and Runde, 2019) or stages of the production process (Gehman and Soublière, 2017).

DIGITAL OBJECT MALLEABILITY

The creative manipulation of digital objects is central to producing new music and of equal importance to the craft of music today as an holistic (Jones, 2012) artistic (entrepreneurial) endeavour (4.3.2). The malleability of digital objects not only affords (Autio et al., 2018) musicians augmented means of smoke and mirrors perception management (8.2.1), but the same affordances allow digital media giants (Eriksson et al., 2019, King, 2022) to play the same game (8.2.2). We saw that streaming services such as Spotify were exploiting the malleability of digital objects to avoid paying out too much revenue in artist royalties. Scandals such as the case of Spotify's fake artists contribute to the broader phenomenon of digital objects, i.e., their malleability, their (in)visibility black boxing social relations conducted online (Berry, 2015, Pasquale, 2015).

Digitalisation and, therefore, ontological reversal blurs distinctions between truth and reality which has real implications (Berry, 2015). In other words, digitalisation as a process becomes synonymous with this idea of ontological reversal where the digital takes ontological precedence or primacy) over the physical. That is not to say that digital objects (when printed into materiality) are not subject to the same physical laws and principals which govern spatial affordances but are nonetheless impactful (or active) in shaping the world around us. This digital first framing of the data illustrates this idea and shows that the malleability of digital objects contributes to altering perceptions of one another and how we perceive our individual and shared realities (Beverungen et al., 2019). Digital object malleability is not as simple as digital objects being openly editable, reprogrammable, and re-combinable (Ekbia, 2009, Kallinikos et al., 2013, Nambisan and Baron, 2013); their malleability refers to other features, such as whether digital objects are visible to human users or hidden in the back end of a computer programme where its workings and origins are unknown and obscured (Berry, 2015, Hui, 2016, Faulkner and Runde, 2019).

IS literature theorises digital objects (Faulkner and Runde, 2009, Kallinikos et al., 2010, Yoo, 2010, Faulkner and Runde, 2011, Kallinikos et al., 2013, Faulkner and Runde, 2019) around their locatability, addressability, and identifiability (see table 2 in section 7.3). However, who (or what) has access to this knowledge and information raises important concerns about power (im)balances in music industries where information is equitable with power today (Berry, 2015). We are talking about black boxing of social relations, which inadvertently (by design or otherwise) impacts social practice, behaviours, and attitudes (Pasquale, 2015). Examples of this mirrored manipulability, the (in)visibility of digital objects, can be found in scandals surrounding

fake artists, fake fans and fake streams, highlighting the fruitlessness of attempts at hacking success (8.2); all emanate from the malleability of digital objects.

Compounding these issues is a reported lack of industry-led digital education and learning resources coupled with meagre funding available for (most) artists to finance digital campaigns and employ professionals to manage and coordinate their efforts more effectively (4.2.3. & 8.4). Cases of digital burnout have led to industrywide calls for greater transparency in the relationship between artists-managers, labels and digital service providers, particularly concerning the inner workings of algorithms (Kellogg et al., 2020, Glaser et al., 2021). Greater transparency can allow for more efficient planning and strategizing, leaving artists more time and space to work on their art (8.4.3).

DIGITAL OBJECT INTERACTIVITY

The interactivity of digital objects within musical ecosystems considers how groups of interdependent actors coalesce their efforts to produce a viable, marketable musical product (4.2.1 & 8.1). Digitalisation has resulted in changes to expected workflows for musicians marking a shift from working in a professional studio setting to working on editing and mixing recordings made by musicians at home (8.1.1). Freelance producers are increasingly used to transforming these raw digital objects into marketable, professional-sounding products—a process requiring much magic dust, i.e., professional dexterity (4.2.2, 5.4.1 & 8.3.2).

Implementing AI technologies into musical production software means that musicians today work with the assistance of inhuman songwriting partners (8.1.1 & 8.3.3). However, the proliferation of AI music (as seen in the case of resurrecting the voices

and styles of deceased musicians) raises several ethical concerns about what we should or should not be using technology for (8.3.2). Furthermore, personalisation algorithms interact with music to shape and influence listening habits, essentially curating music tastes (4.2.3 & 8.3.3).

As a musician, however, your goal is to have your music on these playlists. Today this can mean being picked up by an algorithm as much as it can refer to a human DJ or playlist curator (4.2.3 & 8.1.2). The fact is, however, with automated shuffling, more often than not, the listener - in electing to allow another to choose their music for them - builds an added degree of distance between the listener and the music they are listening to. There is a degree of engagement missing (Palm, 2019) that would perhaps be the case if a trusted friend shared a CD or Vinyl (which also means you have to give it back). The passivity of contemporary listenership means mass audiences for music are increasingly less likely to search for new music actively (Arditi, 2018, Hesmondhalgh, 2021).

It is, therefore, not much of a stretch to posit that the chances of a passive listener (Kusek et al., 2005) noticing your music over and above the homogenous stream of similar music they are listening to are very slim (Morris, 2015, Eriksson et al., 2019), meaning it is unlikely that this listener will ever get to know you or recognise you as an artist never mind drag them to a gig (Morris, 2014, Zhang and Negus, 2021). That is not to say that this cannot or does not happen (Collins and Young, 2017, Arditi, 2018, 2020). We can all point to artists or tracks we have discovered online that have been presented to us through an algorithmically curated newsfeed or listening suggestion on Spotify (Morris and Powers, 2015, Liebman et al., 2019, Hesmondhalgh, 2021). Nevertheless, the fact remains that for most artists, this is exceptionally rare and very

unlikely to result in any semblance of sustainable success (Hesmondhalgh, 2020, Osborne and Laing, 2020, Hesmondhalgh, 2021).

The TikTok phenomenon only amplifies this (Zhang and Negus, 2021), where music is composed with the sole intention of going viral on TikTok (8.3.1). However, it is such tasks that seemingly entrance most aspiring musicians (8.1.2) to the detriment of not only their art (8.4.1) but equally their chances of achieving success (8.4.2) in the form of a viable (i.e., sustainable) musical career (Jones, 2012). In this way, the hedonism of endless streaming (Arditi, 2018) actively shapes the way music is produced (Gehman and Soublière, 2017). The demands of online competition in a saturated market means that it is increasingly difficult to stand out (4.2.2), but describing how musicians are looking to achieve a sense of optimal distinctiveness (Garud et al., 2019) - on and offline - becomes another contribution this research can make (Manning and Bejarano, 2017, Autio et al., 2018, Gegenhuber and Naderer, 2019).

SOCIOMATERIALITY OF DIGITAL OBJECTS

The primary shift that digitalisation has resulted in (for musicians at least) is a significant growth in the importance of value (Gehman and Soublière, 2017) created and realised online (4.2.3, 8.1 & 8.4). Artists today recognise how strategically appealing to curation algorithms (Arditi, 2018, Glaser et al., 2021, Hesmondhalgh, 2021) can become a powerful channel for delivering their music to new, seemingly endless audiences online (Zhang and Negus, 2021), which means that artists (as well as managers, promoters, and other industry workers) also become social media experts (5.4.1). They must also learn how to master essential software (tools) such as music production (8.1.1) and picture and video editing (8.1.2 & 8.2) programmes

(photoshop, for example) and develop a working knowledge of algorithmic behaviour (Bucher et al., 2020) and logic in effectively strategizing online (8.1.2). Such requirements exist alongside other tools and required digital skill sets (8.1 & 8.2).

The data shows how musicians' online performance (Zhang and Negus, 2021) now influences most daily musical activities (4.2.3 & 8.4). Many artists report that these efforts come at the expense of time (and creative energy) spent songwriting or making new music (Meier, 2017), leading some to question the pursuit of artistic excellence in the digital age (8.4.2). Most artists spoken to for this research mention how they struggle to keep up with the demands of digital-first musicianship, describing feeling overwhelmed and that effectively managing an artist's social media presence becomes a full-time job (4.2.2, 4.2.3 & 8.4).

This research found, however, that until an artist reaches a certain level of fame, renown or commercial success, these online statistics essentially lose all meaning (4.2.3, 8.2.1. & 8.4.2). The use-value of online performance statistics (Osborne and Laing, 2020) is lost and can either become a source of mild amusement (8.1.2) or, more concerningly, a significant source of discontentment (8.4) as artists struggle to maintain their online activities, frequently becoming disheartened through a lack of online engagement (i.e., digital success). Before an artist reaches the level of success at which they can command a sizeable online audience (Zhang and Negus, 2021), there is very little more to social media strategy than keeping your existing fanbase informed about releases, shows and merchandise sales (8.4.3). However, the hope of viral success (8.2.1) drives artists to expend (unnecessary) efforts in ancillary endeavours that rarely pay off, adding to the costs (Nambisan and Baron, 2021) of digital entrepreneurship and exposing the dark sides (Gehman and Wry, 2022) of entrepreneurship more broadly (Gehman and Soublière, 2017). This is not to suggest

that this is the case for all artists today. There are some notable examples of contemporary musicians making effective use of the affordances of social media to develop their musical careers.[24] Nevertheless, this ethnographic account of music making in a digital milieu suggests the effects of highly-visible, metricised social ranking systems on media platforms (where artists cannot escape from constant comparison with innumerable others who always seem to be doing better) compound this sense of digital alienation (8.4.2).

Time spent on social media comes at the cost of honing and perfecting musical craft (i.e., musicianship in the more traditional sense – section 4.3.2). Nevertheless, this is perhaps an overly romanticised (Frith, 1978) view of music and the value of art (on my part, perhaps). Realistically, the extent to which the craft of contemporary musicianship can be meaningfully distinguished from marketing (Meier, 2017) dissolves in a digitalising context (as would also be the case in any era of technological development). Nevertheless, the source of discontent stems from the softwarization of society and the reification of everyday life, suggesting an explicitly Frankfurt School critical dimension missing from extant digital theorising in the management school (Beverungen et al., 2019, Beyes et al., 2022). A critical theorist would suspect that these changes are simply a tendency of capitalism and not solely attributable to digitalisation.

Nevertheless, as suggested (section 1.1.4), digitalisation accelerates and intensifies existing trends (Fisher, 2009). Understanding how this acceleration (Rosa, 2013) - or intensification (Jameson, 1998) - of existing trends manifests in practice is the core of

[24] The example of Caroline Polacheck demonstrates effective exploitation of the affordances of TikTok and the 'hot list'. Her track 'So Hot You're Hurting My Feelings' is a playful (tongue-in-cheek) barb at the increasing shallowness (or instrumentality) of social media and the viral route to stardom.

this investigation. Alternatively, to put it another way, what we learn about digitalisation from this investigation stems from studying the effects of this phenomenon in the context of popular music-making. Recall the model of musicianship presented in section 4.3.2. Digitalisation effectively amplifies the pressures of everyday musicianship and values the symbolic musical good over and above the musical good. The digital object subsumes the artist (as a music maker, text maker and symbolic good).

Music-making and text-making (Jones, 2012) constitute the primary sources of value creation in the processes of cultural making (Gehman and Soublière, 2017) described in these pages. However, famous issues surrounding streaming remuneration (Hesmondhalgh, 2020) mean that popular music today is little more than a marketing tool, a promotional device (Meier, 2017), something to shout about and alert others to your presence, rather than something truly valuable (in both an economic and cultural sense). The value of digital music today exists only to the extent that content can be considered valuable (8.1.2 & 8.4). The digital music object is a source of content generation among many others in the data (touring, recording, posting). For musicians, value can be measured or recognised (i.e., legitimated) through accumulated digital symbolic capital (8.1.2). The accumulation of digital symbolic capital appears central to the performance of digital-first musicianship (8.4.1). The source of alienation (Berry, 2015) and discontentment expressed throughout this investigation (8.5) originates in this transformation: the supercharged value of digital symbolic capital in digital-first musicianship.

HOW ARE PROCESSES OF CULTURAL ENTREPRENEURSHIP BEING TRANSFORMED IN THE DIGITAL AGE?

This investigation finds that digitalisation empowers musicians but comes at the cost of competing in hypercompetitive market environments. Furthermore, the data shows how digitalisation (actively) shapes and conditions processes of cultural-making (i.e., musicianship). Tackling this problem is where the novelty of this research lies: retroducing (Belfrage and Hauf, 2017) a digital-first perspective (Baskerville et al., 2020) which draws upon insights from digital entrepreneurship (Nambisan, 2017, Autio et al., 2018) and the field of IS research to suggest a novel approach for theorising digitalising cultural entrepreneurship (Gehman and Soublière, 2017).

Existing work in cultural entrepreneurship studies emphasises the distributedness of processes of cultural making (2.3). This research finds that digitalisation extends the scope of distributedness by affording new means of co-creation, collaboration and innovation on an unprecedented scale, dissolving physical boundaries (i.e., space-time). Furthermore, the cast of actors producing new music extends in the digital age (i.e., distributedness), including unknowable masses online (social media, crowdfunding and global steaming audiences) alongside new agents (agencies) in the form of machine-learning algorithms and generative AI.

Taking a digital-first perspective, i.e., theorising through and with the digital object, allows for a novel theorisation of the digitalisation of cultural making (Gehman and Soublière, 2017). This investigation also finds that digital technologies and the internet also retain the intertemporality (2.3.2) of processes of cultural making. The intertemporality of cultural making – i.e., the recursive relationship between the past,

present and future – is present in making and remaking digital objects in digital-first musicianship practices. By discussing processes of cultural making by drawing upon the unique characteristics of digital technologies, it is possible to show that cultural making now unfolds in a reversed ontology. Essentially, digitalisation transforms the nature of entrepreneurs' stories (where and how they tell them) in mediating between extant stocks of entrepreneurial resources (Lounsbury and Glynn, 2001).

However, the ontological reversal of cultural making has resulted in new principles of legitimation (2.3.3) that revolve around the accumulation of digital symbolic capital. By suggesting the concept of digital symbolic capital (4.2 & Chapter 8), this research contributes to understanding the multivocality of value in (cultural) entrepreneurship studies (Gehman and Soublière, 2017). Musicians in the data consistently overvalue digital symbolic capital. Producing digital value comes above other concerns, such as artistic and aesthetic value (yet both can be realised and measured online). Perhaps more importantly, musicians are underestimating the value of economic capital to developing musical careers by investing in producing content over producing new music. This finding refers back to the model of musicianship (4.3.2). The model implies that musical production is where the economic value of music lies, whereas the text-making aspects of musicianship are more culturally recognised but can nevertheless be realised in economic value (through sales).

Today, digitalisation perhaps exaggerates the need for text-making (i.e., the artist as symbolic good), resulting in an overproduction of digital objects. Nevertheless, this is not to suggest that digital symbolic capital is not realisable in economic gain but that the accumulation of digital symbolic capital plays a crucial role in contemporary cultural making. This research can only suggest that the digital represents a new register of meaning, valuation and legitimation. More work is needed to fully conceptualise and

theorise the role and value of digital symbolic capital in cultural making. Not just cultural making but academics compete for digital symbolic capital as much as musicians (publications, citations and impact factors). Relevant studies emerging from outside management, such as Scott (2012) and Pret et al. (2016), successfully apply a Bourdieusian lens to analyse processes of capital conversion in cultural fields (2.1.2). Reinterpreting the findings of this investigation drawing upon the sociology of Bourdieu to complement the conceptualisation of digital symbolic capital presented here represents one potentially fruitful avenue for entrepreneurship theorising in the digital age (Alaimo, 2022).

It is also interesting that the value of digital symbolic capital is highly contingent upon its social positioning (Faulkner and Runde, 2019). Managers see digital symbolic capital as a meaningless distraction, while musicians see it (also as a distraction) but not a meaningless one, one which potentially holds the keys to unlocking the door to a future career in music (8.1.2, 8.4 & 8.5). A field analysis (Alaimo, 2022), for example, would help elaborate upon how the value of digital symbolic capital to processes of cultural making is subject-dependent and a more thorough consideration of its value compared to other forms of valuation becomes possible. It, therefore, also becomes possible to comment upon how a supposedly enjoyable process becomes a source of alienation and discontentment. Such research would join the growing field of digital management researchers drawing upon different genres of social theory to help explain digitalising phenomena (Beverungen et al., 2019, Beyes et al., 2022).

This research contributes to this body of work by adding a critical perspective and using the concepts of alienation and reification to add to the existing critique of digitalisation and the enfeeblement of humanity. Findings such as those retroduced in this investigation illustrate the poverty of an institutional approach divorced from its

broader socioeconomic context (Willmott, 2019). Analysing the algorithmic mediation of cultural entrepreneurship with a critical lens betrays the complicity of institutional approaches in the 'reification and legitimation of structures of domination', meaning that any claims of institutional theories to be 'critical' or interested in the asymmetries of power ring increasingly hollow today (Munir, 2020). As long as institutional logics stay divorced from their political-economic context (Munir, 2020), institutional approaches will remain naïve to theorising the structural power imbalances that affect the nature and availability of affordance and opportunity for entrepreneurial actors (Pignot, 2021). Therefore, This research recontextualises entrepreneurship (i.e., in ontological reversal) to explore the hidden politics of digitalising cultural production.

Today, music can be created (and value-added) at any time, in any location and by any number of people (8.1 & 8.3). Digital technologies do indeed afford (Autio et al., 2018) the potential to make and market a (hit) record from home (4.2.1 & 8.1.1). In dextrous (Davis, 2020) hands, these technologies hold emancipatory (Martinez Dy et al., 2018) potential in affording the ability to create flexibly (Harvey, 1989) and with a wealth of options and opportunities (Nambisan, 2017) for new music-making (Gehman and Soublière, 2017). Artists' experiences of music-making during the pandemic amplified the uptake of virtual co-creation methods (4.1 & 8.1.1) and have further legitimated (Suddaby et al., 2017) this practice for many in the music industries today (Zhang and Negus, 2021). Technologies such as Zoom, designed to allow people separated by a geographic (i.e., spatial) distance the possibility of communication, also present artists with extended means for sonic innovation and experimentation. Theoretically, digitalisation dissolves the importance of spatial affordances in the growth of a musical career. In the words of David Harvey (1989), space is annihilated by time.

Outside of economic and scholarly concerns, the amplified distributedness of cultural-making processes undeniably lowers structural barriers to accessing music markets and leads to greater inclusivity and participation (Martinez Dy et al., 2018). The benefits of the internet and online social networking tend to be glossed over in this account. We have already discussed how some of the artists who participated in this study believe they would not have received success and opportunities without the Internet (Lola, Laura & Michelle). This view is common to many of those I spoke with that the internet and digital technologies certainly possess an emancipatory potential, but the realities of attempting to realise this potentiality result in harmful, destructive, alienating practices.

Digitalisation certainly amplifies the distributedness of cultural entrepreneurship. However, the data has also shown that cultural entrepreneurs are conceivably overvaluing the accumulation of digital symbolic capital in reproducing their musical careers (8.1.2 & 8.4), neglecting the spatial affordance (Autio et al., 2018) of local grassroots industries (Toynbee, 2000). Today, services such as Zoom, WhatsApp and Facebook Messenger become critical co-creation sites in meaningful and exciting ways (4.2.1 & 8.1.1). The diffusion of entrepreneurial agency (Gehman and Soublière, 2017, Nambisan, 2017) and locations of creativity, co-creation, and collaboration shows how digitalisation dissolves traditional boundaries that delimit entrepreneurship (Nambisan, 2017).

Regarding how digitalisation transforms intertemporality in cultural entrepreneurship, the concept of hyper-competition elaborates upon recent changes. In one way, the digitalisation of music opens up efficient access to vast catalogues of recorded music's entire history, affording a seemingly endless pool of inspiration and entertainment. This development relates to Jason Toynbee's (2000) idea of the musician's radius of

creativity. Digitalisation extends this radius to an unprecedented scale. The data describes how musicians fear competing with the entire history of recorded music for the listener's attention. The value of new music has decreased dramatically in the digital age, where today, musical production has become little more than a marketing tool or source of content generation. At the same time, the residual value of legacy copyright becomes a financialised instrument and is traded on the stock market.

The intertemporality of cultural entrepreneurship is echoed in the modernist sense that having access to all of this music can only serve as a source of inspiration as artists continually make and remake their art only by drawing on what is available to them (i.e., the past). The idea is that the artists move culture and not the art—the avant-garde. In the post-modern age, the relationship is reversed and becomes the art that maketh the artist. Today, pop culture's addiction to its past (Reynolds, 2011) means that those who were once considered the trendsetters and taste-makers in the art world are now the ones most invested in preserving the past. Once seen as pushing boundaries and breaking new ground, this group has taken on the role of curators and archivists. It is almost as if the avant-garde has become an arrière-garde (Reynolds, 2011), still influential but in a different (i.e., reversed) way (Baskerville et al., 2020):

> At a certain point the sheer mass of past accumulating behind the music began to exert a kind of gravitational pull. The sensation of movement, of going somewhere, could be satisfied as easily (in fact, more easily) by going backwards within that vast past than by going forwards. It was still an exploratory impulse, but now it took the form of archaeology (Reynolds, 2011 p. 7).

Although the signs of retromania emerge as far back as the eighties, it has spread in the last decades. Today's musicians have grown up with unprecedented access to the

musical past, resulting in a unique approach to music-making heavily influenced by popular music of the past. Aesthetically, today's music has many reference points and allusions to the past. This approach to music-making produces a surprising sonic melange that spans the decades and oceans of genre innovation. Reynolds calls this "record-collection rock", but you do not need to collect records today. All the sound, imagery, and information that once required physical effort and money are now free, just a few keys and mouse clicks away.

There are certainly changes afoot in the valuation of culture but not in the sense of cultural making but the value of culture that is already made (i.e., a proven success). This finding is consistent with ongoing trends towards the devaluation of recorded music from a valuable commodity to more of a marketing tool, with the value realised in ticket sales for live performances much more than through streaming revenue. That is unless you possess the copyright for a small selection of hugely popular contemporary music or canonical tracks from Western commercial music history. We can see the value of a specific subset of ready-made culture (financialised copyright) as catalogue and library ownership are now traded on the stock market.

As discussed in section 1.1.3, streaming technologies and subscription-based access models ended what was probably only a niche practice and almost certainly overblown by the incumbent powers securing copyright legislation to ensure their futures. The value of the intellectual property (in the form of proven success, legacy music, i.e., classics) has become financialised and can now be bundled as tradeable assets. Note how in recent years, artists such as Bob Dylan and Neil Young have sold entire swathes of the rights to their music to investors for vast sums (in the hundreds of millions). However, streaming becomes the priority for those attempting to succeed in the mainstream but offers very little in return for musicians' efforts. Proving successful,

however, is where this research can contribute to understanding cultural entrepreneurship; in furnishing a novel account of the role of digital symbolic capital in processes of legitimation.

Digital objects (and their unique characteristics) present musicians with fresh challenges. Prominent examples of independent successes obfuscate, in the popular imagination, the complex realities facing aspiring musicians. I find that while musicians mainly do it themselves, they primarily do it in seeking intermediary interest. Artists are required (or feel obliged) to develop an appealing online presence. This situation means an artist must appeal to real and imagined audiences online. Not just appealing to potential fans and represents an attractive prospect for legitimating actors and intermediaries (i.e., managers, labels and influencers). Incorporating the role of inhuman agencies in processes of digital-first legitimation, this research also contributes to the study of legitimacy in management research, particularly the evaluative (i.e., perception view – section 2.3.3). We can say that with digital-first musicianship, legitimacy is also possible online with the accumulation of digital symbolic capital. More importantly, traditional gatekeepers joined a new cast of machinic intermediaries with novel powers of legitimation but also governance.

Posting can often feel like pulling down on a one-armed bandit or the spin of a roulette wheel, winning and losing with no clear lessons that can be gleaned from the result. Nevertheless, the page management applications that social media and streaming companies offer their users (or uploaders) new insight into the characteristics of their fanbase. Learning to effectively strategize using social media and streaming statistics (i.e., performance data) is essential to contemporary musicianship. Musicians can access real-time information on who is listening to their music, who likes their posts, and who will see them at their next gig.

Likes and clicks define the value of digital-first musicianship. In seeking a viral route to success, music and musicians are becoming increasingly embedded in a perverse regime of digital object accumulation, benefiting nobody truly but the media barons of Silicon Valley. Pursuing a music career today means engaging in content production over and above music making. Social media's highly visible, metricised systems of social ranking are important sources of legitimation for artists today and therefore require time, money and effort to grow stocks of online symbolic capital. It is found that most artists are begrudging in their attitude towards social media but equally recognise the potential (even necessity) importance of developing a successful music career. Nevertheless, the quest for the digital ideal can become all-encompassing for artists who must become all-singing-all-dancing PR machines. This transformation reflects an example of social media logic, i.e., formal rationality, crystallising into human action, activities and behaviours resulting in supercharging alienation in the digital age.

This idea of a mere technological augmentation of pre-existing analogue practices reflects discussions in the first data presentation (section 4.1). The digital empowerment of musicianship (4.2.1) and the hypercompetitive (4.2.2) nature of digitalising music markets (solicited through the digitally-enabled democratisation of access) show that this is a case of the more things change, the more they stay the same (Taylor, 2015, Arditi, 2018). There was a brief period during the early years of this century when it felt like the internet would genuinely undermine the pre-digital music industry structures (David, 2010, 2016), fundamentally freeing the musician (and music) from the oligopolistic control of major music companies. The legitimation of streaming media can also be re-read as a case of cultural entrepreneurship. DiMaggio (1982) describes a process of cultural entrepreneurship in 19th-century Boston, showing how the foundation of cultural institutions formalised cultural

classification between high and low art (Section 2.1). This process unfolds in three sub-processes – entrepreneurship, classification and framing. In DiMaggio's story, cultural entrepreneurship led to an institutionalised distinction between art and entertainment along with a set of expected behaviours (i.e., manners) and practices which still linger today (Glynn and Lounsbury, 2005). Referring back to how streaming technologies were able to plug the value gap left in the wake of the P2P file sharing crisis (section 1.1), using DiMaggio's framing, we can see that major label oligopoly over mainstream music markets was achieved through cultural entrepreneurship. Early investment in streaming start-ups reflects the entrepreneurial element. This investigation has shown that the process describes by DiMaggio is also unfolding where classification (between good and bad music) is achieved (i.e., measured) through the accumulated amount of digital symbolic capital it can accure and furthermore, framing is achieved through the patterns of behaviour and attitudes described in these pages: digital-first musicianship.

HOW ARE DIGITAL TECHNOLOGIES AFFORDING PROCESSES OF CULTURAL ENTREPRENEURSHIP WITHIN CONTEMPORARY ENTREPRENEURIAL ECOSYSTEMS?

In deriving this enriched framework for theorising the digital in entrepreneurship studies (Chapter 7), this research responds to calls made for perspectives that move beyond digitalisation as a context but instead follow the assumption that digital technologies have unique features or characteristics that influence (or disrupt) traditional entrepreneurial processes and outcomes (Nambisan et al., 2019, Nambisan and Baron, 2021, Bailey et al., 2022). Further, this research also shifts focus away

from individual entrepreneurs and onto the technology itself (the digital) and how agent-independent factors influence entrepreneurial processes and outcomes (Faulkner and Runde, 2019).

Moreover, in gifting a more active agency to digital technologies, the nature of affordance is animated; transformed from an assumed passivity (i.e., a tool). This approach refreshes existing theorising, which is currently ignorant of the entirely new forms of material agencies possessed by technologies such as artificial intelligence and machine learning algorithms. Also missing from extant accounts in management is descriptions of how these new agencies coalesce with traditional structural impediments. The interactivity and fluidity of affordance in digital-first entrepreneurship also contribute to further shaping and conditioning the nature of entrepreneurial processes and outcomes by dispersing agency across an even more distributed range of known and unknown actors.

This research also contributes to digital entrepreneurship studies which concern digital start-ups and business model innovation (Zaheer et al., 2019). We can say that factors such as platform architecture and other forms of control that tech bosses have over entrepreneuring within their systems impede innovation and encourage homogenisation (1.1, 4.2, 8.3.1 & 8.4). This ethnographic account provides empiric detail of a black swan case of digital start-up practices and unorthodox business model innovation, including how the lean revolution is expanding into increasing realms of entrepreneurial practice – an unfamiliar context outside of traditional business-management settings.

While it may be true that in the digital age, anyone can make a record at home (Collins and Young, 2017), not everyone can make a good (i.e., successful) one (8.1.1). It is

entirely possible (for most) to capture professional standard audio at home (Hesmondhalgh and Meier, 2015), but turning this raw material into a viable, marketable release necessitates additional professional expertise (5.4.1). Despite this, the research identified several examples that show how it is still possible to trouble mainstream channels with independent music from time to time (4.2.1 & 8.1). Access to the requisite technologies and digital apparatus is undoubted (Nambisan, 2017, Autio et al., 2018). However, possessing the required levels of practical dexterity and technical knowledge (Davis, 2020) to realise the power of digital technologies (i.e., the successful manipulation of digital objects) is rare and rarely possible alone (5.4.1, 8.1, 8.2, 8.3).

A musician's capacity to acquire the requisite tools (Collins and Young, 2017) and develop practical dexterity (Davis, 2020) to master it usually stifles the entrepreneurial potential held by digital technologies (Nambisan, 2017, Autio et al., 2018). The literature presents an entrepreneurial context drenched with Californian ideology (Barbrook and Cameron, 1996) in which prevailing discourse mis-recognises musical (i.e., entrepreneurial) realities (Martinez Dy et al., 2018). Scholars must begin reckoning with the role of machinic agencies (Dyer-Witheford et al., 2019, Kellogg et al., 2020) in interpellating (Althusser, 2014 [1970]) eager (willing, easily seduced) subjects into a false consciousness (Lukács, 1972 [1923]) manifest in privileging the social media roulette wheel of viral stardom over the time-honoured tradition of networking your music into the right ears (Autio et al., 2018). These findings suggest that focusing on exploiting the digital affordances of music production ecosystems comes at the cost of learning to exploit the more immediate spatial affordances (Nambisan, 2017, Autio et al., 2018) – which present the more probable means of

successfully navigating the music industries towards a music career (Osborne and Laing, 2020).

Today, the scope for business model innovation online diminishes where user behaviour is constrained by what a particular platform architecture will allow for or (more actively) encourages (Martinez Dy et al., 2018). Acting differently or trialling alternative approaches can diminish entrepreneurial returns (i.e., outcomes). In the case of digital-first musicianship, this equates to what is referred to throughout the text as reach; i.e., the degree of power and influence a particular online profile can command is measured by the number of other profiles that see and hopefully engage with your post (content). We saw in the data that platforms can delimit reach depending on what form of a digital object is posted as well as indicating a hidden sense of governmentality where bad behaviour (i.e., streaming your music for days on end) is not fraudulent (Eriksson et al., 2019) - in the sense that defrauded streaming royalties are not payable – this does not matter because the values are so low they are relatively negligible for the platform – but more importantly the deviant user becomes hidden from potential listeners; in internet parlance, this is called shadowbanning. Nevertheless, as the same tale shows (8.2.1), entrepreneurial outcomes are heavily context-dependent and can be judged across multiple and fluid repertoires of cultural meaning (Giorgi et al., 2015, Gehman and Soublière, 2017). When it became clear that fudging streaming figures would win funding for studio recording, the value of online reach diminished once again.

This investigation accounts for entrepreneurial ecosystems (Nambisan, 2017, Autio et al., 2018) facing ontological reversal (Baskerville et al., 2020). While, on the one hand, digital affordances mean making music at home has become more accessible, successfully exploiting digital affordances is a different story. Not everyone can

produce a professional-sounding track themselves. Achieving professional audio standards requires additional expertise. Musicians must acquire the necessary tools and skills to excel in this field (not just in music-making but also in text-making). Analysing digital affordance in this context exposes hidden governmentality through shadowbanning and nudging a viral route to success. Furthermore, entrepreneurial outcomes depend on various cultural meanings and contexts. The overemphasis on exploiting digital affordance comes to the detriment of chances of success, given that the data shows the most feasible route to a musical career is through more traditional networking channels.

LIMITATIONS AND THE PROMISE OF THEORY RETRODUCTION

The data for this research was collected during a most unusual time. Rather than reflecting on my everyday musicianship, what happened was a frantic improvisation of data collection and theory retroduction which guides research through successive processes of refinement (trial and error, correction) towards a new understanding (perspective, explanation). There are flaws in this method and severe limitations to its explanatory capacity (generalisability). My respondents were feeling the effects of the pandemic. They were frustrated, stifled, bored and feeling (a little) hopeless. As many of us understandably were at the time.

Nevertheless, this retroductive approach is exceptionally forgiving in enabling methodological freedom, exploration and experimentation. Despite (or because of) the anarchy of this investigation, there is no excuse for abandoning the idea of rigour in qualitative research. Despite surface appearances, Feyerabend is not against method.

That is, he is not against method altogether. It is the constraints of method that rile Feyerabend. Instead, an anarchist epistemology (and indeed a critical realist approach) embraces scientific inquiry's unpredictability and whimsical nature. Instead of denying this reality, retroduction encourages reflexivity in developing and presenting new knowledge or understanding.

A further limitation of this research, as may have perhaps become clear, is that the netnographic element of my data is more absent than I would have liked. Time constraints forced me to focus on interview data, and netnographic information merely embellishes or corroborates understanding found through analysing interview transcripts. This surplus data (to this investigation or cycle of retroduction) represents an untapped resource for further analysis and refinement. Another limitation of this research lies in the subsequent task of turning these findings into publishable research. The confines of academic journal articles mean that the depth and reflexivity of this presentation are almost undoubtedly inappropriate for the pages of mainstream management publications. The previous discussions have indicated possible ways of neatly repacking these ideas in formats more amenable to academic management outlets.

Researching cannot flourish when authors are required to follow a specific template, i.e., a particular writing format or system of analysis. For example, while something like the Gioia method can be a helpful tool for some studies, for others, it becomes a force fit (Gioia et al., 2013). Despite claims of grounded theorists allowing the data to speak for itself, the data structure stipulated by the Gioia method contains only names of categories, themes or constructs. Very little of the data is made visible to the reader. The cart comes before the horse (Gehman et al., 2018). Other examples of rigorous qualitative research (narrative analysis, for example) follow different standards of

rigour, which do not lend well to a data structure approach because narrative analysis involves a more holistic analysis of the data rather than the fine-grained analysis based on axial coding. Focused coding on small patterns of text can miss broader patterns of meaning.

Nevertheless, following Eisenhardt et al. (2016), the quality of this research can be judged on three criteria for scholarly rigour. Firstly, research must have strong theory. Having strong theory means that the data presentation must be more than just vivid stories or diagrams. Strong theory must be internally coherent and parsimonious, with well-defined constructs, relationships between constructs and underlying logical arguments that support these constructs. Strong theory also addresses alternative explanations and boundary conditions and must be parsimonious in that decisions must separate essential ideas from less important ones. This investigation has retroduced strong theoretical contributions by suggesting a digital technology perspective of cultural entrepreneurship that draws upon insights from digital entrepreneurship studies and fresh insights from IS to refine existing definitions of concepts and constructs (i.e., digital technology perspective), identify new relationships between constructs (ontological reversal) and used critical theory to illuminate and support the arguments and ideas this research proposes.

The second criterion for rigorous research is that the constructs and themes that constitute the emergent theory are grounded in compelling data. To have compelling data, the author must reveal data to the reader in formats that aid with understanding the chain of evidence and allow for clear lines between the data and the emergent theory. While different approaches lend themselves to idiosyncratic means of (re)presentation, the logic behind methodological decisions also is explicated with a hyper-reflexive approach to presenting this research which diverges from the

traditional objective approach, which often occludes the messiness of empirical research. Furthermore, this research makes clear links between the chapters, between the data and the theory, and illustrates the processes of theory retroduction in text and graphics. This thesis suggests an open, reflexive and historical mode of presentation and soliciting insights into the struggles and successes of socially-distanced scholarship.

Thirdly, rigour is judged on whether the research provides rich and unexpected insights. This means avoiding 'beautifully written illustrations of existing theory' and contributing to a specific research conversation or opening a new one by providing fresh insights not easily discernible from existing theoretical and empirical work' (Eisenhardt et al., 2016 p. 1121). The findings of this investigation show that this research is more than just a vivid description of an exciting idea. It is becoming increasingly clear that digital technologies hold the potential to upend our assumptions about the nature of reality. This can mean transformations to previously taken-for-granted notions of human values, autonomy and ethics. This research pursues the novel idea of ontological reversal to articulate digitalisation as an important but perhaps overlooked social problem. This research adds to existing calls for a digital turn in management and organisation studies (Bailey et al., 2022, Beyes et al., 2022) and a substantial empiric response. An appropriate response means increasing sophistication and technical nuance in understanding (theorising) digital transformations.

POSTSCRIPT

A Lennon-esque David Bowie bites his thin bottom lip and looks towards the interviewer through his round purple spectacles; he squints accusingly at Jeremy Paxman in a characteristically intense, albeit charming, otherworldly manner.

"It's just a tool though, isn't it?" retorts Paxman, red-faced, smug and typically self-assured—chair of the debating society.

"No, it's not, no." assures the Starman sage.

"No, it is an alien life form".

He laughs.

"Is there life on Mars?

"Yes! It's just landed here!"

REFERENCE LIST

Acheson, K., Maule, C. J. & Filleul, E. 1996. Cultural entrepreneurship and the Banff Television Festival. *Journal of Cultural Economics,* 20**,** 321-339.

Adorno, T. W. & Horkheimer, M. 1997. *Dialectic of enlightenment*, Verso.

Afuah, A. & Tucci, C. L. 2003. *Internet business models and strategies: Text and cases,* New York, McGraw-Hill.

Aglietta, M. 2016. *A Theory of Capitalist Regulation: The US Experience*, Verso Books.

Al-Amoudi, I. & Willmott, H. 2011. Where constructionism and critical realism converge: Interrogating the domain of epistemological relativism. *Organization Studies,* 32**,** 27-46.

Alaimo, C. 2022. From People to Objects: The digital transformation of fields. *Organization Studies,* 43**,** 1091-1114.

Althusser, L. 2014 [1970]. *On the reproduction of capitalism: Ideology and ideological state apparatuses*, Verso Trade.

Amit, R. & Zott, C. 2001. Value creation in E-business. *Strategic Management Journal,* 22**,** 493-520.

Anderson, L. 2006. Analytic autoethnography. *Journal of contemporary ethnography,* 35**,** 373-395.

Anderson, T. J. 2013. *Popular music in a digital music economy: Problems and practices for an emerging service industry*, Routledge.

Arditi, D. 2018. Digital Subscriptions: The Unending Consumption of Music in the Digital Era. *Popular Music and Society,* 41**,** 302-318.

Arditi, D. 2020. *Getting Signed*, Springer.

Ashman, R., Patterson, A. & Kozinets, R. V. 2021. Netnography and design thinking: development and illustration in the vegan food industry. *European Journal of Marketing*.

Attali, J. 1985. *Noise: The political economy of music*, Manchester University Press.

Autio, E., Nambisan, S., Thomas, L. D. & Wright, M. 2018. Digital affordances, spatial affordances, and the genesis of entrepreneurial ecosystems. *Strategic Entrepreneurship Journal,* 12**,** 72-95.

Bailey, D. E., Faraj, S., Hinds, P. J., Leonardi, P. M. & Krogh, G. V. 2022. We Are All Theorists of Technology Now: A Relational Perspective on Emerging Technology and Organizing. *Organization Science,* 33**,** 1-18.

Barad, K. 2007. *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*, Duke University Press.

Barbrook, R. & Cameron, A. 1996. The californian ideology. *Science as Culture,* 6**,** 44-72.

Baskerville, R., Levine, L., Pries-Heje, J. & Slaughter, S. 2001. How internet software companies negotiate quality. *Computer,* 34**,** 51-57.

Baskerville, R., Myers, M. D. & Yoo, Y. 2020. Digital First: The Ontological Reversal and New Challenges for IS Research. *MIS Quarterly,* 44**,** 509-523.

Baudrillard, J. 1994. *Simulacra and simulation*, University of Michigan press.

Baudrillard, J. 2005. *The system of objects,* London ; New York, Verso.

Belfrage, C. & Hauf, F. 2017. The gentle art of retroduction: Critical realism, cultural political economy and critical grounded theory. *Organization Studies,* 38**,** 251-271.

Belfrage, C. A. & Hauf, F. 2015. Operationalizing cultural political economy: towards critical grounded theory. *Journal of Organizational Ethnography*.

Benbya, H., Nan, N., Tanriverdi, H. & Yoo, Y. 2020. Complexity and information systems research in the emerging digital world. *Mis Quarterly,* 44**,** 1-17.

Benjamin, W. 2008. *The work of art in the age of its technological reproducibility, and other writings on media,* Cambridge, Mass., Belknap Press of Harvard University Press.

Benkler, Y. 2006. The Wealth of Networks: How Social Production Transforms Markets and Freedom. Yale Univ. Press.

Berger, E. S., Von Briel, F., Davidsson, P. & Kuckertz, A. 2021. Digital or not–The future of entrepreneurship and innovation: Introduction to the special issue. Elsevier.

Berry, D. 2008. *Copy, Rip, Burn: The Politics of Copyleft and Open Source*, Pluto Press.

Berry, D. 2015. *Critical theory and the digital*, Bloomsbury Publishing USA.

Berry, D. 2016. *The philosophy of software: Code and mediation in the digital age*, Springer.

Berry, D. & Fagerjord, A. 2017. *Digital humanities: Knowledge and critique in a digital age*, Polity Press.

Besharov, M. L. & Smith, W. K. 2014. Multiple Institutional Logics in Organizations: Explaining Their Varied Nature and Implications. *Academy of Management Review,* 39**,** 364-381.

Beverungen, A., Beyes, T. & Conrad, L. 2019. The organizational powers of (digital) media. *Organization,* 26**,** 621-635.

Beyes, T., Chun, W. H. K., Clarke, J., Flyverbom, M. & Holt, R. 2022. Ten Theses on Technology and Organization: Introduction to the Special Issue. *Organization Studies,* 43**,** 1001-1018.
Bharadwaj, A., El Sawy, O. A., Pavlou, P. A. & Venkatraman, N. V. 2013. Digital business strategy: toward a next generation of insights. *MIS quarterly***,** 471-482.
Bhaskar, R. 1998. *Critical realism : essential readings / edited by Margaret Archer ... [et al.],* London, Routledge.
Bhaskar, R. 2009. *Scientific realism and human emancipation*, Routledge.
Bhaskar, R. 2010. *Reclaiming reality: A critical introduction to contemporary philosophy*, Taylor & Francis.
Bhaskar, R. 2013. *A realist theory of science*, Routledge.
Bhaskar, R. 2014. *The possibility of naturalism: A philosophical critique of the contemporary human sciences*, Routledge.
Blank, S. 2018. Why the lean start-up changes everything. *Harvard Business Review*.
Boéri, J. & Giustini, D. 2023. Qualitative research in crisis: A narrative-practice methodology to delve into the discourse and action of the unheard in the COVID-19 pandemic. *Qualitative Research,* 0**,** 14687941231155620.
Bucher, E. L., Schou, P. K. & Waldkirch, M. 2020. Pacifying the algorithm – Anticipatory compliance in the face of algorithmic management in the gig economy. *Organization,* 28**,** 44-67.
Bunjak, A., Černe, M. & Popovič, A. 2021. Absorbed in technology but digitally overloaded: Interplay effects on gig workers' burnout and creativity. *Information & Management,* 58**,** 103533.
Burkart, P. 2012. *Music and cyberliberties*, Wesleyan University Press.
Burkart, P. 2014. Music in the Cloud and the Digital Sublime. *Popular Music and Society,* 37**,** 393-407.
Cain, S. 2022. Capitol Records drops 'offensive' AI rapper FN Meka after outcry over racial stereotyping. *The Guardian* [Online]. Available: https://www.theguardian.com/music/2022/aug/24/major-record-label-drops-offensive-ai-rapper-after-outcry-over-racial-stereotyping.
Carrier, C., Raymond, L. & Eltaief, A. 2004. Cyberentrepreneurship:A multiple case study. *International Journal of Entrepreneurial Behavior & Research,* 10**,** 349-363.
Coleman, G. & O'connor, R. 2007. Using grounded theory to understand software process improvement: A study of Irish software product companies. *Information and Software Technology,* 49**,** 654-667.
Coleman, M. 2009. *Playback: From the Victrola to MP3, 100 years of music, machines, and money*, Da Capo Press.
Collins, S. & Young, S. 2017. *Beyond 2.0: The Future of Music.,* Sheffield, Equinox.
Colombo, M. G. & Delmastro, M. 2001. Technology-Based Entrepreneurs: Does Internet Make a Difference? *Small Business Economics,* 16**,** 177-190.
Cramer, F. 2015. What Is 'Post-digital'? *In:* Berry, D. M. & Dieter, M. (eds.) *Postdigital Aesthetics: Art, Computation and Design.* London: Palgrave Macmillan UK.
Crawford, K. 2021. *The atlas of AI: Power, politics, and the planetary costs of artificial intelligence*, Yale University Press.
Dalpiaz, E., Rindova, V. & Ravasi, D. 2016. Combining logics to transform organizational agency: Blending industry and art at Alessi. *Administrative Science Quarterly,* 61**,** 347-392.
Daly, S. P. 2001. Student-Operated Internet Businesses: True Experiential Learning in Entrepreneurship and Retail Management. *Journal of Marketing Education,* 23**,** 204-215.
David, M. 2010. *Peer to peer and the music industry : the criminalization of sharing,* Los Angeles, SAGE.
David, M. 2016. *The legacy of Napster*, Springer.
Davidson, E. & Vaast, E. Digital Entrepreneurship and Its Sociomaterial Enactment. 2010 43rd Hawaii International Conference on System Sciences, 5-8 Jan. 2010 2010. 1-10.
Davis, J. L. 2020. *How artifacts afford: The power and politics of everyday things*, MIT Press.
Delmestri, G. & Greenwood, R. 2016. How Cinderella became a queen: Theorizing radical status change. *Administrative Science Quarterly,* 61**,** 507-550.
Denzin, N. 1997. *Interpretive Ethnography: Ethnographic Practices for the 21st Century,* Thousand Oaks, California.
Dimaggio, P. 1982. Cultural entrepreneurship in nineteenth-century Boston: The creation of an organizational base for high culture in America. *Media, Culture & Society,* 4**,** 33-50.
Dimaggio, P. 1988. Interest and agency in institutional theory. *Institutional patterns and organizations culture and environment***,** 3-21.
Dimaggio, P. & Powell, W. W. 1983. The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American sociological review***,** 147-160.
Diviney, H. 2022. When Beyoncé dropped the same ableist slur as Lizzo on her new album, my heart sank. *The Guardian* [Online]. Available:

https://www.theguardian.com/commentisfree/2022/aug/01/when-beyonce-dropped-the-same-ableist-slur-as-lizzo-on-her-new-album-my-heart-sank.
Durand, R. & Jourdan, J. 2012. Jules or Jim: Alternative Conformity to Minority Logics. *Academy of Management Journal,* 55**,** 1295-1315.
Dyer-Witheford, N., Kjøsen, A. M. & Steinhoff, J. 2019. *Inhuman power*.
Edmond, M. 2014. Here we go again: Music videos after YouTube. *Television & New Media,* 15**,** 305-320.
Edmondson, A. C. & Mcmanus, S. E. 2007. Methodological fit in management field research. *Academy of management review,* 32**,** 1246-1264.
Eisenhardt, K. M. & Graebner, M. E. 2007. Theory building from cases: Opportunities and challenges. *Academy of management journal,* 50**,** 25-32.
Eisenhardt, K. M., Graebner, M. E. & Sonenshein, S. 2016. Grand Challenges and Inductive Methods: Rigor without Rigor Mortis. *Academy of Management Journal,* 59**,** 1113-1123.
Ekbia, H. R. 2009. Digital artifacts as quasi-objects: Qualification, mediation, and materiality. *Journal of the American Society for Information Science and Technology,* 60**,** 2554-2566.
El Sawy, O. A. 2003. The IS Core IX: The 3 Faces of IS identity: connection, immersion, and fusion. *Communications of the Association for Information Systems,* 12**,** 39.
Elia, G., Margherita, A. & Passiante, G. 2020. Digital entrepreneurship ecosystem: How digital technologies and collective intelligence are reshaping the entrepreneurial process. *Technological Forecasting and Social Change,* 150**,** 119791.
Ellis, C. 2004. *The ethnographic I: A methodological novel about autoethnography*, Rowman Altamira.
Ellis, C., Adams, T. E. & Bochner, A. P. 2011. Autoethnography: An Overview. *Historical Social Research / Historische Sozialforschung,* 36**,** 273-290.
Ellis, C. & Bochner, A. 2000. *Autoethnography, personal narrative, reflexivity: Researcher as subject*.
Eriksson, M., Fleischer, R., Johansson, A., Snickars, P. & Vonderau, P. 2019. *Spotify teardown : inside the black box of streaming music,* Cambridge, MA, MIT Press.
Faulkner, P. & Runde, J. 2009. On the Identity of Technological Objects and User Innovations in Function. *Academy of Management Review,* 34**,** 442-462.
Faulkner, P. & Runde, J. The social, the material, and the ontology of non-material technological objects. European Group for Organizational Studies (EGOS) Colloquium, Gothenburg, 2011. Citeseer, 4-8.
Faulkner, P. & Runde, J. 2019. Theorizing the Digital Object. *MIS Quarterly,* 43.
Feindt, S., Jeffcoate, J. & Chappell, C. 2002. Identifying success factors for rapid growth in SME E-commerce. *Small Business Economics,* 19**,** 51-62.
Feyerabend, P. 2010. *Against method: Outline of an anarchistic theory of knowledge*, Verso Books.
Finnegan, R. H. 1989. *The hidden musicians : music-making in an English town,* Cambridge ; New York, Cambridge University Press.
Fisher, M. 2009. *Capitalist realism: Is there no alternative?*, Zero Books.
Friedland, R. 2019. Taking Sigmund Freud to the Guggenheim: the religio-erotic production of Frank Lloyd Wright. *Innovation,* 21**,** 33-101.
Frith, S. 1978. *The sociology of rock,* London, Constable.
Galuszka, P. 2015. Music aggregators and intermediation of the digital music market. *International Journal of Communication,* 9**,** 20.
Galuzka, P. & Wyrzykowska, K. 2018. Rethinking Independence: What Does 'Independent Record Label Mean Today? *In:* Mazierska, E., Gillon, L. & Rigg, T. (eds.) *Popular Music in the Post-Digital Age: Politics, Economy, Culture and Technology.* New York: Bloomsbury Publishing USA.
Gamble, J. & Gilmore, A. 2013. A new era of consumer marketing? An application of co-creational marketing in the music industry. *European Journal of marketing,* 47**,** 1859-1888.
Garud, R., Lant, T. K. & Schildt, H. A. 2019. Generative imitation, strategic distancing and optimal distinctiveness during the growth, decline and stabilization of Silicon Alley. *Innovation,* 21**,** 187-213.
Garud, R., Schildt, H. A. & Lant, T. K. 2014. Entrepreneurial Storytelling, Future Expectations, and the Paradox of Legitimacy. *Organization Science,* 25**,** 1479-1492.
Gegenhuber, T. & Naderer, S. 2019. When the petting zoo spawns into monsters: open dialogue and a venture's legitimacy quest in crowdfunding. *Innovation,* 21**,** 151-186.
Gehman, J., Glaser, V. L., Eisenhardt, K. M., Gioia, D., Langley, A. & Corley, K. G. 2018. Finding theory–method fit: A comparison of three qualitative approaches to theory building. *Journal of Management Inquiry,* 27**,** 284-300.

Gehman, J. & Soublière, J.-F. 2017. Cultural entrepreneurship: from making culture to cultural making. *Innovation,* 19**,** 61-73.
Gehman, J. & Wry, T. 2022. Cultural Entrepreneurship: Theorizing the Dark Sides. *In:* Lockwood, C. & Soublière, J.-F. (eds.) *Advances in Cultural Entrepreneurship.* Emerald Publishing Limited.
Ghezzi, A. 2019. Digital startups and the adoption and implementation of Lean Startup Approaches: Effectuation, Bricolage and Opportunity Creation in practice. *Technological Forecasting and Social Change,* 146**,** 945-960.
Ghezzi, A. & Cavallo, A. 2020. Agile Business Model Innovation in Digital Entrepreneurship: Lean Startup Approaches. *Journal of Business Research,* 110**,** 519-537.
Gibson, J. J. 2014. *The ecological approach to visual perception: classic edition*, Psychology press.
Gillett, C. 1970. *The sound of the city: the rise of rock and roll,* New York, Outerbridge & Dienstfrey ; distributed by E.P. Dutton.
Gioia, D. A., Corley, K. G. & Hamilton, A. L. 2012. Seeking Qualitative Rigor in Inductive Research: Notes on the Gioia Methodology. *Organizational Research Methods,* 16**,** 15-31.
Gioia, D. A., Corley, K. G. & Hamilton, A. L. 2013. Seeking Qualitative Rigor in Inductive Research:Notes on the Gioia Methodology. *Organizational Research Methods,* 16**,** 15-31.
Giorgi, S., Lockwood, C. & Glynn, M. A. 2015. The many faces of culture: Making sense of 30 years of research on culture in organization studies. *Academy of Management Annals,* 9**,** 1-54.
Glaser, B. G. & Strauss, A. L. 1968. *The discovery of grounded theory: strategies for qualitative research,* London,, Weidenfeld and Nicolson.
Glaser, V. L., Pollock, N. & D'adderio, L. 2021. The Biography of an Algorithm: Performing algorithmic technologies in organizations. *Organization Theory,* 2**,** 26317877211004609.
Glynn, M. A. & Abzug, R. 2002. Institutionalizing Identity: Symbolic Isomorphism and Organizational Names. *Academy of Management Journal,* 45**,** 267-280.
Glynn, M. A. & Lounsbury, M. 2005. From the Critics' Corner: Logic Blending, Discursive Change and Authenticity in a Cultural Production System*. *Journal of Management Studies,* 42**,** 1031-1055.
Glynn, M. A. & Lounsbury, M. 2022. Two Decades of the Theory of Cultural Entrepreneurship: Recollection, Elaboration, and Reflection. *In:* Lockwood, C. & Soublière, J.-F. (eds.) *Advances in Cultural Entrepreneurship.* Emerald Publishing Limited.
Hall, S. 2011. The neo-liberal revolution. *Cultural studies,* 25**,** 705-728.
Harvey, D. 1989. *The condition of postmodernity : an enquiry into the origins of cultural change,* Oxford England ; Cambridge, Mass., USA, Blackwell.
Hauf, F. 2016. *Beyond Decent Work,* Frankfurt am Main, Campus Verlag.
Haynes, J. & Marshall, L. 2018. Reluctant entrepreneurs: musicians and entrepreneurship in the 'new'music industry. *The British Journal of Sociology,* 69**,** 459-482.
Hedberg, L. M. & Lounsbury, M. 2021. Not Just Small Potatoes: Cultural Entrepreneurship in the Moralizing of Markets. *Organization Science,* 32**,** 433-454.
Henfridsson, Y. Y. & Lyytinen, K. 2010. The New Organizing Logic of Digital Innovation: An Agenda for Information Systems Research. *Information Systems Research,* 21**,** 724-735.
Hesmondhalgh, D. 1999. Indie: The institutional politics and aesthetics of a popular music genre. *Cultural Studies,* 13**,** 34-61.
Hesmondhalgh, D. 2010. User-generated content, free labour and the cultural industries. *Ephemera: theory & politics in organization,* 10**,** 267-284.
Hesmondhalgh, D. 2020. Is music streaming bad for musicians? Problems of evidence and argument. *New Media & Society***,** 1461444820953541.
Hesmondhalgh, D. 2021. Streaming's Effects on Music Culture: Old Anxieties and New Simplifications. *Cultural Sociology***,** 17499755211019974.
Hesmondhalgh, D. & Meier, L. M. 2015. Popular music, independence and the concept of the alternative in contemporary capitalism. *Media independence: Working with freedom or working for free,* 94**,** 116.
Hesmondhalgh, D. & Meier, L. M. 2018. What the digitalisation of music tells us about capitalism, culture and the power of the information technology sector. *Information, Communication & Society,* 21**,** 1555-1570.
Hirsch, P. M. 1972. Processing Fads and Fashions: An Organization-Set Analysis of Cultural Industry Systems. *American Journal of Sociology,* 77**,** 639-659.
Hjorth, D. & Steyaert, C. 2004. *Narrative and discursive approaches in entrepreneurship,* Cheltenham, U.K. ;, Edward Elgar.
Honneth, A. 2014. Introduction. *In:* Jaeggi, R. (ed.) *Alienation.* New York Chichester, West Sussex: Columbia University Press.

Hracs, B. J. 2015. Cultural Intermediaries in the Digital Age: The Case of Independent Musicians and Managers in Toronto. *Regional Studies,* 49**,** 461-475.
Hui, Y. 2016. *On the existence of digital objects*, U of Minnesota Press.
Hull, C. E. K., Hung, Y.-T. C., Hair, N., Perotti, V. & Demartino, R. 2007. Taking advantage of digital opportunities: a typology of digital entrepreneurship. *International Journal of Networking and Virtual Organisations,* 4**,** 290-303.
Ichihashi, S. & Kim, B.-C. 2021. Addictive Platforms. *Management Science,* 0**,** null.
Jaeggi, R. 2014. *Alienation*, columbia university press.
Jameson, F. 1998. *The cultural turn: Selected writings on the postmodern, 1983-1998,* London, Verso.
Järvekülg, M. & Wikström, P. 2021. The emergence of promotional gatekeeping and converged local music professionals on social media. *Convergence***,** 13548565211032376.
Jones, C., Maoret, M., Massa, F. G. & Svejenova, S. 2012. Rebels with a Cause: Formation, Contestation, and Expansion of the De Novo Category "Modern Architecture," 1870–1975. *Organization Science,* 23**,** 1523-1545.
Jones, E. 2018. Learning from inexperience: consumption 'made strange'in the digital music economy. *Popular Music,* 37**,** 487-491.
Jones, E. 2021a. DIY and popular music: mapping an ambivalent relationship across three historical case studies. *Popular Music and Society,* 44**,** 60-78.
Jones, E. 2021b. *DIY music and the politics of social media,* New York City, Bloomsbury Academic.
Jones, M. 2012. *The music industries: from conception to consumption*, Springer.
Joque, J. 2022. *Revolutionary Mathematics: Artificial Intelligence, Statistics and the Logic of Capitalism*, Verso Books.
Jorgensen, E. R. 2003. What philosophy can bring to music education: musicianship as a case in point. *British Journal of Music Education,* 20**,** 197-214.
Kallinikos, J., Aaltonen, A. & Marton, A. 2010. A theory of digital objects. *First monday,* 15**,** 1-22.
Kallinikos, J., Aaltonen, A. & Marton, A. 2013. The ambivalent ontology of digital artifacts. *Mis Quarterly***,** 357-370.
Kallinikos, J. & Mariátegui, J.-C. 2011. Video as digital object: Production and distribution of video content in the internet media ecosystem. *The Information Society,* 27**,** 281-294.
Kask, J. & Öberg, C. 2019. Why "majors" surge in the post-disruptive recording industry. *European Journal of Marketing,* 53**,** 442-462.
Katz, M. 2010. *Capturing sound: How technology has changed music*, Univ of California Press.
Keen, S., Lomeli-Rodriguez, M. & Joffe, H. 2022. From challenge to opportunity: virtual qualitative research during COVID-19 and beyond. *International journal of qualitative methods,* 21**,** 16094069221105075.
Kellogg, K. C., Valentine, M. A. & Christin, A. 2020. Algorithms at Work: The New Contested Terrain of Control. *Academy of Management Annals,* 14**,** 366-410.
Khaire, M. 2019. Entrepreneurship by design: the construction of meanings and markets for cultural craft goods. *Innovation,* 21**,** 13-32.
Kickul, J. & Walters, J. 2002. Recognizing new opportunities and innovations. *International Journal of Entrepreneurial Behavior & Research,* 8**,** 292-308.
King, A. 2022. Congress Demands Answers on Spotify's Discovery Mode — Including Details on Every Track and Associated Royalty. *Digital Music News* [Online]. Available: https://www.digitalmusicnews.com/2022/04/06/spotify-discovery-mode-faces-renewed-congressional-pressure/ [Accessed 23/08/2022].
Kirton, A. 2015. Music, technology and copyright: The makings and shakings of a global industry. *In:* Matthew, D. & Halbert, D. (eds.) *The Sage handbook of intellectual property.* London: Sage.
Kittler, F. A. 1999. *Gramophone, film, typewriter*, Stanford University Press.
Koh, B., Hann, I.-H. & Raghunathan, S. 2019. Digitization of music: Consumer adoption amidst piracy, unbundling, and rebundling. *MIS Quarterly,* 43**,** 23-45.
Kollmann, T. 2006. What is e-entrepreneurship?–fundamentals of company founding in the net economy. *Int. J. Technology Management,* 33**,** 322-340.
Kozinets, R. 2019. *Netnography : the essential guide to qualitative social media research,* Thousand Oaks, CA, SAGE Publications.
Kozinets, R. V. & Kedzior, R. 2014. I, avatar: Auto-netnographic research in virtual worlds. *In:* Wood, N. T. & Solomon, M. R. (eds.) *Virtual social identity and consumer behavior.* Routledge.
Kraus, S., Palmer, C., Kailer, N., Kallinger, F. L. & Spitzer, J. 2019. Digital entrepreneurship: A research agenda on new business models for the twenty-first century. *International Journal of Entrepreneurial Behavior & Research,* 25**,** 353-375.

Kusek, D., Leonhard, G. & Lindsay, S. G. 2005. *The future of music : manifesto for the digital music revolution,* Boston, Berklee Press.
Laing, D. 1985. *One chord wonders : power and meaning in punk rock,* Milton Keynes, England ; Philadelphia, Open University Press.
Leadbeater, C. & Oakley, K. 1999. *The independents: Britain's new cultural entrepreneurs*, Demos.
Leonardi, P. 2010. Digital materiality? How artifacts without matter, matter. *First Monday,* 15.
Leonardi, P. 2011. When flexible routines meet flexible technologies: Affordance, constraint, and the imbrication of human and material agencies. *MIS quarterly*, 147-167.
Leonardi, P. 2013. Theoretical foundations for the study of sociomateriality. *Information and Organization,* 23, 59-76.
Lessig, L. 2006. *Code: Version 2.0*, Basic Books, Inc.
Leyshon, A. 2014. *Reformatted: Code, networks, and the transformation of the music industry*, Oxford University Press, USA.
Liebman, E., Saar-Tsechansky, M. & Stone, P. 2019. The Right Music at the Right Time: Adaptive Personalized Playlists Based on Sequence Modeling. *MIS quarterly,* 43, 765-786.
Lindebaum, D., Vesa, M. & Den Hond, F. 2020. Insights from "the machine stops" to better understand rational assumptions in algorithmic decision making and its implications for organizations. *Academy of Management Review,* 45, 247-263.
Lockwood, C. & Soublière, J.-F. 2022. *Advances in Cultural Entrepreneurship*, Emerald Group Publishing.
Lounsbury, M., Cornelissen, J., Granqvist, N. & Grodal, S. 2019. Culture, innovation and entrepreneurship. *Innovation,* 21, 1-12.
Lounsbury, M. & Glynn, M. A. 2001. Cultural Entrepreneurship: Stories, Legitimacy, and the Acquisition of Resources. *Strategic Management Journal,* 22, 545-564.
Lukács, G. 1972 [1923]. *History and class consciousness: Studies in Marxist dialectics*, MIT Press.
M.M.F 2022. Digital Burnout Report. Music Managers Foundation.
Majchrzak, A. 2016. Designing for Digital Transformation: Lessons for Information Systems Research from the Study of ICT and Societal Challenges. *Management Information Systems Quarterly,* 40, 267-277.
Manning, S. & Bejarano, T. A. 2017. Convincing the crowd: Entrepreneurial storytelling in crowdfunding campaigns. *Strategic Organization,* 15, 194-219.
Manovich, L. 2001. *The language of new media*, MIT press.
Martens, M. L., Jennings, J. E. & Jennings, P. D. 2007. Do the Stories They tell get them the Money They Need? The Role of Entrepreneurial Narratives in Resource Acquisition. *Academy of Management Journal,* 50, 1107-1132.
Martinez Dy, A., Martin, L. & Marlow, S. 2018. Emancipation through digital entrepreneurship? A critical realist analysis. *Organization,* 25, 585-608.
Márton, A. 2022. Steps toward a digital ecology: ecological principles for the study of digital ecosystems. *Journal of Information Technology,* 37, 250-265.
Matlay, H. & Westhead, P. 2005. Virtual teams and the rise of e-entrepreneurship in Europe. *International Small Business Journal,* 23, 279-302.
Mazierska, E., Gillon, L. & Rigg, T. (eds.) 2018. *Popular Music in the Post-Digital Age: Politics, Economy, Culture and Technology,* New York: Bloomsbury Publishing USA.
Mcnamee, R. 2020. *Zucked: Waking up to the Facebook catastrophe*, Penguin.
Meier, L. M. 2017. *Popular music as promotion: Music and branding in the digital age*, John Wiley & Sons.
Meyer, J. W. & Rowan, B. 1977. Institutionalized organizations: Formal structure as myth and ceremony. *American journal of sociology,* 83, 340-363.
Mikołajewska-Zając, K., Márton, A. & Zundel, M. 2022. Couchsurfing with Bateson: An ecology of digital platforms. *Organization Studies,* 43, 1115-1135.
Mitnick, B. M. & Ryan, R. C. 2015. On making meanings: Curators, social assembly, and mashups. *Strategic Organization,* 13, 141-152.
Morris, J. W. 2014. Artists as Entrepreneurs, Fans as Workers. *Popular Music and Society,* 37, 273-290.
Morris, J. W. 2015. *Selling digital music, formatting culture,* California, University of California Press.
Morris, J. W. & Powers, D. 2015. Control, curation and musical experience in streaming music services. *Creative Industries Journal,* 8, 106-122.
Mosco, V. 2005. *The digital sublime: Myth, power, and cyberspace*, MIT Press.
Munir, K. A. 2020. Challenging Institutional Theory's Critical Credentials. *Organization Theory,* 1, 2631787719887975.

Nambisan, S. 2017. Digital Entrepreneurship: Toward a Digital Technology Perspective of Entrepreneurship. *Entrepreneurship Theory and Practice,* 41**,** 1029-1055.
Nambisan, S. & Baron, R. A. 2013. Entrepreneurship in innovation ecosystems: Entrepreneurs' self–regulatory processes and their implications for new venture success. *Entrepreneurship theory and practice,* 37**,** 1071-1097.
Nambisan, S. & Baron, R. A. 2021. On the costs of digital entrepreneurship: Role conflict, stress, and venture performance in digital platform-based ecosystems. *Journal of Business Research,* 125**,** 520-532.
Nambisan, S., Wright, M. & Feldman, M. 2019. The digital transformation of innovation and entrepreneurship: Progress, challenges and key themes. *Research Policy,* 48**,** 103773.
Navis, C. & Glynn, M. A. 2010. How New Market Categories Emerge: Temporal Dynamics of Legitimacy, Identity, and Entrepreneurship in Satellite Radio, 1990–2005. *Administrative Science Quarterly,* 55**,** 439-471.
Navis, C. & Glynn, M. A. 2011. Legitimate Distinctiveness and The Entrepreneurial Identity: Influence on Investor Judgments of New Venture Plausibility. *Academy of Management Review,* 36**,** 479-499.
Noble, S. U. 2018. *Algorithms of oppression : how search engines reinforce racism,* New York, New York University Press.
Noonan, D. S. 2021. Arts and cultural entrepreneurship. *Small Business Economics,* 57**,** 635-638.
O'connor, E. 2002. Storied business: Typology, intertextuality, and traffic in entrepreneurial narrative. *The Journal of Business Communication (1973),* 39**,** 36-54.
Ocasio, W. & Thornton, P. H. 1999. Institutional logics and the historical contingency of power in organizations: Executive succession in the higher education publishing industry, 1958-1990. *American Journal of Sociology,* 105**,** 801-843.
Orlikowski, W. J. & Iacono, C. S. 2001. Research Commentary: Desperately Seeking the ``IT'' in IT Research—A Call to Theorizing the IT Artifact. *Information Systems Research,* 12**,** 121-134.
Orlikowski, W. J. & Scott, S. V. 2008. 10 sociomateriality: challenging the separation of technology, work and organization. *Academy of Management annals,* 2**,** 433-474.
Orlikowski, W. J. & Scott, S. V. 2015. The algorithm and the crowd. *MIS quarterly,* 39**,** 201-216.
Osborne, R. & Laing, D. 2020. *Music by Numbers: The Use and Abuse of Statistics in the Music Industries*, Intellect Books.
Osterwalder, A. & Pigneur, Y. 2010. *Business model generation: a handbook for visionaries, game changers, and challengers*, John Wiley & Sons.
Pache, A.-C. & Santos, F. 2013. Inside the Hybrid Organization: Selective Coupling as a Response to Competing Institutional Logics. *Academy of Management Journal,* 56**,** 972-1001.
Palm, M. 2019. Keeping what real? Vinyl records and the future of independent culture. *Convergence,* 25**,** 643-656.
Partti, H. 2012. Cosmopolitan musicianship under construction: Digital musicians illuminating emerging values in music education. *International Journal of Music Education,* 32**,** 3-18.
Pasquale, F. 2015. *The black box society : the secret algorithms that control money and information,* Cambridge, Harvard University Press.
Peterson, R. A. & Berger, D. G. 1971. Entrepreneurship in Organizations: Evidence from the Popular Music Industry. *Administrative Science Quarterly,* 16**,** 97-106.
Peterson, R. A. & Berger, D. G. 1975. Cycles in Symbol Production: The Case of Popular Music. *American Sociological Review,* 40**,** 158-173.
Pignot, E. 2021. Who is pulling the strings in the platform economy? Accounting for the dark and unexpected sides of algorithmic control. *Organization,* 0**,** 1350508420974523.
Pine, B. J. & Gilmore, J. H. 1999. *The experience economy : work is theatre & every business a stage,* Boston, Harvard Business School Press.
Pine, B. J. & Gilmore, J. H. 2011. *The experience economy,* Boston, Mass., Harvard Business Review Press.
Porter, M. E. 2001. Strategy and the Internet. *Harvard Business Review,* 79**,** 62-78.
Pret, T., Shaw, E. & Drakopoulou Dodd, S. 2016. Painting the full picture: The conversion of economic, cultural, social and symbolic capital. *International Small Business Journal,* 34**,** 1004-1027.
Reynolds, S. 2011. *Retromania: Pop culture's addiction to its own past*, Macmillan.
Ries, E. 2017. *The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*, Currency.
Rogers, J. 2013. *The death and life of the music industry in the digital age,* New York, Bloomsbury Academic.
Rosa, H. 2013. Social Acceleration. Columbia University Press.

Sahut, J.-M., Iandoli, L. & Teulon, F. 2021. The age of digital entrepreneurship. *Small Business Economics,* 56**,** 1159-1169.
Sarath, E. 2010. *Music theory through improvisation : a new approach to musicianship training,* New York, Routledge.
Sarath, E. W. 1993. Improvisation for Global Musicianship: Improvisation integrates many aspects of music learning. Edward W. Sarath looks specifically at how improvisation and multiculturalism work together. *Music Educators Journal,* 80**,** 23-26.
Schoop, M. E. 2017. *Independent music and digital technology in the Philippines,* Abingdon, Oxon ; New York, NY, Routledge.
Scott, M. 2012. Cultural entrepreneurs, cultural entrepreneurship: Music producers mobilising and converting Bourdieu's alternative capitals. *Poetics,* 40**,** 237-255.
Scott, S. V. & Orlikowski, W. J. 2014. Entanglements in practice. *MIS quarterly,* 38**,** 873-894.
Selznick, P. 1953. *TVA and the grass roots: A study in the sociology of formal organization*, Univ of California Press.
Shane, S. & Venkataraman, S. 2000. The Promise of Entrepreneurship as a Field of Research. *The Academy of Management Review,* 25**,** 217-226.
Shapiro, C. & Varian, H. R. 1998. *Information Rules: A Strategic Guide to the Network Economy*, Harvard Business Press.
Srnicek, N. 2017. *Platform capitalism*, John Wiley & Sons.
Stassen, M. 2021. This Robot Rapper has 9m Followers on TikTok. The company that created him thinks traditional A&R is 'inefficient and unreliable'. *Music Business Worldwide* [Online]. Available: https://www.musicbusinessworldwide.com/this-robot-rapper-has-9-million-followers-on-tiktok-his-creator-thinks-traditional-ar-is-inefficient-and-unreliable/.
Steinberg, M. 2022. From Automobile Capitalism to Platform Capitalism: Toyotism as a prehistory of digital platforms. *Organization Studies,* 43**,** 1069-1090.
Stephan, U., Uhlaner, L. M. & Stride, C. 2015. Institutions and social entrepreneurship: The role of institutional voids, institutional support, and institutional configurations. *Journal of International Business Studies,* 46**,** 308-331.
Strachan, R. 2007. Micro-independent record labels in the UK: Discourse, DIY cultural production and the music industry. *European Journal of Cultural Studies,* 10**,** 245-265.
Suddaby, R. 2013. Institutional theory. *Encyclopedia of management theory,* 2**,** 380-384.
Suddaby, R. 2015. Can institutional theory be critical? *Journal of Management Inquiry,* 24**,** 93-95.
Suddaby, R., Bitektine, A. & Haack, P. 2017. Legitimacy. *Academy of Management Annals,* 11**,** 451-478.
Swedberg, R. 2006. The cultural entrepreneur and the creative industries: beginning in Vienna. *Journal of Cultural Economics,* 30**,** 243-261.
Swidler, A. 1986. Culture in Action: Symbols and Strategies. *American Sociological Review,* 51**,** 273-286.
Taylor, T. D. 2015. *Music and capitalism*, University of Chicago press.
Tedlock, B. 2011. Braiding narrative ethnography with memoir and creative nonfiction. *The Sage handbook of qualitative research,* 4**,** 331-340.
Thornton, P. H. & Ocasio, W. 2008. Institutional logics. *The Sage handbook of qualitative research,* 840**,** 99-128.
Thornton, P. H., Ocasio, W. & Lounsbury, M. 2012. *The institutional logics perspective: A new approach to culture, structure and process*, OUP Oxford.
Tilson, D., Lyytinen, K. & Sørensen, C. 2010. Digital Infrastructures: The Missing IS Research Agenda. *Information Systems Research,* 21**,** 748-759.
Timmers, P. 1998. Business models for electronic markets. *Electronic markets,* 8**,** 3-8.
Tolbert, P. S. & Zucker, L. G. 1983. Institutional Sources of Change in the Formal Structure of Organizations: The Diffusion of Civil Service Reform, 1880-1935. *Administrative Science Quarterly,* 28**,** 22-39.
Toscano, J. 2018. *Automating humanity,* Brooklyn, New York, PowerHouse Books.
Toscher, B. 2021. Resource Integration, Value Co-Creation, and Service-dominant Logic in Music Marketing: The Case of the TikTok Platform. *International Journal of Music Business Research,* 10**,** 33-50.
Toynbee, J. 2000. *Making popular music : musicians, creativity and institutions,* London, Arnold.
Tremblay, S., Castiglione, S., Audet, L.-A., Desmarais, M., Horace, M. & Peláez, S. 2021. Conducting qualitative research to respond to COVID-19 challenges: Reflections for the present and beyond. *International Journal of Qualitative Methods,* 20**,** 16094069211009679.

Trimi, S. & Berbegal-Mirabent, J. 2012. Business model innovation in entrepreneurship. *International Entrepreneurship and Management Journal,* 8**,** 449-465.
Tschmuck, P. 2016. From record selling to cultural entrepreneurship: The music economy in the digital paradigm shift. *Business innovation and disruption in the music industry.* Edward Elgar Publishing.
Tschmuck, P. 2017. *The economics of music*, JSTOR.
Tschmuck, P., Pearce, P. L., Campbell, S., Tschmuck, P., Pearce, P. & Campbell, S. 2013. Music business and the experience economy. 20**,** 2014.
Überbacher, F., Jacobs, C. D. & Cornelissen, J. P. 2015. How Entrepreneurs Become Skilled Cultural Operators. *Organization Studies,* 36**,** 925-951.
Van Dijk, J. 2020. *The digital divide*, John Wiley & Sons.
Van Maanen, J. 1988. *Tales of the field: On writing ethnography*, University of Chicago Press.
Van Maanen, J. 2011. Ethnography as work: Some rules of engagement. *Journal of management studies,* 48**,** 218-234.
Vizcaíno-Verdú, A. & Aguaded, I. 2022. # ThisIsMeChallenge and Music for Empowerment of Marginalized Groups on TikTok. *Media and Communication,* 10**,** 157-172.
Walker, C. E., Krumhuber, E. G., Dayan, S. & Furnham, A. 2021. Effects of social media use on desire for cosmetic surgery among young women. *Current Psychology,* 40**,** 3355-3364.
Weber, K. & Dacin, M. T. 2011. The Cultural Construction of Organizational Life: Introduction to the Special Issue. *Organization Science,* 22**,** 287-298.
Welter, F., Baker, T., Audretsch, D. B. & Gartner, W. B. 2016. Everyday Entrepreneurship—A Call for Entrepreneurship Research to Embrace Entrepreneurial Diversity. *Entrepreneurship Theory and Practice,* 41**,** 311-321.
WikströM, P. 2013. *The music industry : music in the cloud,* Cambridge, UK, Polity Press.
Willmott, H. 2019. Can it? On expanding institutional theory by disarming critique. *Journal of Management Inquiry,* 28**,** 350-353.
Willoughby, D. 1990. Comprehensive musicianship. *The Quarterly Journal of Music Teaching and Learning,* 1**,** 39-44.
Wry, T., Lounsbury, M. & Glynn, M. A. 2011. Legitimating Nascent Collective Identities: Coordinating Cultural Entrepreneurship. *Organization Science,* 22**,** 449-463.
Yoo, Y. 2010. Computing in everyday life: A call for research on experiential computing. *MIS quarterly***,** 213-231.
Yoo, Y., Henfridsson, O. & Lyytinen, K. 2010. Research Commentary—The New Organizing Logic of Digital Innovation: An Agenda for Information Systems Research. *Information Systems Research,* 21**,** 724-735.
Zaheer, H., Breyer, Y. & Dumay, J. 2019. Digital entrepreneurship: An interdisciplinary structured literature review and research agenda. *Technological Forecasting and Social Change,* 148**,** 119735.
Zhang, Q. & Negus, K. 2021. Stages, Platforms, Streams: The Economies and Industries of Live Music after Digitalization. *Popular Music and Society,* 44**,** 539-557.
Zhao, E. Y., Ishihara, M. & Lounsbury, M. 2013. Overcoming the Illegitimacy Discount: Cultural Entrepreneurship in the US Feature Film Industry. *Organization Studies,* 34**,** 1747-1776.
Zimmerman, M. A. & Zeitz, G. J. 2002. Beyond Survival: Achieving New Venture Growth by Building Legitimacy. *Academy of Management Review,* 27**,** 414-431.
Zittrain, J. 2008. *The future of the internet--and how to stop it*, Yale University Press.
Zuboff, S. 2018. *The age of surveillance capitalism : the fight for a human future at the new frontier of power,* New York, PublicAffairs,.