Exploring Cultural Occupational Communality Through A Study of UK Video Game Developers and Their Mediated Community Spaces

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by

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Abstract

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Video game development is one of the most interesting cultural occupations to study as it is neither fully art nor technology. The people behind these developments, the video game developers, experience a work environment which often blurs work and leisure and online and offline social relations, against a backdrop of precarious employment and high changeability, leading to an implied preferred association to an occupation and fellow developers rather than a singular firm.

The aim of this research is to understand communality between video game developers and the space(s) of this communality. With an interdisciplinary foundation in cultural-economic geography and organisational studies, this study iteratively works between the literatures of occupational community and cluster theory to follow members of a cultural occupation and document their communal experience where the occupation, rather than firm, is the primary analytical focus. Digital relations are centred through using a concept of mediated spatiality which sees lived reality as multiple coming togethers of space, sociality, and technology. To investigate this aim, this study uses a digital method design of synchronous Skype interviews and participant-led netnography with 25 UK video game developers.

Results of this study indicate that developers are successful in building occupational relations, primarily through a concept of friendship and the development of occupational norms, to overcome a perceived lack of support and reliability from any connected firms. Through these intermingling social relations, spaces emerge where video game developers can potentially find belonging and develop their social identity. Twitter is an important element of this space creation, as it assists in providing a locale for social interaction to pass through and be documented – connecting developers with an array of working styles and experience to share knowledge as a member of an occupation rather than as an employee.

The primary contribution of this study is a developing theory of 'occupational space' whereby a researcher follows the flow of an occupation and related members rather than focusing on a specific milieu, firm, or network. Occupational space emphasises the communal experience instead of product production, with advancements and knowledge generated by the community fed back to nourish the occupation and its members instead of firm and organisational goals. It also assists with a more nuanced understanding of digital associations by providing a method to explain how people remain part of 'something' when they may be unemployed, between projects, working from home or working as a contractor for example. They may leave the spaces where work occurs, yet they are continuously part of an occupational space that is nurtured via digital platforms such as Twitter. This study also recommends that future occupational community studies should consider how internal 'othering' and interrelations with associated communities – such as fans and consumers - may further broaden a discussion about occupational boundaries and boundary maintenance.

To Mum, who started this adventure with me, but had to go before I reached the top of the mountain.

Table of Contents

List of Figures

List of Tables

Glossary

General Terminology

Term	*Description*
AA	Video game studio which financially lies between AAA and indie development. Generally, comprises of either smaller budget experimental games from AAA studios or an indie studio that has the production values of a AAA studio. With such diversity, teams and investments vary however typically an AA team is larger and more specialised than indie but involves less developers than AAA.
AAA	Video game studio with a focus on technical prowess, profit and high-level marketing. Typically involves large financial investments per project, a network of multi-national studios and often tied to a parent publisher. Teams are large, varied and more likely to consist of niche and specific roles
Console	Hardware to play non-PC video games, for example PS4 and PS5, Xbox One and Xbox Series X and Nintendo Switch.
Creative	General term for a person who works in a cultural/creative industry.
DLC	Acronym for 'downloadable content' which is digital content released by game studios to enhance released titles.
Indie	Video game studio with a focus typically on the creative expression and generally moderate returns on investment, unless they become an 'indie darling'. Often relies on nostalgia using 8bit and 16bit visuals or is more stylistic in design. Teams are small and can consist of one individual. Investment per project is modest and team members routinely take on more than one role (e.g., artist and marketing).
Indie Darling	A title bestowed upon popular and profitable indie games and their creators, they often become figureheads of the indie scene and gaming in general. For example, *Braid* by Johnathan Blow (Number None). The term 'indie darling' can be used in a derogatory manner to mock indie developers, and their games, who are perceived to think highly of themselves.
NDA	Acronym for 'non-disclosure agreement' which assists the prevention of revealing confidential or context sensitive information to unauthorised stakeholders.
Patreon	A membership platform which allows content creators to provide a subscription-based service for their content.
Post-mortem	Analysis of a video game, by developers and publishers, post release.
Publisher	A company which assists in the publication of video games, often providing financial, marketing, business, legal, licencing and IP services. Examples include Square Enix and Devolver Digital.
Steam	The most common online platform for distributing PC-based video games.
Studio	The general term for an organisation which creates video games.
Unity	A popular games engine for creating 2D and 3D planes, particularly for indie developers.
Valve	American developer, publisher and digital distributor (Steam). Renowned throughout the video game industry as a high-profile company.

Role Descriptors found in this study

Role Title	*Description*
Cinematic Producer	A Cinematic Producer specifically assists with cinematic assets related to a title including trailers and animation. As a general producer would, they act as a facilitator between teams and maintains documentation regarding production of cinematic elements.
Coder	See programmer.
Community Manager	A Community Manager is the in-between position between fans/consumers and the studio/stakeholders. They analysis community sentiment and organising outreach and developing communication. It differs from marketing as the role tends to be about managing an existing consumer base rather than attracting new consumers.
Compliance Tester	A Compliance Tester ensures titles are comply to destination platforms and completes relevant documentation. Part of the QA team.
Creative Director	The Creative Director is responsible for the overall vision of a title - including design, marketing, visual style, story, cinematics, audio and game play. Often perceived as the 'creator' of a title.
Designer (Generalised)	A Designer plans the overall vison for a video game title, making sure that all systems (combat, environment, story, economics, characters etc) are planned and aligned.
Developer (Generalised)	The most generalised term for someone involved in video game development. The term 'Developer' is often used in indie development where one person undertakes multiple roles and sees themselves as a general developer. Generally, a developer assists with coding, narrative and creative visions.
Environmental Artist	The Environmental Artist designs and creates landscapes, buildings and sometimes items for a video game title.
Marketing Manager	The Marketing Manager oversees the outreach and communication of studio titles – developing marketing strategies and measuring consumer analytics. Often works with community and PR as one team, in smaller studios these roles tend to be rolled into a singular 'marketing manager'.
Managing Director	Also known as Studio Head; a Managing Director is responsible for the day-to-day running of a studio and its creative output. Depending on the studio, a MD may be involved in design or story decisions.
Network Specialist	A Network Specialist (or Network Engineer or Network Programmer) creates and codes the online structure for multiplayer titles.
Narrative Director	A Narrative Director generally work alongside writers and designers to establish a story, lore and a coherent narrative. Often, they focus more on the technical aspects than a writer and writes copy for trailers and voice actors.
Producer	A Producer facilitates communication between teams, especially in larger or cross-studios titles. They make sure a game is delivered on time, on budget and to a promised quality.
Programmer (Generalised)	A programmer, or coder, creates code to run video game titles. In small studios this may be one or two people, in large studios, a programmer is often specialised to a specific area (e.g., AI) Previously, a programmer was used as the 'professional' term while 'coder' was used for hobbyists. Today, the term 'coder' is more likely to be used in all contexts.
QA (Generalised)	A member of QA tests titles for bugs and game breaking scenarios.
Technical Artist	Also sometimes known as a Technical Animator. A Technical Artist develop animation rigs (the skeletons) and sets up assets from artists for the animators to later

	animate. A Technical Artist may also create tools for themselves to streamline production.
Technical Director	A Technical Director is a high-level programmer who works across the studio to ensure the vision from other departments are communicated clearly to the programming team.
Writer	A Writer creates storylines, dialogue and scenarios for a video game.

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Dissertation Playlist

During Twitter conversations, I asked participants to suggest songs which summarises their experience of being a video game developer. I present these not as part of an analysis, but as an additional layer of presenting a study. These songs are to be listened to during or after reading and hopefully will provide a reflective moment or elevate points made in this thesis. The QR below (figure 0.1) links to a Spotify playlist.

Figure 0.1 Developer Playlist

Level 1: Introduction

On a rather unremarkable workday in June 2015, I sat at my desk as a member of an independent video game publishing company based in Liverpool in the UK. The rest of the marketing team had flown out to E3[1] in Los Angeles, and I supported their efforts by updating our fans via social media in addition to launching PR initiatives planned many weeks ago. I looked across the studio floor and observed the production team who were corresponding with freelance developers based in Bristol, Manchester and London about future launches. After work, I made my way across a reclaimed post-industrial landscape to sit with contemporaries from other studios in the area - some of whom were competitors, some who were clients and some just happened to be hanging around – all on the one wooden table. A gaggle of developers, dressed in plaid shirts, jeans and pop culture t-shirts expelling the woes of the workday. Those in smarter shirts, often the producers and studio owners, sat among us yet kept their conversations to themselves. The long table held mobile phones where Twitter notifications could be heard pinging in while others sent out pictures of their overpriced burgers and fries into the Twittersphere. On the way home, I scrolled through Twitter again – an endless stream of developers making games, playing games and commenting on the current state of the industry from a personal perspective.

Reflecting on this day led me to the leading empirical question of this thesis: *how do video game developers find commonality with each other, even if they don't work together?*

The empirical curiosity of observing developers made me reconsider my previous academic work in geographies of the cultural industries. I wanted to find out how people who share an occupation navigate around work, relationships and hobbies, when so many of these threads crossed over. I observed that the video game developers around me socialising in a manner the cultural industry literature had already picked up on. In bars, cafés, at industry events and in 'cultural hotspots' in cities. Their work and social lives appeared to reflect popular theories of clustering and creative milieus

[1] E3 is the 'Electronic Entertainment Expo' and is renown as the principle global video game industry trade event.

- in particular Cohendet et al. (2010) creative city anatomy of the underground, middle ground and upper ground. Whereby, the presence of social spaces in the middle ground assists the transfer of knowledge from the individual and contextualise macro processes from innovative firms and institutions.

In addition, these developers seemed to gravitate towards the intangible sense of 'being there'. What can be described as the 'buzz' (Bathelt et al., 2004, Jones et al., 2010, Bathelt and Turi, 2011, Wijngaarden et al., 2020) or the sense of something 'in the air' (Marshall, 1890 [2013]). Often this 'something' is the development and subsequent spread of tacit knowledge, although the term 'knowledge' can be used loosely to also include 'creativity' and 'innovation' (Hautala and Ibert, 2018). All of which inhabit the ability to be a part of a person's identity and work practices, yet are not technically something that can be owned, touched, gathered or measured. Networks of individuals and organisations are used to provide pipelines for this tacit knowledge (Granovetter, 1973, Glückler, 2007a, Sosa, 2011, Soda et al., 2021). These networks are 'grounded' into geographical structures such as clusters and cities where close geographical proximity aids the development of further proximities such as social, cultural, relational and organisational (Boschma, 2005, Davids and Frenken, 2018) providing a source of knowledge for creative individuals and their businesses (Turok, 2003, Florida, 2005, Van Heur, 2009, Lazzeretti et al., 2013, Wijngaarden et al., 2020).

Yet, I could also observe a sense of community through my initial observations. A community that was socially constructed around an identity of being a video game developer, akin to Anderson's (2006: 6) concept of the imagined community – whereby "communities are to be distinguished not by their falsity or genuineness, but by the style in which they are imagined". Competitor or collaborator, friend or stranger, we all shared *something* which connected us. Although our connected studio (or firm) influenced the work undertaken, and certainly created NDAs which prevented confidential project information from moving outside organisational boundaries (O'Donnell, 2014). Our identity as members of the video game industry was not necessarily influenced by this. Instead, our shared stories of long hours, tricky customers, recent events attended, and which video game or TV show we were watching next fostered social bonds.

Creative/cultural industry literature, across disciplines, argues that video game development is unique within the cultural industries (Kerr, 2006, Deuze et al., 2007, O'Donnell, 2014, Weststar, 2015). However, much of the work centres around the 'making' of a game – often aiming to be commercially successful - with the studio/firm as the unit of analysis (see Johns, 2006, Cohendet and Simon, 2007, Tschang, 2007, Vallance, 2014, Darchen, 2016, Pottie-Sherman and Lynch, 2019, Cohendet et al., 2020). Despite video game development consisting of a variety of motives and employment styles (Anthropy, 2012, Keogh, 2015). As such, the everyday realities of video game development and connected workers remains understudied; albeit gaining recent recognition (see O'Donnell, 2014, Peticca-Harris et al., 2015, Legault and Weststar, 2017, Whitson, 2020, Keogh, 2021).

One element detected in my initial observations, which was frequently underrepresented in the established literature, was an in-depth examination of the companion digital social relations. These digital relations were not separate from the bars, industry events or studios – instead they were part of them and expanded upon them. It is not the purpose of this thesis to explore a virtual community, nor is it to revive tired debates about digital technology summoning the end of geography (cf: O'Brien, 1992, Cairncross, 1997, Ash et al., 2018). Instead, this thesis sees digital relations as blurred, mediated interrelations between geographical and digital experiences (Massey, 2005, Leszczynski, 2015). Creating spaces through their continuous usage and relational elements between individuals in a community, who construct each other rather than appearing as dyadic spaces at competition with each other for superiority.

The dissertation therefore begins with two theoretical foundations – occupational community and industrial clusters. Both of these bodies of work hold useful insights for studying video game developers and their social relations. Yet, I also argue that both fall short theoretically to develop a framework that pays attention to the peculiarities that these developers show in both their online and offline relations. Video game developer communities are marked by their shared industrial knowledge, shared place-based locales and through the embeddedness of actors within networks. In these respects, they resemble clusters. However, these creatives are also

geographically distributed and do not always align to a firm structure, with self-employment, contractual, entrepreneurial and mixes of such working styles resulting in a blurring of life and work and a greater alliance to an occupation rather than a firm or a place. In these respects, they resemble an occupational community.

Neither of these two approaches are a perfect fit for my research question, but by combining them it allows this thesis to provide a contribution through iteratively working between the literatures and data abductively. Highlighting intersections between occupational community, clusters and digital social relations. In this dissertation, I frame these intersections in terms of the development of occupational space – in essence the space in which we find members of an occupation where their socialisation develops meaning and understanding of both themselves as a member of a specific occupation and the occupational community as a whole. To extend both community and cluster approaches, I will introduce the concept of 'occupational space' – both as a theoretical contribution and as a contextual example of UK video game developers. As a developing concept, I will provide guidance in the conclusion where the theory could be developed next and potential for future research.

1.1 Why occupational community

It is ideal to study video game developers with a community lens as often they are perceived to be a collection of individuals (Dubois and Weststar, 2021) who are more likely to build a sense of identity and belonging with an occupation than an organisation (Marks and Scholarios, 2007). While there have been interesting studies about the communities of practice embedded with studios (Vallance, 2014) and further networks of practice (Cohendet et al., 2018); these only capture one method in which video game developers socialise and cultivate themselves and their work. As such, these studies research video game developers through their connections within organisations or through projects. By moving out of the studios and away from projects, a community of video game developers are more akin to an occupational community (Van Maanen and Barley, 1984, Weststar, 2015) which is built and dispersed geographically and within digital locales. The connection becomes not what

they produce, but how each member contributes to an environment for people like themselves to co-exist.

The core theory used in this study originates from Van Maanen and Barley (1984) and Van Maanen (2010a) who explain how an occupational community develops around intense interrelations between work and life. An occupational community has four determinates – boundaries, social identity, reference group and social relations – the combination of which assist in explaining how a community performs identity, self-control and sensemaking.

This study also includes discussions found in the work of Sandiford and Seymour (2007) and Orr (1996) where the occupational community is argued to be co-created by its interaction with what I define as an 'associated community'. An 'associated community' is a community which is defined by its connections to an occupational community. Both are related to, and reliant on, the other for survival. Orr (1996) explained how technicians and customers continually cross through their respective spaces to undertake work. With being able to conduct work contributing to community maintenance between Xerox technicians. Sandiford and Seymour (2007) likewise exposed the crucial role of customers in a pub environment to occupational community maintenance. In video game development, there is the associated community of the video game player community, centred around the playing of games rather than their creation. Yet, as this study shows, there are multiple boundary contestations and blurs between these two communities. Therefore, it is important for this study to develop thinking about how an occupational community is not an isolated entity.

Studies of occupational communities of video game development are rare (see Weststar, 2015, Schwartz, 2018, Dubois and Weststar, 2021). With two presenting a North American perspective (Weststar, 2015, Dubois and Weststar, 2021) and the other a generalised global perspective (Schwartz, 2018). Therefore, in addition to the overall aim of this thesis, I will also be contributing to the literature of video game occupational communities – in particular the role of consumers for the occupational community and how Twitter aids in supporting occupational community processes.

1.2 Why clusters

As stated previously, my initial empirical observation directed me to consider work that originates from the interdisciplinary literature of clusters. However, the way this dissertation uses clusters is not in the traditional sense of studying a specific locale which incorporates agglomeration effects. To study a specific location, particularly one known for creative or cultural industries, could result in focussing on 'successful' clusters (Wijngaarden et al., 2020) while hidden pockets of creative individuals could go unnoticed (Williams et al., 2016). Also, by studying a specific locale it prioritises geographical proximity even if the research questions include digital relationships – because the individuals inside the cluster already have a shared history with the location.

However, the study of clusters helps to bring in a conversation about space into this dissertation. Vallance (2014) suggested that agglomeration tendencies for the UK video game industry is weak; a statement back up by UKIE (2021) industry research. Darchen (2016), found a similar result when studying developers in Australia. Both of these studies suggested that video game developers, and their related firms, acted more as a community than a cluster. As Cohendet and Simon (2007) suggests, video game developers, like other creatives, are always searching for 'somewhere' or 'something' to feel like they belong. To share experiences and develop habits and norms with others similar to themselves. This cognitive and social proximity is what can form the foundation of a community based upon a conceptualisation of work. With creatives positioned as "active entities of *knowing* that make specific forms of knowledge through their daily practices." (Amin and Cohendet, 2004: 113 original emphasis). Although incorporating discussions about communities is present throughout the cluster literature (Schuldt and Bathelt, 2011, Rantisi, 2014, Vallance, 2014, Darchen, 2016, Wijngaarden et al., 2020) – none refer to the occupational community literature.

Digital platforms have been shown to provide a method for disparate creatives to congregate virtually, sharing and melding their local buzz on a global stage (Jones et al., 2010, d'Ovidio and Gandini, 2019); alongside temporary events. While research has shown that temporary events are important for bringing together developers

(Cohendet and Simon, 2007, Cohendet et al., 2018); few have taken into account digital relations, particularly those through social media, as a means of community building and maintenance.

1.3 Digital relations and spatiality

Organisational research is currently embracing a 'spatial turn' (Weinfurtner and Seidl, 2019, De Molli et al., 2020, Ratner, 2020). Many studies look to companion social sciences to build their frameworks – including the work of Henri Lefebvre (see Beyes and Steyaert, 2012, De Vaujany and Vaast, 2014, Dale et al., 2018, Stephenson et al., 2020); Ervine Goffman (Andrews and Shaw, 2008, Clegg et al., 2012) and more recently, Gernot Boehme (Jørgensen and Holt, 2019, De Molli et al., 2020, Śliwa and Marsh, 2021). Although all of these could have been used to develop a conceptual framework for this thesis, I instead turned to relational economic geography and digital geography to develop an understanding of space that could go beyond a firm, yet still recognise its influence. Relational economic geography views space as process between actors and context (Boggs and Rantisi, 2003, Bathelt and Glückler, 2003, Yeung, 2005, Ibert et al., 2015). Work and community through this lens therefore appreciates that interactions between certain kinds of work and workers, create specific spaces (Murphy, 2012).

The addition of digital geography, through a concept of mediated space, assists in thinking of online/offline not as two separate realms of sociality. But as "multiple, yet contingent coming togethers of technology, people, place and space" (Leszczynski, 2019: 18). Online spaces are argued to only exist because of the collective actions of people who gather and interact, therefore space is a site of becoming, constituted through its relations that is never finished nor closed (Massey, 1999). In particular, the role of social media, compared to other computer mediated communications (CMCs), is understudied within occupational community and cluster work. I argue that a focus on social media platforms and processes is uniquely suited to studying mediated spatialities of a community, as it fosters spaces away from traditional organisations and sheds light on cultural and social positioning created through a bundling of sociality and spatiality (Shirky, 2008, boyd, 2015).

By the end of this dissertation, the concept of mediated space has been adapted to understand spaces of an occupational community, here presented as occupational space.

1.4 Introducing the thesis and research questions

The thesis is an example of a digital qualitative multi-method study which uses semi-structured interviews and netnography to provide an exploration into the communal experiences of UK video game developers. Adopting a relational economic geography approach; whereby space is understood as process between actors, constellations of actors and their social actions which is contextually sensitive (Boggs and Rantisi, 2003, Bathelt and Glückler, 2003, Yeung, 2005, Ibert et al., 2015). In the conceptual framework, this is supplemented via a concept of 'mediated spatialities' (Leszczynski, 2015) which aids in viewing offline and online social relations as a whole entity.

The actor in this thesis is the individual, whose actions shape a wider community. Therefore, this thesis does not take the firm as the analytical unit; as the video game industry is comprised of a multitude of working styles and structures (Keogh, 2019b) whereby a developer is more likely identify with an occupational identity, rather than a specific organisation/studio (Weststar, 2015). Therefore, this thesis fits with other studies that portrays a community overarching an organisation/firm in terms of members' identity and sense of belonging (O'Mahony and Lakhani, 2011). To frame the investigation, the following research questions have been produced (figure 1.1):

Main Question: How do UK video game developers experience communality and what space(s) emerge from this communality?

To aid in answering this question, two sub questions have been developed:

RQ1: How is communality established and maintained through Twitter?

RQ2: How do online relations assist in developing space(s) with offline communality processes

Figure 1.1 Research Questions

Research was carried out in the spirit of an interpretative methodology (Crotty, 1998, Gephart, 2018), assuming that knowledge is dependent on perception, narratives and interpretations; and that 'reality' is constructed through language, processes, practices and culture. The thesis aims to understand how developers interpret their environment and situations in which they find themselves, rather than seeking 'objective' facts, I was instead interested collecting the everyday communal experience of UK video game developers and viewing phenomena from their point of view, whilst acknowledging the limits of such an endeavour. Practically, this meant that I was not trying to develop an abstract typology or taxonomy of actions, patterns, or abstractions, but to place participants in this study as experts in their world, with myself as the researcher eager to listen and learn from them, before returning to scholarly work to see if the findings aligned or distanced itself from previous research.

It is important to note here that this is a focussed inquiry into the experience of UK video game developers which is tailored to my interest in understanding the role of communal aspects (such as the shared table in my own experience mentioned earlier) for video game developers. Many other investigations into the practices, routines, technological environments and tools and much else are equally important but not central to this dissertation. Moreover, I came to this project as an interdisciplinary student – combining previous geographical work with that of organisational studies. If the data and indeed project were framed in terms of other approaches, then they would undoubtably yield different interpretation (Van Maanen, 2011, Cunliffe, 2018b). Therefore, there are no 'correct' interpretations and my emphasis in this dissertation instead lies on making transparent how I arrived at my conclusions and to discuss the plausibility of these, as well as the rigour of my methods. I was also aware of privileging face-to-face data collection as previous occupational community and cluster studies had done, despite sometimes including digital relations in their findings. As such, I made the decision to design a digital qualitative method combining synchronous online semi-structured interviewing with netnography. With the intention to collect in-depth insights about the participants' identity creation, community maintenance and the relational space(s) of video game development away from a firm/studio structure or project in their own vernacular.

Data were collected between November 2017 and November 2018 through a multi-method technique of semi-structured interviews conducted on Skype and netnography. Interviews were conducted using a wave method (Vogl et al., 2018) with participants interviewed three times with a three month gap between each interview and netnography from the day of the first interview to November 2018. These were recorded via ECAMM software, with an audio version of the interview transcribed for later analysis. Data from the netnography were collected daily within the timeframe specified above, where I observed the participants, took screenshots of activity, recorded observations and any related hyperlinks in an e-journal compiled on Evernote. In total, n=25 developers were part of the study with n=22 participants completing all three waves, equalling 69 interviews, 672 screenshots. This strategy was designed to overcome a perceived reliance on in-person methods in cluster and occupational community studies, in addition to amplifying a general mediated approach to viewing socio-spaces. The data were analysed abductively using determinates from Van Maanen and Barley (1984) as a guidance framework – this approach also reflects Weststar's (2015) study which investigated the occupational community of Canadian video game developers, although her study used secondary data with this study responding to her call to study the occupational community of video game developers using primary data. The determinants of boundaries, social identity, reference group and social relations were used to provide guidance to inductive analysis within the determinants, with a particular focus on discussion of spaces. An additional determinant of an 'associated community' was included to present findings related to consumers and the video game player community, which was unable to be facilitated through the initial four determinates.

1.5 Key findings and contributions

In relation to the main research question of this thesis, I observed a connection to an occupational understanding was used as a method of building communality with occupational ties, supporting video game developers by finding communality away from organisations and projects. Communality can be explained as a conversation between individual passion and community ideals, and both can exist simultaneously with membership to an occupational community assisting the development, and providing meaning to, individual projects outside of employment. It is not about coming together to create a product but, creating belonging to a shared purpose and uncovering the messy everyday realities of being a video game developer. The concept of friendship underwrites communality through providing a trusting relationship which has a potential to cross firm, project and competitor lines. Nevertheless, it is almost impossible to consider an occupational community or communality built around an occupation, without also including a discussion on firm and project ties because they significantly influence how a community operates and socialise.

In relation to research question one, communality on Twitter is found through generating closeness to others through replicating observed action online with the platform being heterogeneous in providing communality - divided primarily via role, experience and working style. It is also arguably not a democratic process with apparent hierarchies formed and opinions from appointed leaders or key figures setting the tone of the general video game occupational community. Although, there is an apparent creed of good practice which spans throughout the community which assists in bonding developers through a shared communality even if their work situations differ. Conversations and stories nourish a sense of communality, and where work cannot be discussed, topics related to the general industry, the experience of being a game developer, personal side projects and hobbies assist in developers from multiple studios forming communality. Deviances are sanctioned through methods of calling out, cancelling and raising awareness to others. A disruption to communality can be found with the inclusion of consumers/video game player community who can seemingly intrude into developer spaces on Twitter, even though neither the developers nor consumers have the right to such a space. This results in additional

boundary making by the occupation to ensure the identity of a video game developer remains distinctive.

In relation to research question two, the social relations studied in this investigation showed evidence of aligning with a concept of mediated space with Gamedev Twitter, which is introduced in this dissertation as a specific subsection of Twitter, showing evidence of the coming together, bumping up, clashes and blurring of social activity from people engaged within game work – this can be conceptualised as an extension of Cohendet et al's (2010) theorisation of the middleground. The middleground is comprised of bars, cafés and public spaces which enable governmental policies and influence from one or two key firms (the upperground) to mingle and evolve with individual creativity and ideas (the underground). In the context of this study, this expansion of the middleground is particularly noticeable during industry events and developers presenting learning experiences to fellow peers. However, the presence of this mediated space also means that studio/firms cannot be excluded from the inquiry as they still exhibit control over an individual developer, with the 'digital space' of Twitter which is therefore not a locale free from consequences. Mediation also shows itself through the systemic issues which situate themselves online and offline in similar fashions.

To occupational community, there are two contributions. Primarily, this study presents an empirical account of a UK-based video game occupational community. The second contribution is as a study to re-examination of the core theory created by Van Maanen and Barley (1984), of which I argue that the theory remains relevant for contemporary studies of workers. From this re-examination arrives three learnings to take into future studies – firstly, there are potential multiple boundary conflicts, in particular internal boundaries created by occupational members via 'othering'. Secondly, how the occupational community is maintained through emotional labour, and how certain members of the occupational community may be expected to contribute more. Thirdly, how an occupational community can exist in a mediated space, which is more reflective of the use of digital platforms in everyday professional life.

To clusters, a contribution is found through the lens of mediated space to enable discussions on the role of digital social relations. Rather than viewing buzz as either

'virtual' or 'local', this study argues that buzz should be studied in its totality as a singular 'buzz' - following socialisation as it flows online, offline and in-between. Through separating types of buzz, digital relations become 'othered' with face-to-face offline meetings often perceived as the superior method of socialisation. Yet, it should not be about which method is superior, studies should be about capturing socio-spaces of work, creativity and knowledge through all their nuances and present a representation of whole processes. A further contribution is found when moving abductively between the literature of clusters, occupational community and findings of this study through the development of a concept of 'occupational space'. Occupational space follows the flow of an occupation and related members rather than focusing on a specific locale, firm, or networks, with emphasis on the communal experience instead of a production of a product. It is a process of active space making, and maintenance, of a specific occupational group through its social relations of both work and leisure – with knowledge and identity created primarily benefitting occupation members rather organisational or firm goals.

1.6 Empirical case – The UK video game industry

The UK has a legacy of world-leading video game development, with the production of video games adding £2.2 billion to GDP in 2019 – more than UK-based music and film combined (TIGA, 2020). The UK video game industry has been built on a rich and extensive history of homebrew, small studio and general technical and artistic innovation within software development (Levene and Anderson, 2012). In contrast to other gaming development superpowers such as Japan and USA, which relied upon innovations in developing hardware (Izushi and Aoyama, 2006). Despite humble beginnings, the UK is now home to numerous multinational studios which co-exist with micro and small studios. Studio structures tend to reflect the level of investment and technical prowess with larger studios employing a vast array of specialised roles with large financial budgets are known as AAA, while smaller teams with a more modest budget tend to be labelled as 'indie' or 'AA' (Keogh, 2015)[2].

[2] A full description of studio structures can be found in the glossary

The UKIE games industry census 2020 reports that 26 percent of UK studios were under 50 employees; 29 percent were between 50-100 and 57 percent were over 100 employees (UKIE, 2021)[3]. From 2010, video game studios in the UK were part of an entrepreneurial boom (Cabras et al., 2017), fuelled by increasing opportunities to open source software and the popularity of mobile OS/android gaming. Increasing accessibility to video game development. Particularly for those who previously may have felt excluded from a typically white, heteronormative and male dominated industry (Anthropy, 2012).

Figure 1.2 below shows the current geographical distribution of developers in the UK.

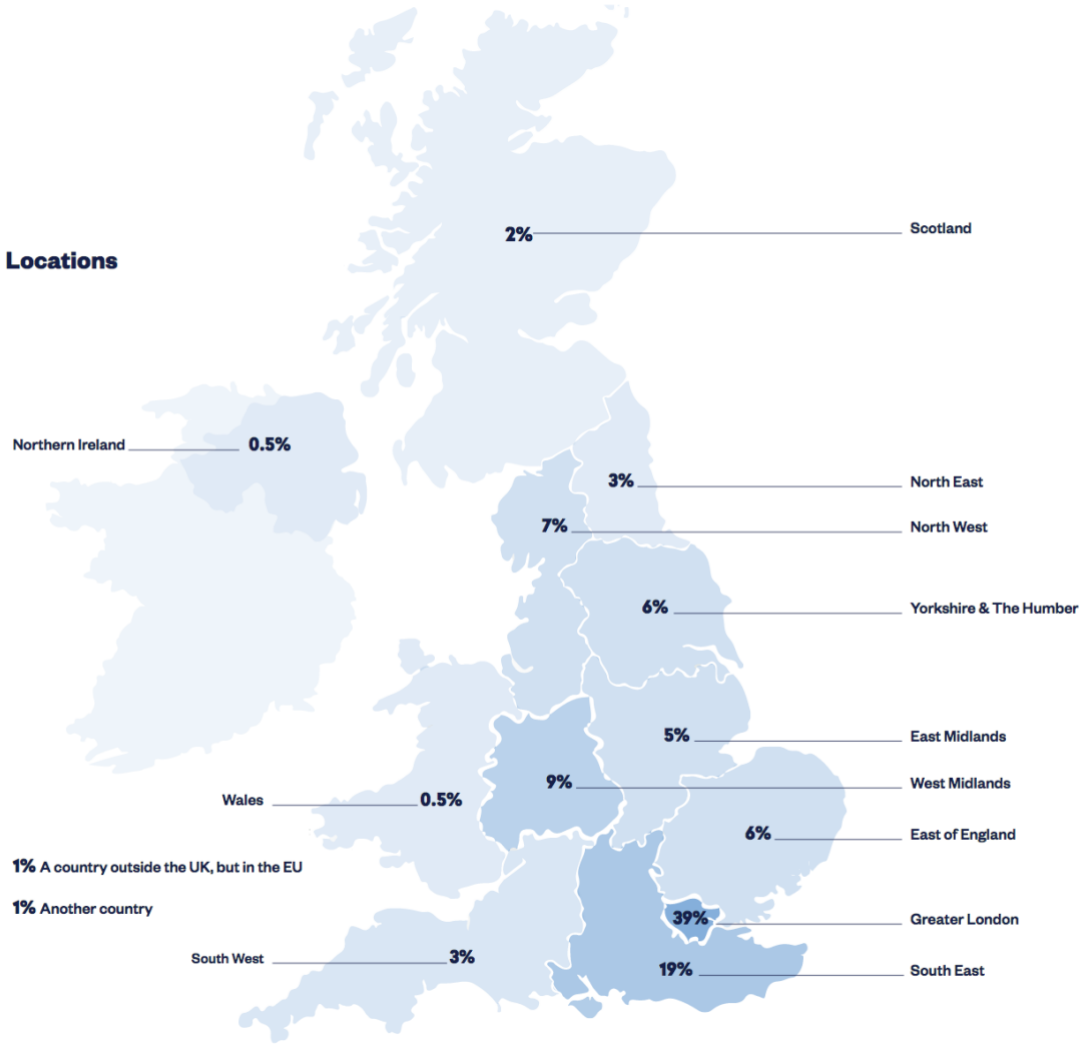


Figure 1.2: Distribution of UK video game studios

(Source: UKIE 2020 game industry census [2021])

[3] 2 percent of respondents responded n/a

Considering the geographical distribution of video game studios, the UK appears to follow an observation by Darchen (2016) whereby video game development does not always adhere to traditional agglomeration effects, yet it is influenced by it. London is an exception, as a seemingly core cluster. However, the UKIE (2021) report emphasised that the map is not indicative of where developers actually live with development labour considered to be highly mobile (Pottie-Sherman and Lynch, 2019). Further strengthening an argument of this thesis, whereby clusters of cultural labour need to be acknowledged; however, it is not productive to demarcate them when the level of analysis is at the individual and community scale. As an environment for video game development, the UK is one of variety between geography distribution, working styles and studio experience – creating a heterogenous community with potential for conflict as much as co-operation.

1.7 Structure of the thesis

The remainder of this thesis is structured as follows: Chapter Two introduces the two core bodies of literature used in this dissertation – occupational community and clusters before taking a contextual summary of related works regarding video game development. Chapter Three develops the conceptual framework, explaining the choice of Van Maanen and Barley (1984) as the key informant to understand a community of video game developers and developing a concept of mediated space, adopted from the sub-discipline of digital geography, to better integrate digital sociality. Chapter Four introduces the methodology of this dissertation, explaining the rational for taking a digital multi-method approach with netnography and online semi-structure interviewing, ethical considerations, details about the research strategy, analysis technique and how rigor and validity was built into the research process. Chapter Five presents the analysis of the data collected, organised by Van Maanen and Barley's (1984) community determinants – boundaries, social identity, reference group, social relations and an additional trait which emerged through the data of this study – associated community. In the analysis thick description is used to present a detailed account of the lives experienced by participants of this study with terminology of the participants prioritised. Chapter Six is the discussion element of this dissertation

and is split into three sections. Section One presents a case discussion and answers the research questions. Section Two discusses the findings in relation to occupational community theory more generally. Section Three discusses the findings in relation to cluster theory, primarily the buzz and pipeline literature and finally introduces a developing concept of occupational space. Chapter Seven is the concluding chapter which summarises the findings and learnings from this dissertation, presents academic and practical contributions, reflects upon the process and limitations and provides suggestions for future studies.

Level 2: Literature Review

2.1 Introduction

The purpose of this chapter is to build a theoretical and conceptual foundation to begin investigating deeper into the research questions.

In the following review I will utilise an analogy from Breslin and Gatrell (2020) of the 'prospector'[4] when approaching these two bodies of literature – of which I take the blending and merging path. The prospector aims to acknowledge established literature, yet deviates from a pre-determined path with a view to shifting conceptual understanding (Cozzo, 1999, Breslin and Gatrell, 2020) bringing together ideas that may have previously been thought of as separate (Cunliffe, 2018b). Nevertheless, these explorations are not wholly random – both the cluster and occupational community have a common theme of 'connecting' and 'belonging' despite sometimes approaching these themes differently regarding actors, scale and rational for action. It is from this common ground that the prospector can merge two disparate literatures together. Creating a two-way correspondence between the literatures which produces new insights for both in addition to novel learning by developing a unified analytical framework (Cornelissen, 2004, Oswick et al., 2011).

The literature review will first introduce occupational community (2.2) before moving on to clusters (2.3). Empirical examples of both video game occupational community and clusters follow (2.4) with an overall summary (2.5) highlighting convergences in the literature and conceptual gaps.

2.2 Occupational community

Section 2.2 introduces how concepts of community has been used to study work and workers (2.2.1); followed by an in-depth examination of the chosen theory for this

[4] The miner in comparison positions themselves within a bounded domain with development coming not from novelty, but from spotting conceptual gaps, problematising and organising (Breslin and Gatrell, 2020)

thesis - occupational community. Section 2.2.2 explains the origins of occupational community with the work of Gerstl (1961) and Salaman (1974). Section 2.2.3 explores the work of Van Maanen and Barley (1984), Orr (1996) and related studies. Whilst both are credited as bringing occupational community to organisational studies, they are not without their problems due to what I describe as conceptual ambiguity. This section finishes with an investigation of occupational community spaces and how the theory has been adopted for online communities.

2.2.1 Introducing a community approach

The concept of a community has an extensive history within social sciences; of which there are numerous utilisations and understandings, dependent on how the term 'community' has been employed and understood. Variations of community concepts include - but are certainly not limited to - occupational communities (Salaman, 1974, Van Maanen and Barley, 1984, Orr, 1996); communities of practice (Brown and Duguid, 1991, Lave and Wenger, 1991, Wenger et al., 2002); imagined communities (Anderson, 2006); virtual communities (Kozinets, 1999, Chiu et al., 2006); epistemic communities (Haas, 1992, Knorr Cetina, 2009); learning communities (DuFour, 2004) and communities of coping (Korczynski, 2003, Hochschild, 2012, Stroebaek, 2013).

Despite a breadth in usage, a cohesion is found through viewing a community as "a group of people with something in common" (Crow, 2017: 1) – although there is little agreement what that something is. The something could be a shared identity, however isolating the foundation of a shared identity is often difficult, especially for those on the margins of a group (Weststar, 2015, Crow, 2017). Or the something could be a shared interest, but communities can be quite heterogenous with members not sharing the same level of investment (Crow, 2017). Alternatively, it could be a shared social solidarity – a sense of belonging and commitment (Bulmer, 1986) or a binding through mutual benefits (Grabher, 2004a).

Regarding communities of work, studies were popular within sociology from 1950s to 1970s. Classic studies in the UK involved communities such as mining towns which described the everyday lives of townsfolk as work interwove with societal systems such as church and family (Dennis, 1956). Tönnies' (2012 [1955]) influential

Gemeinschaft and *Gesellschaft* (community and society) distinction tended to be cited throughout this time. *Gemeinschaft* reflects ties of kinship and sharing in common goods, values and beliefs; and *Gesellschaft* the creation of individual-led ties around mutual benefits. Tönnies (2012 [1955]) has been critiqued for romanticising the ideal of a *Gemeinschaft*, a community he saw as 'organic' with workers dedicated to their craft compared to the bourgeois *Gesellschaft* where work is industrial and focused on consumption (Salaman, 1974, Bonner, 1998).

By the early 1970s studies of communities were split by those who preferred a cruder distinction, such as Tönnies', who were accused of nostalgia, and those who began to embrace the concept of a community as a network of individuals (Elias, 1974). Studies of communities were critiqued for being too positive and romanticised – a debate that still remains for a community approach to today (Joseph, 2002, Crow, 2017). Moving into the 1980s and 1990s, with a rise of the status of the individual under neoliberal administrations (at least in the Western world) and ensuing forms of agent-based explanations; but perhaps also with an increase of institutional and other more rigid forms of structural analyses - softer notions such as culture and community faded out. Talk of the 'death of the community' integrated itself within sociology (Putnam, 2000, Bruhn, 2011).

Yet, in a perhaps surprising twist, the concept of community found popularity in organisational studies through two influential theoretical positionings. The work of *occupational communities* (Van Maanen and Barley, 1984) - centred around a shared occupation interests; and *communities of practice* (Lave and Wenger, 1991, Wenger, 1999) – centred around a shared joint venture. These conceptualisations adopted learning from critics of romanticised communities, by including issues of conflict and competition in addition to co-operation. Although, they too could fall prey to the overly-positive community approach through scholars using 'community' to overcome negative experiences in the workplace (O'Mahony and Lakhani, 2011). In regards to communities of practice, studies can be argued to be "fixated with their functional attributes" (Grabher and Ibert, 2006: 253); unaware that despite a celebrating their usefulness, a community has a 'life of its own' which may be crafted to circumvent formal corporate practices rather than support it.

A community approach has therefore gone through a 'rediscovery' (Sandiford and Seymour, 2007); although many would argue that what is observed today are not communities *per se* but various networks within a networked society (Brown and Duguid, 2001, Wittel, 2001, Grabher, 2004a). Particularly with an increase in virtual communities (Rheingold, 2000, Wasko and Faraj, 2005, Chiu et al., 2006, Peñarroja et al., 2019). The internet was argued to 'free' individuals from place-based ties; evolving them into networked communities and facilitating the rapid spread of information (Rheingold, 2000, Wasko and Faraj, 2005).

However, a reduction of community to only personal networks misses a crucial imagined aspect (Blokland, 2017). Anderson (2006) developed the term 'imagined communities' whilst exploring concepts of nationalism. In essence, this seeks to capture how people identify with an abstract concept while members have few face-to-face interactions. In organisational studies, a popular way to explain a community is through interactions and practice (Orr, 1996, Wenger, 1999); whereas in other social sciences a belonging to a community was sometimes explored beyond what the members did; instead considering how shared imagination fosters a community (Amit, 2002).

The above provides a broad foundation of using community for studies of work and workers. I will now focus on the core theory examined and deployed in this thesis - occupational community. A theory which balances workers' practices, avoids a fixation on functional attributes and includes a shared imagination of what a community should be.

2.2.2 Origins of occupational community

The first unified framework of occupational community can be found in the sociological work of Gerstl (1961) who argued that those in high status occupations, here dentists, advertisement professionals and college professors, use their positioning in the workplace as a basis for their social lives. Rather than separating work and leisure – a separation which often casts work as something to be endured to enable a more enjoyable non-work life – the social sphere blurs and enhances each facet of life. With an occupational community described as the "occupational identification in the

convergence of informal friendship patterns and colleague relationships" (Gerstl, 1961: 38).

Gerstl (1961) devised a list of occupational community determinants. These were, opportunity for on-job interaction, participation in occupational associations, opportunity for off-job interaction, feeling of occupational prestige and general work commitment. Friendships and a shared desire for an occupation to become part of a social identity, is crucial to understanding how similar individuals gravitate towards each other, both within and away from organisational boundaries. The example of dentists is interesting here. Gerstl reports that although spending a great deal of professional time together at work and association meetings, dentists tended to largely be committed to their work as a way to make a living. This contrasted starkly with advertising professionals and professors whose conversations related to work spilled over into social gatherings and home life.

Uncovering spatial elements within the domain of work emphasises the role of opportunity. Those who are geographically proximate are more likely to form and maintain friendships and originate from a shared background. Professors often resided close to the universities and other university staff and advertisement professionals had lunch in eateries frequented by other creative professionals. Dentists were the one who tended to live and work alone, although were brought together through professional activities such as conferences and remained friends with those who they studied with. Geographical proximity therefore aided in fostering an occupational community where it could become part of an existing location-based community. However:

"Although the geographical factor is undoubtedly important in explain the overlap of friendships and of work with other activities and although it precludes certain contrast with the other two groups from a Metropolitan setting - at the same time that highlights some extremes it must not be exaggerated to the exclusion of occupational determinants" (Gerstl, 1961: 39)

Therefore, although proximity matters, it is not the sole reason for the formation and maintenance of an occupational community. A shared occupational identity that is

separated and connected via communication technology of the day, for example association newsletters and radio broadcast.

The popularisation of occupational community can be attributed to sociologist Graham Salaman (1971, 1974). Rather than studying specific communities and then finding differences; Salaman (1974) followed the thinking of Hughes (1958) who advocated that when studying occupations, a researcher should start by finding similarities rather than differences. It is through these similarities that an occupational community can be analysed, employing abstract themes such as belonging, marginality and identity, rather than being weighed down by contextual details of previous studies - such as Cannon (1967), whose study of British compositors focussed upon their connection to the British class system. In particular, Salaman (1971, 1974) was interested in the phenomenon and processes of an occupational community during a time in history when individualism was increasing, and vocation as a social identity was being replaced by identity found through wealth and increased consumerism (Sandiford and Seymour, 2007). Salaman (1974) defines an occupational community as:

"People who are members of the same occupation or work together have some sort of common life together and are, to some extent, separated from the rest of society" (Salaman, 1974: 9).

The occupational community as envisaged by Salaman (1974) has three components: firstly, that self-image was derived from an occupation and often overrides other identity traits such as gender or ethnicity. However, the right to be identified as such depends on others in the occupation agreeing upon your status whether this be through observed work roles or acquired qualifications. Secondly, there is the building and maintenance of a shared reference group fostering a control and influence structure led by occupational members. Thirdly, close friendships are based upon a shared occupation. Work activities and interests bleed into non-work life with those away from the occupation seen as outsiders.

The key determinants of an occupational community according to Salaman (1974) are firstly, involvement in work tasks, where there is an emotional investment overrides

financial investment. Danger, responsibility, expertise and status increases the level of involvement. An example of this is Golan and Babis's (2019) study of Israeli migrant care workers who bonded over Facebook while detailing challenges of the day and worries with their residential status. The danger or risk of deportation was a constant unifier for the occupational community, and they often became part of an extended family to those they were caring for, thus reflecting Salaman's (1974) argument of emotional investment.

Secondly, is the marginal status or stratification situation. This links to preferential association as it is more comfortable and is expected, that people associate with others who are similar to themselves. However, Salaman (1974) refers to an occupation as a whole rather than highlighting boundaries that may occur within occupation which is a theme discussed in later literature (cf: Van Maanen and Barley, 1984, Orr, 1996, Weststar, 2015).

Thirdly, inclusiveness of the work or organisational situation. Professional bodies set values, norms and symbolic rewards with a sense of organisational embrace. Those who see work as instrumental, tend to act hostile to this, while others see it as a method of like-minded bonding. However, Salaman (1974: 35) highlights that this organisational control can "restrict opportunities to establish relationship with outsiders". A good example of this is Cooper et al. (2017) who explored how chefs used Michelin status as part of their identity. When forming professional networks, the chefs tended to circulate with other Michelin chefs – even if the experience was not a positive one.

Although Salaman (1974) took inspiration from Gerstl (1961); within Salaman's framework two of the determinates must be present to be classified as an occupational community, while Gerstl (1961) preferred to categorise occupational communities as being low level (such as the dentist) or high level (the professors).

Spatially, there are some interesting findings in Salaman's (1974) work. Primarily through his classification of types of occupational community. Local refers to:
"someone who is orientated towards an interested in the immediate local world of either his town or his workplace; and that the cosmopolitan is orientated towards the

wider world either the national or international scene or all his occupation as a whole can be applied to the occupational community." (Salaman, 1974: 39)

Particularly relevant to this thesis is the classification of the cosmopolitan and how Salaman (1974) highlights the role of social influence away from geographical proximity:

"Cosmopolitan occupational communities are based upon the occupation as a whole, not just some section of it. Such communities are composed, at least potentially, of all members of the occupation. Members of cosmopolitan occupational communities are not interested in particular work situations [they] are orientated rather towards the world outside - the world of occupation or profession as a whole…Members of cosmopolitan communities will be friends with occupational colleagues who do not work with them. This is their most important distinguishing feature." (Salaman, 1974: 39-40).

The local definition of an occupational community is one of occupational members sharing a shared work situation, such as colleagues being expected to know each other and therefore they are also more likely to be geographically proximate. It is clearer to see how occupational community started to become fractured as this local reading aligns itself more to community of practice such as Lave and Wenger (1991) and Wenger (1999), where groups of individuals gather around a common problem or interest to fulfil a goal and engage in situated learning. Nevertheless, as Salaman (1974) suggests, most occupational communities will be neither fully cosmopolitan nor fully local and remains firm that geographical proximity does matter when discussing communities – if only to increase instances of social mixing.

2.2.3 Occupational community and conceptual ambiguity

The following section introduces the most common approach to studying occupational communities – the works of Van Maanen and Barley (1984) and Orr (1996). Here is where conceptual ambiguity in the literature occurs as while both sources use the term 'occupational community', how the term is adopted by these scholars differs. I will first review the contribution from Van Maanen and Barley (1984) before comparing with Orr (1996) and more recent adaptions to occupational community theory.

Van Maanen and Barley (1984) start conceptually from a similar pool of sociologists as Gerstl (1961) and Salaman (1974) – notably Durkheim (1933, 1951). The three are comparable in that they take from Durkheim (*ibid*) how a socially constructed concept of work influences how everyday life occurs and how individuals determine who they think they are. Van Maanen and Barley's (1982: 12) aim therefore, was to consolidate previous occupational community work to provide a clearer, more unified framework, for future scholars to identify potential occupational communities. Providing an alternative to organisational frames of reference for explaining how and why work is done. Placing emphasis on the 'occupational whole' rather than 'employee' role. When studied ethnographically, this presents an account of the everyday realities of work and documents how an organisation may seek to control occupational members. Van Maanen and Barley (1982) describe an occupational community as:

"A group of people who consider themselves to be engaged in the same sort of work, who identify (more or less positively) with their work, who share with one another a set of values, norms and perspectives that apply to but extend beyond work-related matters and whose social relationships meld work and leisure" (*ibid*:12)

A later correction removes the positive aspect – simply referring to identity drawn from work in all its multifaceted manifestations (Van Maanen, 2010a). Aligning with studies that highlighted potential negative associations to a chosen career path, despite a willingness by individuals to stay within them (Hesmondhalgh and Baker, 2013, McRobbie, 2016a). The Van Maanen and Barley (1984) framework consists of four broad determinants:

Firstly, boundaries - The active 'othering' of an occupation by its members when comparing themselves to members of other occupations. The occupation often tries to hide its practices and methods away from the public view. Bolton (2005), for example, explores this with gynaecological nurses who socially constructed a boundary around their work by embracing their 'tainted' work – abortions, miscarriages, STDs care – as something that sets them apart from other medical professionals. Riley et al. (1998) studied UK pubs and found active boundary making between pub workers and those who worked in other areas of hospitality. However, as Van Maanen and Barley (1984) highlight, an occupational community is not a homogenous entity and boundaries also exist internally. Some thirty years later, Weststar (2015) built upon this by describing the phenomena of internal othering as 'nestedness'. These internal boundaries appear differently depending on the occupation in question and are not always rational. For example, commercial fishing could be split into those who are 'traditional', using methods passed down for centuries and those who are 'non-traditional' – the ones who are trained in ocean sciences or those who are working parttime. The fishers could be further split by location or by the type of fish they catch (Miller and Van Maanen, 1982). Similarly, Dubois and Weststar (2021) suggests that differing production methods for videos games - games as a service vs game as a product - create unique community attributes. While these boundaries can deliver a positive approach to group similar people together, they can also present a sense of isolation via active methods of social exclusion (Turnbull, 1992).

Secondly, social identity. This relates to the shared belief that what an occupation does is special and significant, their skills esoteric, with their work experiences contributing to their understanding of themselves. Golan and Babis (2019) explain how migrant Filipino caregivers in Israel take great pride in their identity as being both migrants and as full-time caregivers. The blend of these two elements help in creating an instant bond online with others in similar experiences. Likewise, when considering Michelin chefs, Cooper et al. (2017) finds that by enduring rigorous, almost cruel, banter within a professional kitchen acts as a test to 'earn' their identity. Social identity in an occupational community tends to be seen as unilateral – by doing the work it provides an identity for the worker (Van Maanen and Barley, 1984, Van Maanen, 2010a). However, an alternative view – the 'glass slipper' analogy (Lee Ashcraft, 2013) argues that work has the potential to derive identity from the people associated with it –

therefore creating a bilateral view of work and social identity. The 'glass slipper' refers to the notion that certain types of work fit certain types of people better – yet it is not the work that is different *per se* but that those involved have a greater amount of control over their occupation (Lee Ashcraft, 2013). Applying a 'glass slipper' approach to an occupational community provides an insight into how community members could shape the overall community through characteristics of individuals in addition to the work providing identity for members.

Thirdly, the reference group whereby other community members are the primary reference for shared norms, values, beliefs and agreed upon sanctions of an occupation. For example, Van Maanen (2010a) suggests that the often ordeal-like atmosphere of a police academy bonds police workers together and allows recruits to 'lean the ropes' from those who have already gone through the process. A similar situation occurs within Michelin kitchens, whereby an almost paramilitarily style induction is set by chefs to produce survivors for the occupation (Cooper et al., 2017). These induction rituals are learnt and passed down from chef to chef with the assumption that others need to go through what they themselves had to at one point. Sandiford and Seymour (2007) explain how living in-house, always feeling 'on duty' and the need to appear cheerful and welcoming are common denominators for a shared publican experience. The reference group is the heart of an occupational community, which can normalise both collaborative and conflicting aspects. For elements to change, a community needs to have a majority agreement, with the occupation often aiming to influence organisational practices (Van Maanen and Barley, 1984). A current example of this is the rejection of crunch culture within video game development, whereby the occupational community is starting to reject the practice, but it is taking time to filter through organisations and management where they see it as 'just being part of the job' (Peticca-Harris et al., 2015, Weststar, 2015).

The final determinant are the social relations where there is a blurring of work and leisure between occupation members. Sometimes this means leisure activities are related to work, such as listening to music and learning an instrument (Becker, 2008 [1963], Cornfield, 2015) or that there is a significant overlap between work and social relations – such as non-work friends coming into a place of work to spend time during working hours (Sandiford and Seymour, 2007, Ferreira et al., 2021). There is also a

significant overlap with hobbies, such as railroaders making model trains during downtime (Salaman, 1974) or video game developers citing playing video games as one of their main hobbies (O'Donnell, 2014).

Here there is a level of occupational intrusion (Goffman, 1961) whereby friendships, relationships and family are all shaped by a connection to an occupation. Bryant (1972) found that travelling carnival workers were more likely to build relationships with each other and share out responsibilities of childcare for example. A rational for this is that people in the same or similar work are able to socialise at similar times, particularly if the work demands abnormal hours (Davis, 1986, Bolton, 2005) or a shared understanding of occupational issues aids in bonding people (O'Neill et al., 2008, Skaggs, 2019).

The work of Van Maanen and Barley (1982) has been cited as popularising a community approach within organisational studies (O'Mahony and Lakhani, 2011). However, in the 1990s there was a conceptual split between those who follow the determinants described above (Sandiford and Seymour, 2007) and those who align occupational community as a variation of community of practice (Cox, 2005, Contu and Willmott, 2006) using an alternative application of Orr (1996). In the following section I will now trace these two linages and explore recent revisions and critiques.

Orr (1996) provides a rich ethnographic study of Xerox technicians using an occupational community lens to bring to the forefront the seemingly invisible work of the technicians, showing how common work structures and situations built a community and group specific tacit knowledge. The act of storytelling bonds the collective together and separates them from management; with the Xerox reps forming their own perspective on what their job entailed and how it should be done. In this respect, the technicians formed an almost counter-culture community (Brown and Duguid, 1991, 2001).

Although Orr's (1996) *Talking about machines* (TAM) was not specifically building upon or a critique of Van Maanen and Barley (1984), there are a few developments which add to understanding the occupational community narrative. Firstly, Orr (1996) provided an in-depth examination of how storytelling is a method of creating and

maintain a community. Stories center around a product (the printers) with storytelling acting as a way to learn about the machines and cope with issues. Social reality is constituted through these interactions and they specifically place the worker as the knowledgeable entity, at least from the perspective of other technicians – with language purposely vague to management (Bechky, 2003). Stories are not simply a way to pass information, but also part of doing the work (Bechky, 2006b). Nevertheless, the stories are generally beneficial to company goals - by being able to fix machines - rather than to develop individual goals (Li et al., 2009). Bechky (2006a) argues that at least in project based, temporary organisations, storytelling does aid in professional development by passing on knowledge and building networks between projects. However, even in this working formation, there is a shared joint enterprise which is typically absent from the Van Maanen and Barley (1984) conception.

Secondly, is a discussion on work providing an identity within workspaces. In particular how technology is part of the workers ecosystem, in a similar vein to Latour (1988) who argued that machines participate in human society and neither the human nor machine can truly be thought as separate entities. Often creating paradoxes that to remain a working member of the occupational community, the technicians rely on the machines to break in order to fix them (Yanow, 2006). The coexistence with machines forms the identity of a competent technician. Yanow (2006) observed how performances of competence, of being a 'real technician' (Orr, 1996: 98) creates internal othering between peers.

Here we find a direct link to Van Maanen and Barley's (1982) heterogenous community and Weststar's (2015) concept of nestedness. A community is split internally through social constructs of 'the other', despite sharing an occupation. In Van Maanen and Barley (1984) the othering is via role, in Weststar (2015) and Dubois and Weststar (2021) the othering is via role and working style and in Orr (1996) the othering is through experience and perceived competence. Nevertheless, there is an element of managerial control over the worker identity through the use of promotion and deskilling (Orr, 2006, Robinson and Barron, 2007). As Orr (1996, 2006) suggests, technicians would rather reject promotion than experience loss of identity by no longer being able to show their competence through the work they do.

However, unlike in the Van Maanen and Barley (1982) conceptualisation of occupational community, the space in which the identity is fostered relies solely on workspaces, for example when Orr (1996) explains how canteens and restaurants are key spots to tell stories, however with these all being a place within an organisation. Van Maanen and Barley (1984), although not as detailed in their approach to describing spatialities of occupational members, did include a variety of spaces away from the hub of work – including the home and recreational. These home and recreational spaces are away from the control of management, with identity (as a police officer) co-forming by the interrelating of interactions in these spaces.

With the work of Orr (1996, 2006); space is seen as an object environment. A container that holds work practices, workers, customers, artifacts and machines – in essence a collection of connected places. Whereby place is "material and territorial, but also [a] process, constructed out of constellations of relations, articulated together at a particular locus" (Ford and Harding, 2004: 818). These collections of places form a territory (Orr, 1996, Yanow, 2006) which can be understood as the bounded space of the technicians. Within the territory, workers learn when they need to perform their occupational role either as their peers see (within 'rest spots'), as management see (within restaurants they both frequent) and as customers see (in the offices of customers). The occupational performance in these locations to different 'audiences' can also be likened to Goffman (1978) with the peers becoming the 'backstage' and management and customers becoming the 'frontstage' presentations. To the technicians, the 'backstage' is the 'real' perspective, but this does not override how reality is seen by those outside of the occupation. Instead, they exist as parallel interpretations of work in space and time.

In contrast, Van Maanen and Barley (1982) focus on a more fluid conceptualisation of space, although they never specified as such. A space which is built through the relations of police workers in work and leisure time. They suggest that "physical proximity is neither a necessary nor sufficient condition for the formation of an occupational community" (Van Maanen and Barley, 1982: 29); a similar argument to that of Salaman (1974). Nevertheless, geographical proximity eases social relations. Therefore, space here is not held by the boundaries of work practices, instead space is continually being created by the everyday actions of the police officers. This view of

space leans into the work of Massey (2005) and Thrift (1996) whereby space is a site of becoming, constituted through its relations that is never finished nor closed. As this thesis adopts a relational economic geography perspective, this view of space aligns well.

It is interesting that this concept of space tended to be lost in more recent examples of Van Maanen and Barley (1982) inspired work. For example, Sandiford and Seymour (2007) describe how pub workers experience their lives through the lens of the pub they work at and the neighboring pubs in the town. While this can be taken relationally because the space of the pubs is constantly in flux, this is not how Sandiford and Seymour (2007) explored the issue. Instead, the pubs became bounded spaces akin to Orr's (1996) collection of workplaces. What happened outside of the realm of the pub(s) did not factor into their analysis. Nevertheless, Weststar (2015) when exploring the occupational community of video game developers noted how developers often brought themselves together at events and game jams to aid in fostering social relations and share occupational knowledge. The developers then remained connected as they went back to their workdays, therefore in this example, the developer's space is created through their desire to connect. It is not permeant and is in constant negotiation between actors. Without the actors and their relations, the space would cease to exist.[5]

A final contribution by Orr (1996) is the recognition of interactions with associated communities, specifically consumers or customers. I argue here that this is a significant development of the occupational community theory from Van Maanen and Barley (1982) as the community is not portrayed as an isolated entity.

Orr (1996: 78) suggests that customers form a social contract with the technicians – they allow them access to their workplace and the technician agrees to fixes issues. The technicians' space (or territory) includes these customers as the majority of work is carried out within their offices. Customers become topics in stories, as shown by

[5] To the best of my knowledge, there have been no specific effort to discuss occupational community through a spatial lens. With the exception of Orr (1996) and Yanow (2006) – although Yanow adopts learnings from Orr (1996). Nevertheless, concepts regarding space run throughout occupational community literature.

the vignettes in 'TAM', such as one who refuses to upgrade a copier and another who tends to lurk in the background asking questions. These interactions could be explained as 'articulation work' (Hampson and Junor, 2005: 166) which relates to the emotional labour expressed through the intermingling of social worlds. This emotional labour is an important element of conceptualising work; however, it is one that tends to be overlooked or undervalued (McRobbie, 2016a).

Sandiford and Seymour (2007) provide a reworked version of Van Maanen and Barley (1982) by including interactions with an associated community – here customers of UK pubs. Suggesting that customers have a "significant but not wholly unproblematic role to play…to the development of an occupational community" (Sandiford and Seymour, 2007: 209). Here, customers contributed to the blurring of work and life, with their role being both of a customer and often also of a friend. The customer can also make spaces of work feel threatening or challenging to workers through their behaviour. A situation also picked up by Salaman (1974) who explained how clients created interference for architects by challenging their professional knowledge during work projects. In these examples, the occupational boundary becomes a site of conflict between those who do the work, and those whose inclusion is crucial for work to continue.

Despite Orr (1996, 2006) providing a rich description of an occupational community, his work is not without criticism of being potentially over used and taken too literally for other contexts (Bechky, 2006b) . However, I argue that a core criticism stems from how Orr (1996) is often misread as an example of communities of practice rather than occupational community (cf: Brown, 1998, Brown and Duguid, 2001, Contu and Willmott, 2006, Verburg and Andriessen, 2006, Brooks et al., 2020). Yanow (2006) explains how Orr takes a humanistic approach – focusing on the character of practitioner's communities. He later suggests that the theory of communities of practice present a disembodiment and distancing of activities from their human and contextual environment. Indeed, Orr (2006) claims he never set out to study practices, only to study work and disagrees how his writing has been repackaged, via communities of practice, to suit management studies. As practice is aligned with organisational behavior and this is the concern of managers at the expense of the worker experience (Yanow, 2006). Placing a hegemony of managers as the ones who

'know best' for social, cultural and political life, with a focus on controlling a community that poses a threat to this dominance, rather than understanding it (Orr, 2006).

Because of the adoption of Orr (1996) as an illustration of communities of practice, scholars appear to have used the example of Xerox technicians too literally in developing their own frameworks. The conditions of work that Xerox had – inadequate training and manuals, threats by management to technicians status and the existence of unsupervised spaces and freedom to gather in them – are not typical work conditions (Cox, 2005). Therefore, the community here is heavily contextualised in its spatial and temporal conditions which cannot necessarily be used vis-a-vis to find replications in other examples.

Yet, it is not surprising how this this conceptual ambiguity occurred. Orr (1996) and Bechky (2003) explains how there is a shared mutual engagement which aids in situating knowledge. A key component of communities of practice, but not for occupational community when understood through the basic assumptions of Van Maanen and Barley (1982) and Van Maanen (2010). In Orr (1996), focus remains on a singular organisation, rather than an occupation as a whole. Bechky (2006a, 2006b) critiqued this by suggesting that networks of practice overcomes an emphasis on a singular organisation. However, there remains a focus on dehumanised practices with a shared joint mutual engagement. Occupational community is instead about the environment of an occupation and people who do the work.

The final section explores how the concept of occupational community has been adapted for online working.

While there have been multiple studies discussing virtual communities and how online systems aid in sharing knowledge (cf: Rheingold, 2000, Wasko and Faraj, 2005, Faraj et al., 2011, Riedl and Seidel, 2018); there are very few that are specifically framed as an 'online occupational community'; a community where a "collective of members who share work-related interests or experiences and interact primarily through a web-based system" (Vaast and Levina, 2015: 77)

Exceptions to this are Rinallo et al. (2008) who found that woodworkers trusted knowledge from forums more than company-owned webpages and Schwartz (2018) who suggested how freelance crowdsourced work is socially embedded in a wholly online occupational community. The meeting places of which provided collaborations and supported workers where industry standard practice was transferred in the absence of an organisational. In regard to occupational identity, Vaast and Levina (2015) discuss how finance workers grouped together on forums to 'shelter' from criticism and find ways to cope with their tainted identity after the economic recession of 2008.

Yet, there is a problem here where the concept of an online occupational community is rooted in the idea that a community is exclusively online. Taking Orr's (1996) and Van Maanen and Barley's (1982) understanding that a community is more than its disembodied practices; then an online community is neither wholly online nor offline. This is reflected in digital geography work where the term 'mediated space' is used to explain interrelations with online and offline spaces (de Freitas, 2010, Leszczynski, 2015) Applying an occupational lens to mediated space leads to one study - Golan and Babis (2019) whose study of Filipino migrant workers found that Facebook assisted in gaining social recognition and developing occupational identity within their local community.

2.2.4 Summary

The purpose of this section was to summarise how a concept of community have been used to study work and workers. Despite its attractiveness for social scientists, the concept of community is far from unified and consists of a multitude of approaches. Within organisational studies, the theory of community of practice (CoP) has dominated discourse, with its popularity causing an absorption of companion theories such as occupational communities and collaborative communities into the CoP corpus. I argue that this has led to conceptual ambiguity when using occupational community theory – which is different to CoP because of its imagined element and knowledge benefiting the community as a whole rather than the production of knowledge for the benefit of the firm.

From this review, occupational community through the basic assumptions of Van Maanen and Barley (1984) is particularly useful in providing guidance for the research questions as it allows a researcher to consider how elements of work and leisure are blurred. Additionally, occupational community assists in developing an understanding of what an occupation perceives itself to be, not only what an occupation does. From the studies presented above, focus is placed on the worker, rather than management, which aids in developing knowledge about how self-governed organisations (here, bonding via an occupation) develop norms, identities, morals and sanctions.

Discussions on space were highlighted throughout, while small in their contribution, they are useful to start thinking about how members of an occupation and communities move and are perhaps altered through space. The following section examines this using a theory of clustering.

2.3 Clusters

In the previous literature section, occupational communities were suggested to be influenced by the places they were tied to. Although place is only one element to a community (Crow, 2017); it has been argued that geographical proximity fosters community social processes with greater ease and intensity (Salaman, 1974) and provides a location where digital relationships can be brought together (Bathelt and Turi, 2011). In light of this, I decided that the interdisciplinary study of clusters provides a well-established route to understand how a community, which centres around work, situate themselves geographically and develop their space(s)[6].

The study of congregating people and firms is often united under the title 'cluster(s)' or 'agglomeration' (Speldekamp et al., 2020) and spans social sciences – from international business and strategy (Porter, 1990, 2000; Tallman et al., 2004), organisation studies (Powell, 1990; Staber, 2010), economic geography (Storper, 1997; Maskell and Malmberg, 2002; Batheld et al., 2004; Scott, 2006; Cottineau, 2019) and political science (Saxenian, 1994; Sabel, 1993; Elkins and Simmons, 2005).

Given the breadth of the generalised cluster literature, I do not aim for comprehensiveness. Instead, I introduce key works from territorial based clusters (2.3.1) and buzz-pipeline theory (2.3.2). Each sub-section is structured by firstly detailing seminal contributions and basic assumptions, secondly introducing key definition(s) before finally highlighting social mechanisms and any evidence of community discussions – including digital mediations where applicable.

[6] The aim of reviewing clusters is not to include the concept to lead to a conventional cluster analysis – instead it is a method to understand how a community centred around work may situate themselves geographically. Traditionally, this leads to studying clusters.

2.3.1 Territorial clusters

Although he did not specifically use the term 'cluster', nor created a theory of clustering, the work of Alfred Marshall underpins much of contemporary cluster literature (Vorley, 2008). Marshall (1890 [2013]) describes a cluster as an industrial district where "an industry [is] concentrated in certain localities" (*ibid*: 222).

The concept of 'knowledge spillovers' via intangible 'in the air' processes (Marshall, 1890 [2013]: 225) is his most noteworthy contribution – whereby close interactions between firms and the individuals within the workforce transfers tacit knowledge and practical skills simply by being there (Vorley, 2008). Tacit knowledge here refers to an intangible and informal sense of knowing and often refers to knowledge that is difficult to abstract from its context and embodied experience (Polanyi, 1966). Tacit knowledge is embodied by actors (Morgan, 2004) through a specific contextual lens; therefore the interaction between people and their immediate environment results a location becoming particularly 'sticky' (Markusen, 1996).

Codified knowledge, incidentally, is where information can be made tangible, through documents or instructions, therefore being able to travel beyond the origin of creation (Coe and Bunnel, 2003). Nevertheless, it can be argued that knowledge flows between the two states (Bathelt *et al*, 2004) when technology is introduced.

Marshall's theory developed into two theoretical streams - New industrial district theory (NID) and Porterian theory, which run almost parallel to each other historically and share many similarities. The 1980s to mid-2000s reflect a split between economic geographers who continued to refer to industrial districts or regional clusters and economists who used 'cluster' as a generic term (Martin and Sunley, 2003). Although this is not a strict rule with many geographers adopting cluster theory and terminology to explain regional development and to fit within the academic zeitgeist (Speldekamp et al., 2020).

The NID literature functions as a response to globalisation, in a world where geographical proximity remains significant, yet technology reduced space-time transactions between actors (Dicken, 2015). Globally, traditional craft-based

industries as studied by Marshall were decreasing in economic power; replaced by financial and service industries (Markusen, 1996, Coe, 2001). Alternatively, they found themselves re-located to other parts of the world – in particular South-East Asia (Wang and Wang, 1998) and South America (Rabellotti and Schmitz, 1999). Many industries in themselves were also changing from a Fordist model of a dedicated large batched, in-house production to a post-Fordist (flexible specialisation) smaller batched, outsourced model (Lash and Urry, 1994, Coe, 2001).

Park and Markusen (1994) defined an industrial district as:

"a sizeable and spatially delimited area of trade orientated economic activity which has distinctive economic specialisation, be it resource-related, manufacturing or services" (Park and Markusen, 1994: 84).

Owing to the success of mature industries in the Emilio-Romagna region of Italy and the rise of flexible specialisation, neo-Marshallian districts evolved (Scott, 1988a; Scott, 1988b; Stoper, 1989; Amin and Thrift, 1992; Harrison, 2007), with the Italianate industrial district as a distinct variant. While an Italianate district retained key Marshallian traits of the area being dominated by small, locally owned firms, low economies of scale, workers committed to district not the firm and evolution of unique local cultural identity; the Italianate variation also includes high levels of personnel between customers and suppliers, high co-operation between firms to share innovation and reduce risk, high levels of shared infrastructure with associated trade associations and a strong local government role in supporting core industries (Markusen, 1996).

In regards studies involving specific districts and agglomerations; Markusen (1996) and Bellini (1996) found it problematic to continue to look inwards at industrial districts on a case study basis; as had been the method for analysis of the aforementioned Italian districts and Silicon Valley (Saxenian, 1994) for instance. By focusing too much on the internal network of the firms within regions, nuances may potentially hide between relational and complimentary firms (Sassen, 1991; Gong and Hassink, 2017). Therefore, there is a greater focus on linkages which go beyond the immediate area of an industrial district:

A. **Marshallian industrial districts with Italianate variation** - Localised co-operative of generally small firms. E.g., Within Emilia-Romagna, Italy: Modena (machine tools) and Capri (knitwear).

B. **Hub-and-spoke district** - A small number of industries who engage with a few major local firms. Vertically integrated with a collection of smaller and less powerful firms surrounding the key influencers of the region. Key decisions are made locally but are spread globally. E.g., Boeing and Microsoft - Seattle, USA.

C. **Satellite platform districts** - A cluster of externally owned branch firms with labour market external to the district. E.g., Singapore electronic industry, 'The Triangle' - North Carolina, USA.

D. **State anchored district** - A key public institution, such as a university, or government tenant acts as an anchor to the region. E.g., Cambridge, UK, Ann Arbor, Michigan.

(Source: Castree (2004) and Coe et al. (2019))

While these may appear to be neatly packaged ideologies of how and why a district encourages agglomeration; in reality the nature of firms and the workers who inhabit those spaces are complex and not always rational in their decision making. Leading to two further developments, that of 'sticky mixes', where multiple typologies of industrial districts blend and overlap (Markusen, 1996). Secondly, places are rarely ever static; they are dynamic and ever changing. Due in most part through a capitalistic desire to favour innovation and competition, the character of a district will vary over time as linkages retract, expand or diversify (Castree *et al*, 2004, De Marchi and Grandinetti, 2014).

Piore and Sable (1984) analysed the artisan/craft districts within Italy, with the role of community and culture highly emphasised. Of which, firms enrolled in relational networks became crucial to not only survival of a cluster, but also the level of innovation seen (Vorley, 2008). Yet, the close kinship ties made via the Italian artisans ultimately made the cluster weak through an overabundance of geographical and

cognitive proximity (Boschma, 2005). Workplace trust became misplaced as workers assumed that their labour would be rewarded, and they would be afforded job security. However, as flexible specialisation rose, the power of an occupational identity decreased with broader skills desired by the region. Piore and Sabel (1984) noted how Sheffield cutlers lost out to firms in Solingen, Germany because the latter were able to be broadly organised.

A sense of shared trust is seen as a regulating mechanism for a district (Schmitz, 1999, Arena, 2006); an investment by the firms and their workers into the business environment. Whereby, any misbehaviour by firms is severely discouraged with the threat of societal punishment – the "collective awareness of this mechanism makes it possible to exchange knowledge even between competitors within a network, to an extent which no outsider can aspire to achieve" (Maskell and Malmberg, 1999: 17).

The similarities to Marshall (1890 [2013]) in the air concept is striking. In particular that the default position in a district is to trust, or at least act as though you do. The difference from the Italianate district discussed previously is that the trust in those examples were often laid at kinship or historical ties. Here, the shared trust comes from a shared association, similar management styles or a similar education background for example. Organisational and cognitive proximity here become alternatives to geographical proximity by creating a stable foundation for collaboration through sharing similar ideologies and familiarisation of specific knowledge and work practices (Boschma, 2005).The regional community has reduced in influence to a hieratical network of firms (Shin et al., 2006). No longer necessarily based upon family and close acquaintances, but a complex network of connected similar individuals.

Running parallel to industrial districts is the more widely adopted concept of 'clusters'. Spearheaded by Porter and his 'diamond' structure representing competitiveness, in particular national competitiveness, he argues that success and firm productivity is dependent on the similar success and productivity of other firms within a region (Porter, 1990). Neoliberal ideologies are politically significant globally. Involving reduced power of the nation-state, new regulations for trade and financial liberalisation, increased deregulation, increase in flexible labour markets and intense restructuring of the state through privatisation (Coe et al., 2019). Porter entered

a period of history where a theory of co-location thrived upon neoliberal ideologies – competition was key, and his theories were adaptable to policy makers, not just academics unlike the denser NID work (Martin and Sunley, 2003). Yet, this adaptability proves to be both Porter's strength and weakness as explored in the following discussion.

Firstly, Porter (2000) described a cluster as:

"a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementaries...[a] geographical scope of a cluster can range from a single city or state to a country or even a group of neighbouring countries" (Porter, 2000: 254).

As the above quote shows, Porter has a flexible understanding of what a cluster may be. Such flexibility has resulted in a particular conceptual fuzziness when discussing clusters (Malmberg and Power, 2006, Speldekamp et al., 2020). The ideology of competition runs throughout with interactions between four factors of firm strategy and rivalry, demand conditions, related and supporting industries, and factor input conditions, is suggested to increase a firm's productivity through how developed and intense the interactions are (Porter, 1990). This is enhanced if firms are also clustered or 'geographically localised' (Martin and Sunley, 2003) by encouraging localised competition and by extraction, boosting intra-firm productivity and innovation through globalised branches for those firms who are multinational.

Porter's cluster theory relies on the underlying concepts of being 'successful' (and what he studies are only successful clusters) and being 'competitive'; yet these are social constructs and certainly not universal throughout the global economy (Dobbin et al., 2007). While he may exude the importance of locality, his theory is one often free of context with little regard for the societal and cultural environment a cluster can develop in. As a concept, Porter is vague and malleable (Jacobs and de Man, 1996) and heavily influenced by American industrial economics (Martin and Sunley, 2003).

Perhaps this is shown most clearly when compared with NID theory. In NID, competition and co-operation are equal balancing forces. Through this, societal mechanisms become clearer and are discussed as important elements to success. There

is evidence of communities occurring because of agglomerating effects within cities and districts (Saxenian, 1994, Drake, 2003, Cohendet et al., 2010, Florida, 2014, Cohendet et al., 2014, Darchen, 2016, Zhang and Warner, 2017). Not all of these are rational or strictly economic, but rely on some form of co-operation, mutual risk and reward that is locally based (Zhang and Warner, 2017).

For Porter, a cluster could be something which is able to be designed, which in turn allows a designing of a specific inhabiting community (Kayley, 2017). When discussing communities, Porter (1998, 2000) aligns with concepts of epistemic communities. Where a community consists of a network of recognised professionals who consciously come together to produce new and authoritative knowledge (Haas, 1992, Amin and Roberts, 2008). These are purposeful actions, to bring people together (competitively and co-operatively) often through policy, with an epistemic community often explained as the global reach of multiple local communities of practice (Lorenz-Meyer, 2010).

Kayley (2017) argues that what makes clusters successful is that they facilitate, promote and sustain interpersonal interactions and development of some form of community – not necessarily epistemic as a community could simply 'exist' without needing to develop specific knowledge. These lead to success as viewed by Porter, rather than vice versa. Recent critiques of Porter develop this and undermine his geographical proximity bias. For example, Tech City and Silicon Roundabout in London portrays clustering tendencies, but there is considerably wider activity online which roots back to that location (Spencer et al., 2010). A similar story can be found in Shoreditch, London where multitudes of digital industries results in work extending from offices and coffeeshops to multiple ancillary spaces – creating an extended workplace (Martins, 2015). The digital technologies afforded to these people reduces the need for geographical proximity.

The next section will develop this further by examining the work of Bathelt et al. (2004) and the multitude of studies which spawn from, and develop the buzz and pipeline theory.

2.3.2 Buzz and pipelines

This section refers to the work of Bathelt et al. (2004) and the concept of buzz and pipelines. I will first provide definitions and processes, before exploring adaptions and critiques on the buzz and pipeline structure – the temporary cluster and global buzz, virtual buzz and related city-based theories. I will conclude with a centring on community aspects found in the literature – although discussions about community are found throughout this section.

The concept of buzz and pipelines is a multi-scalar approach based upon interactive knowledge creation built through interaction – combining "insights from clusters with an activity-oriented approach in which more attention is paid to the specific characteristics of the innovation processes and the conditions underpinning their organization" (Moodysson, 2008: 449). The theory grew from a dissatisfaction with conceptualisations of tacit knowledge as being primarily described as 'sticky' to a locale while codified knowledge could travel freely. Bathelt et al. (2004) argued that both can travel locally and globally via actors embedded in a learning community (buzz) which builds channels of communications to those outside (pipelines). A high level of buzz combined with many pipelines creates a lively cluster that aids in overcoming issues of oversaturation in geographical proximity (Bathelt et al., 2004).

While the notion of embeddedness was present in previous cluster theory; here embeddedness becomes a crucial element to understand how people and firms create interlinking webs of relationships that bridges social and economic factors (Uzzi, 1997). Embeddedness is a complex subject with multiple interpretations (Krippner and Alvarez, 2007), to understand buzz and pipelines, embeddedness is explained by actions of local actors leading to institutional thickness and the development of transnational, and trans local, networks and personal relationships (Hess, 2004:166, 176).

The social context of embeddedness relates to corresponding ties between known people, friends, kin or colleagues – often known as strong ties (Granovetter, 1973). These are established through shared experiences and collaborations which build trust

and reputation. Epistemic communities and communities of practice are often found in clusters and networks which show a prevalence of these strong ties (Brown and Duguid, 2001, Gittelman, 2007). Structural embeddedness meanwhile relies on a shared common background and/or culture whilst being acquaintances or strangers – also known as weak ties (Granovetter, 1973). These weak ties aid in collecting high quality information and provides a 'social check' upon those who are similar, yet unknown through reputational lock-in (Balland et al., 2016). In clusters, this aids in explaining how competing firms can share informal advice through trust-based processes which are unregulated by formal contracts (Von Hippel, 1989, Harhoff et al., 2003).

The concept of buzz stems from Marshall's (1890 [2013]) 'in the air'/industrial atmosphere and has also been described as 'noise' (Grabher, 2002a), 'local broadcasting' (Owen-Smith and Powell, 2004) and 'local buzz' (Storper and Venables, 2004). Buzz relies on the notion that many things are simultaneously occurring through space; creating an information and communication ecology (Bathelt et al., 2004). This is created through co-location of people and firms in similar industries, continuous face-to-face contact, shared technological traditions and shared cultural traditions, habits and relationships (Bathelt et al., 2004). In essence, the merger of weak and strong social ties which foster both planned and unplanned meetings.

The role of local buzz varies within industries. Cultural sectors, like fashion, may require more buzz than technology for example, because the former is reliant on a multitude of networks which connects fashion cities, events, designers, suppliers and retailers. In addition to the 'feel' of a city being information and inspiration in its own right (cf. Jansson and Power, 2010, Williams and Currid-Halkett, 2011, Capone and Lazzeretti, 2016, Crewe, 2017). While the latter tends to rely on epistemic communities with buzz playing a limited role or replaced through relational ties (Bathelt and Turi, 2011). Therefore, this presents an interesting case for this dissertation as the video game industry straddles both culture/creative and technology.

With buzz, there is a sense that knowledge and learning is almost effortless. There is little to no investment from the actor, and 'being there' is enough to absorb the benefits (Gertler, 2003). Reflecting a similar sentiment to Marshall (1890 [2013]) when he suggested how knowledge was atmospheric and held in the cluster. However, it is unwise to think of buzz as being able to convey all sorts of information to all cluster members (Breschi and Lissoni, 2001). Just as a person can rarely enter an office that they are not affiliated with; just by being situated within a space does not mean they automatically gain access to flows of knowledge. While it can be suggested that they will have a higher level of potential knowledge capture, it does not mean they are guaranteed it, nor have the comprehension to understand the information once they have it.

Multiple studies have also suggested that 'being there' is not enough rational for knowledge creation (Jones, 2007, Gertler, 2008, Müller and Stewart, 2016, Grabher et al., 2018). Grabher et al. (2018) spoke of copresence meaning 'being aware' – built upon social constructions of being present and absent. The knowledge is still accessible yet is not reliant on geographical proximity. This is particularly relevant when thinking about those who purposely distance themselves from major clusters or cities (Harvey et al., 2012, Grabher and Ibert, 2014, Grabher, 2018).

Leading on from buzz is the complimentary process of 'pipelines'. Pipelines are extra-local linkages embedded not only in the local environment, but also through social networks which are not defined regionally, or by any other spatial level (Bathelt et al., 2004). It challenges the traditional cluster concept through actors sustaining communication channels to hot spots of knowledge (Maskell et al., 2006) and aids in overcoming issues of over embeddedness (Uzzi, 1997). Examples of this include the Hollywood film industry (Scott, 2002, Scott, 2018), Silicon Valley (Saxenian, 1994, Stephens et al., 2019) and also smaller, more periphery clusters such as the Manchester film and TV industry (Johns, 2010). There are arguments that it is these global pipelines which foster spontaneous and unregulated knowledge creation, rather than buzz (Moodysson, 2008, Morrison et al., 2013, Fitjar and Huber, 2014). As networks become embedded in globe-spanning knowledge communities which are only accessible to those who possess the 'correct' professional requirements. Therefore the

is an element of swift trust to the pipeline concept (cf. Meyerson et al., 1996, Robert et al., 2009).

Nevertheless, investment into these pipelines requires effort and can be costly as often pipelines rely upon the construction of formalised processes and networks. Organisational proximity is important to enable a flow of information that can be understood through a mobilisation of mostly weak ties and reputation (Granovetter, 1973, Bathelt et al., 2004). Temporary clusters, such as conventions and trade fairs are important for the development and maintenance of these pipelines as they can establish connections with potential partners which can be utilised at a later date (Bathelt et al., 2004, Schuldt and Bathelt, 2011). I will now discuss the adaptions and critiques of buzz and pipelines – starting with the aforementioned temporary clusters, flowed by virtual buzz and city clusters. The section concludes by considering the role of community and a final critique to the cluster concept.

2.3.2.1 Temporary clusters

Temporary clusters are one of the most common adaptions of the buzz and pipeline concept. Temporary clusters include spatial forms where people momentarily co-locate away from permanent bases, creating 'global buzz' (Bathelt and Schuldt, 2010). Global buzz is the equivalent of local buzz explore previously and relates to the simultaneous coming together of global co-presence, face to face interaction, intersecting communities and overlapping relationships (Maskell et al., 2004, Schuldt and Bathelt, 2011). Temporary clusters include trade fairs (Bathelt and Schuldt, 2008a, Power and Jansson, 2008, Bathelt and Schuldt, 2010, Ramírez-Pasillas, 2010, Rinallo et al., 2017, Zhu et al., 2020), conferences and conventions (Maskell et al., 2004, Rinallo and Golfetto, 2011, Henn and Bathelt, 2015, Woo et al., 2020) and context specific professional gatherings – including training sessions (Klein, 2011), festivals (Comunian, 2016) and, in regard to this thesis, game jams (Preston et al., 2012, Borg et al., 2019).

These temporary clusters vary widely and alters the perception of global buzz and local buzz. In addition, these temporary spaces of global buzz interrelate with the permanent local buzz, particularly within city environments. Rantisi (2002) explored

this with fashion in New York City, with seasonal fashion shows providing an important fixture to both the local and global fashion business. Despite organizational and management studies extensively studying trade fairs (see Sarmento and Simões (2018) for a comprehensive review) – these are primarily focused upon the performance of individual firms with a one-way transfer of information to the buyers. Economic geography alternatively, has argued that information is a multi-flowing entity within temporary clusters – particularly when distinct communities come together (Schuldt and Bathelt, 2011). This is particularly beneficial to cut across boundaries of corporate culture or to provide a space for actors to come together if they tend to be dispersed (Comunian, 2016).

Temporary clustering can also be considered through considering co-working – whereby temporary geographical proximity is utilised so that co-workers can 'tap into' buzz and be both 'there' (picking up on local tacit knowledge) and 'aware' (able to connect with global flows of knowledge) (Grabher et al., 2018). Co-working spaces relies on an element of imagination which stems from a perceived buzz of a location – it is not about competing with situated offices or providing a nicer environment than working from home. It is about providing a "focal point for finding people, ideas and other resources when you lack the information necessary for co-ordination" (Waters-Lynch and Potts, 2017: 417). In essence, the creation of a miniature hotspot to cut through the noise within larger clusters and urban structures. Managing not only knowledge sharing, but also professional identities through the construction of specific places (Sanson, 2015). Growe (2019) presents a similar argument which critiques the reliance of temporary cluster studies on large scale events. She suggests in addition to 'meet and mingle' – temporary clustering as seen previously, there is also 'move and manage', where people come together for a specific objective in a space that is not normally used for that purpose. For example, a business meeting in a coffee shop or project workers utilising a co-working space to create a temporary office (cf. Grabher, 2004b). Whilst virtual communication can avoid regional lock-in, Growe (2019) argues that it is generally inefficient and tends to be used as a facilitator of 'move and mingle', rather than a substitute.

Yet, there is an alternative argument which suggests that geographical proximity, particularly via temporary clusters, is a weak explanation for learning and creativity

gains (Grabher and Ibert, 2014, Müller and Stewart, 2016, Gong and Xin, 2019, Wijngaarden et al., 2020). The clashing of related individuals and/or firms can result in interpersonal frictions, a mismatching of cultures and potential rivalry (Wijngaarden et al., 2020). However, these critiques focus upon knowledge as something that circles back into the production of a service or product; rather than knowledge used for individual growth, community references and identity construction.

2.3.2.2 Virtual buzz

Virtual buzz is the usage of communication technology to collaborate online, which in turn integrates into local and global buzz (Asheim et al., 2007). The virtual buzz enables work communities to discuss problems – as explored by Trippl et al. (2009) who highlighted that the Viennese software sector used the internet to connect with other software developers who were dispersed globally. Similarly, Grabher and Ibert (2014) reported how photographers congregated around interest-led forums, with their distance proving to be beneficial in regard to honing their craft.

Tapping into virtual buzz is also important for workers without permanent firm connections - Watson and Beaverstock (2016) found that freelance transnational musicians sought to nourish their non-geographic proximate relations in the hope of future work. These relations were renewed and reproduced via project networks and bridged through virtual connections and travel. The participants suggested that virtual connectiveness had a larger influence on planning future meetings and building a trusting relationship. Rather than diminishing the need to meet in person, the use of communication technology is suggested to encourage future mobility and geographical proximity. Aligning well with findings previously discussed from Growe (2019).

In a similar vein, there is an occupational level of connection through virtual buzz. Jones et al. (2010) explained how blogs enable buzz to be transmitted electronically. In their study, theatre workers from mid-sized American cities were monitored as they read New York (NYC) theatre blogs. With NYC suggested to be the ‘hub’ of American theatrical arts, Jones et al. (2010) concluded that blogs acted as a ‘window’

or an access path to the buzz for those in the profession but located outside of NYC. Suggesting how, "anyone involved in a particular community receive information from multiple sources in both real and virtual worlds" (Jones et al., 2010: 103). Unlike emails or direct messages, which are only for those with established connections, blogs were open windows, and an archive source, to the buzz for anyone who was interested and had internet access.

There appears to be agreement amongst scholars that virtual buzz is not a replacement for buzz fostered through face-to-face interaction – however virtual buzz does run parallel to social relationships and knowledge production 'on the ground' and is argued to become more prevalent in the upcoming years due to environmental issues of travel and general costs (Bathelt and Schuldt, 2008b, Bathelt and Schuldt, 2010, Jones et al., 2010, Growe, 2019).

One of the key criticisms of virtual buzz is that it does not possess the opportunity for real-time feedback to judge knowledge validity (Bathelt and Schuldt, 2010). Even through blogs, communication is asynchronous, nevertheless they remain useful for holding a digital record of the context where knowledge originated from (Jones et al., 2010). Despite being highly cited for discussions on buzz, these two studies are dated compared to contemporary usage of the internet. Communication programmes such as *Slack*, *Zoom* and *WhatsApp* provide that immediate response which Bathelt et al. (2004) perceive is vital for buzz[7]. Social media platforms can be either synchronous or asynchronous and are becoming increasingly important for the nurturing professional careers, identity and networks (cf. Arribas-Bel et al., 2016, Bossio and Sacco, 2017).

In relation to social media, Rebmann et al. (2019) conducted an interesting study to expand knowledge on buzz via big data analysis on UK tweets from 2014. In an effort to capture a Marshallian style 'industrial atmosphere' of a cluster. They concluded that higher levels of online discussion around topics of innovation assisted in providing a set of informal resources for entrepreneurs. Therefore, they reject the more pessimistic

[7] A perspective which remains – see his co-authored paper – Zhu et al. (2020): *Are trade fairs relevant for local innovation knowledge networks? Evidence from Shanghai equipment manufacturing*

view of Bathelt and Schuldt (2010); as Rebmann et al. (2019) argue that online activity provides an important, and sometimes novel, source of knowledge which supplements 'on the ground' action. A similar argument to Jones et al. (2010) where blogs provided a style of digital archives. This becomes more alike when considering Twitter, as the platform is a 'micro-blogging' website (Murthy, 2018) and seems to share similarities with regular blogging for buzz creation.

d'Ovidio and Gandini (2019) similarly studied virtual buzz which included various social media platforms, except they used qualitative semi-structured interviews to study creative professionals in Milan and their related networks. They found that "knowledge-creative professionals are embedded in a wider 'space' of relations where exchanges mediated via ICT productively intertwine with f2f interactions to determine new ways of searching for jobs and practicing work" (*ibid*: 51). Digital technology therefore provided not only a complimentary role, but also a becomes a novel knowledge source – backing up findings from Rebmann et al. (2019). One specific finding from the study, was that workers were more likely to be involved in entertaining, often non-work, activities irrespective of co-location.

As this section has shown, because of the way the internet has developed, virtual buzz has developed alongside it and like other forms of buzz, virtual buzz adapts to the context it is part of. Those who can master new and upcoming technology therefore holds the advantage to tapping into global and virtual buzz (Bathelt and Turi, 2011). The final adaption section will now consider city clusters and potential urban bias.

2.3.2.3 City clusters

The city is arguably one of the most popular locales for studying clusters and networks, particularly for cultural/creative industries (Sassen, 2001, Mommaas, 2004, Florida, 2005, Amin and Thrift, 2007, Glückler, 2007b, Hidalgo and Hausmann, 2009, Cohendet et al., 2010, Landry, 2012, Cottineau et al., 2019). As seen previously, urban environments tend to be the backdrop for multi-scalar interactions across clusters and networks. Birthing spatial structures such as 'the global city' or 'tech hub' – which are used by scholars to understand innovation, knowledge and connectiveness. It is a vast academic subject which crosses many disciplines, therefore I do not aim for

comprehensiveness, instead I will focus on two areas that intersect with discussions seen previously. The work of Richard Florida and work stemming from Patrick Cohendet's city anatomy concept.

Florida (2005, 2014) suggests that certain places attract a specific subset of people – the creative class who identify themselves through their professions (Florida, 2014). The creative class choose to be mobile, moving to attain an image of a lifestyle rather than to integrate into a labour pool, favouring cities due to ability for the urban environment to mix universities, multiple related sectors and start-ups with outdoor spaces and a vibrant social scene, developing the three T's of technology, tolerance and talent which is argued to be the foundation of any creative city (Hospers and Van Dalm, 2005, Florida et al., 2011). Territories then become competitive by fostering desirable amenities which in turn bring the creatives, knowledge and jobs. Buzz, as understood by Florida, is held by the built environment and the relationship between a city environment and people. The buzz, which Florida (2005) explains as 'climate', should strive to be always active and authentic. Knowledge is not always work related but can stem from identifying as a 'creative' and flow as much through enjoying social life and interests.

Nevertheless, in recent years Florida's concepts have come under scrutiny. Firstly, the 'lived side' of work such as housing, precarious work and family is underdeveloped. As McRobbie (2016a: 48) suggests "where people go to live and work is a great deal more complicated than the allure of certain city environments". Secondly, the concept of a creative class is too broad with no concept of group identity (Markusen, 2006). Creatives are split into the 'super creative core' which includes actors, entertainers, novelists and artists for example and the 'creative professionals', which includes knowledge-intensive roles legal professionals, health care workers and financial and business management (Florida, 2014). A vast swathe of non-creative workers who support these creatives are absent from Florida's categorisations.

A related approach is that of the anatomy of a creative city (Cohendet et al., 2010, Grandadam et al., 2013). The creative city is frequently conceptualised in terms of three layers – the underground which based upon the exploration of work through individuals outside of formal organisations; the upperground that relates to traditional cluster analysis with the production and use of externalities through firms and

institutions. The middleground between these two layers has been suggested to be the "essence of a creative city" (Cohendet et al., 2010: 92) - built around communities and events. Agents rarely compete with each other, instead they voluntarily co-operate and share knowledge (Grandadam et al., 2013) with the middleground acting as a 'cognitive platform' and source of buzz-like tendencies (Cohendet et al., 2010).

Although Grandadam et al. (2013) suggests the presence of a major commercial entity is needed to support a middleground, for example Ubisoft and the video game industry in Montreal. Lange and Schüßler (2018) argue that it is possible that a prosperous middleground can be supported from the bottom-up by the actions of individual actors with the city acting as a docking location. Such an analogy invokes the potential for the middleground to inhabit digital or virtual elements – elements that were missing from Florida. However, Cohendet et al. (2010), Grandadam et al. (2013) and Cohendet et al. (2018) remain certain that face to face connection via geographical proximity is important to support communities in the middleground as they benefit from their local environment. Reflecting previous discussions about local buzz and the ability to meet and mingle.

Nevertheless, other studies have actively tried to bring in digital elements to the discussion of a middleground. Granger and Hamilton (2010) suggests that blogs act as a 'glue' for ideas that occur online and action that takes place offline, echoing Jones et al. (2010) study of New York City theatre blogs. The social interaction not only has a physical presence, the doing, but the knowledge and learning has a simultaneous digital presence. Lange and Schüßler (2018) argues that an active middleground is increasingly becoming virtual through active organisation of community efforts which has digital roots.

Whilst cities are key buzz locales, there is undoubtably an urban, and particularly city, bias to the concept. Multiple scholars have discouraged fetishising cities as ultimate co-location space for innovation and creativity (Harvey et al., 2012, Scott, 2014, Gibson, 2016, Gong and Xin, 2019). 'Rural buzz', for example was found to be as useful for the co-locating of a specific interest (Thomas, 2016); while periphery locations away from cities have been strategically used to nourish creativity (Grabher, 2018). Similarly, the popularity for studying cities could be a wider effect of 'proximity bias' whereby the local buzz is perceived as a 'better quality' of knowledge

distribution (Hautala and Ibert, 2018). When multiple studies have shown that local actions do not necessarily lead to innovation nor creativity (Grabher, 2004b, Vallance, 2014, Rutten, 2017, Gong and Xin, 2019).

Throughout section 2.2.3, I have touched upon the role of a community to develop and maintain buzz and pipelines. I now move to the final sub-section which explores communities in relation to a multi-scalar approach and conclude with a few critiques on the buzz literature as a whole.

2.3.2.4 Communities

Recently, scholars have recognised how discussions about knowledge need to move from clusters to processes (Ibert et al., 2015). Using a community approach, they argue is one of a few potential ways to view relational social actions through time and space[8]. However, a community is not simply a social structure found within a cluster, as Marshall (1890 [2013]) saw and later cluster and NIDs literature adopted. Instead, a community is seen as a cognitive-socio-cultural entity which moves knowledge through their networks and is built upon a constructionist understanding of knowledge (Gong and Xin, 2019). Therefore, "communities should not be considered as basic *loci* that hold specific pieces of knowledge, but as active entities of *knowing* that make specific forms of knowledge through their daily practices." (Amin and Cohendet, 2004: 113 original emphasis).

As with the discussion on communities in section 2.2, the language referring to communities here is similarly muddled with multiple interpretations. Including the adoption of communities of practice theory (Bathelt et al., 2004, Schuldt and Bathelt, 2011, Rantisi, 2014, Comunian, 2016, Thomas, 2016, Wijngaarden et al., 2020) and epistemic communities (Grabher, 2004b, Cohendet et al., 2010, Bathelt and Turi, 2011). In addition to developing concepts of knowledge communities (Henry and Pinch, 2000, Giuliani and Bell, 2005, Giuliani, 2007, Moodysson, 2008); knowing communities (Henn and Bathelt, 2015) and focused communities (Schuldt and Bathelt, 2011).

[8] Other suggested alternatives include biographies of people or firms, paths from idea to outcome, and the formation/transformation of social entities, institutions or conventions (Ibert et al., 2015: 324).

Despite the variety in community terminology, there is a tendency to reflect elements of a community of practice approach; albeit an approach which develops practice as spatial. Joint mutual engagement and sustained relationships – whether physical, digital, permanent or temporary - flows throughout the buzz literature (Bathelt et al., 2004, Cohendet et al., 2010, Rantisi, 2014, Comunian, 2016, Wijngaarden et al., 2020). Likewise, a community shares common norms and expertise (Henry and Pinch, 2000, Moodysson, 2008, Schuldt and Bathelt, 2011, Henn and Bathelt, 2015). The presence of a buzz allows conversations to continue as a process through space and time (Giuliani, 2007, Jones et al., 2010, Cohendet et al., 2018) with members creating mutual defining identities (Moodysson, 2008, Jones et al., 2010, Thomas, 2016, Wijngaarden et al., 2020). Local lore and in-jokes are not always situated within a specific location (although geographical proximity can make these more potent) but depend upon the ability of buzz and related pipelines to transfer this tacit knowledge (Bathelt and Schuldt, 2008b, Jones et al., 2010, Grandadam et al., 2013, Cohendet et al., 2018, Growe, 2019).

Occupational community and the work of Van Maanen and Barley (1984) are not featured in the buzz-cluster literature; although Orr (1996) is sometimes included in a wider community of practice approach. The closest conceptualisation to an occupational community is the 'focused community' (Bathelt and Schuldt, 2010: 1965). Focused community members tend to be from different expertise; yet share a common interest and are more likely to gather around "impressions, perceptions and expectations" (*ibid*: 1966). Therefore, uncertainty and complexity are reduced through increases in cognitive and relational proximity. There is a comparable ideological link to the imagined element of a community, where a community is more than a sum of its practices, in which occupational community theory captures.

Similarly, the 'focused community' also captures the 'common interest of a heterogenous group' rather than 'shared joint venture' aspect – which can lead to further discussions of social identity, reference group, social relations and boundaries and nestedness within and beyond an occupation (cf. Van Maanen and Barley, 1984, Sandiford and Seymour, 2007, Weststar, 2015). As with the occupational community theorists, Bathelt and Schuldt (2010) suggests that focused communities become more

defined through time and with repeated face-to-face interaction. They also bring forth the idea of the 'coopetitors', where there is a sense of solidarity and an atmosphere of sharing of information which goes beyond firm fidelities (Henn and Bathelt, 2015: 111). However, it differs through a continued reliance on geographical proximity, whereas with occupational community geographical proximity is preferred, but not always necessary.

Nevertheless, an alternative view suggests that the role of buzz is overstated (Gong and Xin, 2019). Despite the variety in approaches to buzz, as seen in this section, there is a common ideology that being immersed in dense pools of information, knowledge transfer and spillover effects are crucial for firm and community survival. However, studies are now showing that stepping away from these buzzy spaces can be beneficial and do not impact the creative process nor identity perception of a creative worker (Hautala and Ibert, 2018, Gong and Xin, 2019).

2.3.3 Summary

The purpose of this section was to summarise how a concept of clusters has been used to explore the spatialities of communities and their related workers. It is a vast, interdisciplinary topic with different approaches that vary by discipline. In this section, I provided a broad overview of clusters in organisational studies and economic geography. Starting with Marshall (1890 [2013]) which then moved on to NIDs and Porterian approaches. In these examples, communities were viewed to be situated into geographical locales and were a product of the cluster. Later approaches which integrated learnings from the broader geographies of networks, viewed communities as in flux. They certainly gravitated towards the 'buzz' of a location, however actors actively created pipelines to other clusters and regions. Tacit knowledge was argued to no longer be stuck in a cluster and moved through these established networks. Digital technology assisted with sharing tacit knowledge and building connections; however, a general consensus from this literature is that digital social processes are a subordinate method to meeting face-to-face. Hence, temporary clusters such as trade fairs are argued to be preferable to encouraging virtual buzz.

The following section presents empirical occupational community and cluster studies of video game development.

2.4 Cultural industries and video game development

The final section of the literature review is to summarise work conducted under the guidance of occupational community and cluster theory for video game development. I will first situate this study as part of wider cultural industry studies and introduce video games and the concept of a video game developer. Before summarising key studies for video game developers in occupational community (2.4.1) and clusters (2.4.2).

2.4.1 Cultural and creative industries

The link between economic action and culture can be attributed to Horkheimer and Adorno (2002 [1973]) who introduced the idea of a 'cultural industry' through the commodification of art for a mass culture. As an example, theatrical arts became profit-led projects for a cinema audience and contemporary fashion trends started to be more accessible through mass produced patterns. Through these measures, culture and arts became more accessible to the general populace. Leading to the idea of mass culture, which was often seen as inferior to high culture (Hesmondhalgh, 2019).

Creative industries, and the creative economy, conceptionally began much later than cultural industry theory, and has ties to UK governmental policies in the mid-late 1990s. Guided by Florida's (2002) creative class theory and Howkin's (2013) writings on managing of creative economies, policies explored how a burgeoning knowledge economy in the UK could be encouraged to be more creative and innovative. Developing British cultural products as a method of soft power on a competitive global stage, in addition to providing new employment opportunities and using creative industries to regenerate post-industrial landscapes (Mommaas, 2004, De Propris, 2013).

Creativity here runs parallel with wider studies on utilising a knowledge economy for regional and national competitiveness (Flew, 2011, Hesmondhalgh, 2019). Although many scholars argue that the concept of creative industries and creative economy is too broad by including leisure, business and technology under the umbrella of 'being creative'. Tied to policy development, rather than an evaluation on creative capacities

of individuals, communities and firms (see Osborne, 2003, Mommaas, 2004, Hesmondhalgh and Baker, 2013, McRobbie, 2016a).

This dissertation uses the term 'cultural industries' (and therefore also cultural economy and cultural labour) taking learnings from McRobbie (2016a) where she argued that using the term cultural, rather than creative, aids in distinguishing between pragmatic policy ideals in comparison to the everyday lives of creatives. This is an idea which Lash and Urry (1994) similarly proposed with the suggestion that by using the concept of 'culture', increased focus can be placed on the role of creatives in relation to a culture, rather than a creatives' role in the production of a consumable. De Propris (2013: 113) likewise suggested that cultural industries reflect the "uniqueness of a place, of a time or of a society". Nevertheless, as Hesmondhalgh and Baker (2010) argue, the word 'creativity' nor the work on creative industries should be abandoned, as no other word can quite describe the sheer fruition of something that relies on intangible, sometimes fleeting, ideas. Howkins (2013: 4) explains creativity as the sense of giving new meaning to something, to make something new and it does not matter if this process leads to anywhere or not.

2.4.2 Video game developers

A video game is an interactive experience that is produced through the combination of programmed software and dedicated hardware; responding to user input as a method to progress the game. It is a cultural product which "is a complex mix of technology, art and interactive storytelling" (Cohendet and Simon, 2007: 587) with people who contribute to their creation known generally as 'video game developers'. Key actors in the production of video games include "developers (amateur/professional), publishers, distributors, service companies, retailers, and players" (Kerr, 2011: 3). Development tends to be split between the *publisher* – the studio which controls finance, marketing and business development; and the *developer* – the studio or team which contributes game making elements. Although, these developmental lines can be blurred through self or crowd-funding, indie development, solo ventures and the presence of a marketing and community management within a developer team (Keogh, 2019b). This dissertation focuses on the developer side of video game creation. Nevertheless, the term 'video game developer', and who is included, remains contested both within academia and industry (Keogh, 2019c).

A common academic approach is to view all actors involved within game design as a developer, including those in artistic, technical and production[9] roles (Kerr, 2006, Deuze et al., 2007, Cohendet and Simon, 2007, O'Donnell, 2014, Vallance, 2014, Kerr and Kelleher, 2015). Some studies specify only those working on technical, often programming, as developers (Jisun, 2010, Parmentier and Picq, 2016); while others adopt a broader approach by including consumers as potential co-developers (Arakji and Lang, 2007, Burger-Helmchen and Cohendet, 2011). This dissertation frames the developer as all of those in artistic, technical and production roles.

Developers' are identified within the industry primarily through their job role which, at least in larger studios, tend to follow a hieratical structure (Kerr, 2011). For example, assistant programmer – programmer – senior programmer or art assistant – artist – senior artist – creative director. Although, progression tends to rely on the developer moving studios, sometimes horizontally into companion roles, rather than moving vertically within the organisation (O'Donnell, 2014). These roles also have no clear industry consensus with specific tasks and responsibilities varying from studio to studio. The fragmentation in studio structure, from the multi-national and large budgeted AAA, to the modestly funded indie and even smaller DIY/hobbyist likewise blurs job roles (Keogh, 2015)[10]. In smaller studios, a developer may be taking on multiple job roles and simply using an overarching role title of an 'indie' developer; while in larger studios roles are more focused – producing jobs such as weapon designer and community manager (Lipkin, 2013).

In the UK, the video game industry is a relatively male-led, white and youthful workforce (UKIE, 2021)[11] and shares multiple characteristics with other cultural industries. Working hours can be long and unpredictable – resulting in 'crunchtime', pay can be poor for newcomers to the industry, boundaries between work and leisure are blurred, worker mobility is expected, and reskilling is common to remain in the industry (Kerr, 2011, Peticca-Harris et al., 2015, Banks and Cunningham, 2016). While professionalization and calls for unionisation are increasing; industry-wide

[9] The production team manages relationships between developers on a project and between developers and publishers - akin to project managers.
[10] Definitions of studio structures can be found in the glossary
[11] 70 percent of developers are male, 90 percent are white, and 67 percent are 35 and under (UKIE, 2021)

practices are still relatively non-standardised and employment remains precarious for many (Peticca-Harris et al., 2015, Ruffino and Woodcock, 2020, Whitson, 2020).

2.4.3 Occupational community and video game development

This section will consider occupational community studies relating to video game development. I will first introduce how video game development have been explained through a community lens, before investigating key occupational community studies, and finally extracting three discussions points from the literature that is relevant to this thesis.

There has been a long history of creatives being socially structured into some form of a community (Eisenberg, 1991). Bonding together to form guilds, standards of practice and mutual leisure time around those who shared a similar trade (Eisenberg, 1991, Sharpe, 2010). The concept of an occupational community fits well when discussing cultural labour due to a reputation of the work being unstable and volatile (Hesmondhalgh and Baker, 2013, McRobbie, 2016a) with boundaryless or conflicted boundary traits (Casper and Storz, 2017) often consisting of extreme work practices (Weststar, 2015) and underpinned by a system of project-based and freelance work (Grabher, 2002b, Grabher, 2004a, Lingo and Tepper, 2013, Peticca-Harris et al., 2015, Schwartz, 2018).

Video game developers can be perceived to be a collection of individuals (Dubois and Weststar, 2021) who are more likely to build a sense of identity and belonging with an occupation than an organisation (Marks and Scholarios, 2007). Often, this leads scholars to studying video game developers as a ‘community’. Including adopting community of practice theory (Vallance, 2014); developing a concept of ‘community of specialists’ (Cohendet and Simon, 2007, Grandadam et al., 2013) and ‘community of production’ (Guevara-Villalobos, 2011, Crogan, 2018).

However, Kerr (2011) suggests that a video game developer community is fragmented, due to each section of development having “their own occupational knowledge communities [with a] rather weak professional representation for them as

‘game developers’” (Kerr, 2011: 14). This debate is picked up later, using occupational community theory, through Weststar’s (2015) conceptualisation of ‘nestedness’. In addition, Lysova and Khapova (2019) suggests that, in the case of Dutch studio founders, they had only a slight connection to an occupational identity. Rather they attained personal achievement through acting on their individual creative calling.

Studies involving video game development and occupational community are slim, although it is positive that the three that do (Weststar, 2015, Schwartz, 2018, Dubois and Weststar, 2021) are recent and have been used to support further studies including the development of axillary video game creators such as *Twitch* streamers (Johnson and Woodcock, 2019, Švelch and Švelch, 2020); discussion on the mobility of game labour (Lysova and Khapova, 2019, Pottie-Sherman and Lynch, 2019) and feeding into discussions about the generalised gig economy and the bonding of workers (Ashford et al., 2018, Chan, 2019, Wood et al., 2019).

Table 2.1 below reviews video game developer occupational community studies:

Table 2.1: Video Game Development in occupational community studies

Study	Location	Key Points
Weststar (2015)	US	• Foundational work to question if video game development could be considered an OC. Weststar (2015) suggests they are and generally understudied at an occupational level. • The OC simultaneously validates extreme work practices such as crunch-time and poor working conditions and fights against them – particularly online. • Industry events are key for socialisation – especially for freelancers and those new to the industry. • Tendency for extreme blurring of work/life through a shared interesting of playing games not just making them. An identity that often has origins in childhood. • Evidence that the community is multi-faceted – split via job roles and hierarchy of development styles – however this is beyond the aim of the study. Weststar (2015) encourages us to see VGDs as "nested collectives" (*ibid*: 1249). • Purposeful 'othering' from both other art-based occupations and technology-based occupations. • VGD have a lesser sense of organisational identity and relate more to an industry community. • **Method: Secondary online material (blogs and forums).**
Schwartz (2018)	Global	• The OC is used to overcome issues that comes from being a freelancer– general lack of communication with a firm, sporadic compensation for work and unclear career trajectory. • Encourages a move away from geographical and organizational proximity by showing how online platforms provide a space for socialisation. • Secured employment is the standard of success in the OC – therefore firms are still important to the OC existing but hold very little control over the OC members. • Emphasises that online spaces are a productive alternative meeting place for the OC. • Does not discuss OC perception through different role diversity, gender, or geographic location. • **Method: Virtual ethnography and semi structured interviews.**
Dubois and Weststar (2021)	US	• Argues that the rise of 'games as a service' (GaaS) rather than the more traditional 'games as a product' (GaaP) is disrupting the identity of a video game developer. Showing that identity is not stable and moves as the context or field changes (Bourdieu, 1969). What is also consider 'core' development also changes with the rise in importance of community managers and network specialists. • What it means to be a 'good' developer changes when the way in which a game is made changes. In GaaP not shipping a game negatively impacts reputation among the occupation. As GaaS is continual, the workers involved are actively responsible to carve their own path and reference group. • GaaS structures are more reliant on organisational (studio) settings than occupational. • The boundary between consumer and developer is more porous as the developers need to engage with players rather than seeing them as the 'other' whose main role is post-production. Consumers actively play a co-creation role. • **Method: Case study with semi-structured interviews.**

The table above leads to three key discussion points relevant to this study:

Firstly, the role of additional stakeholders – in this study the additional stakeholder is the video game consumer. The consumers in the studies presented above are generally shown in a positive light – they aid in validating work and replaces a feedback loop when the firm is absent (Schwartz, 2018). However, as seen in section 2.2 relationships between an occupational community and consumers/customers can be problematic. Including disrupting work and challenging occupational knowledge (Salaman, 1974, Orr, 1996) and potentially creating threatening environments (Sandiford and Seymour, 2007).

Secondly, there is an overall sense that the community provides a support structure in absence of a related firm or as an alternative to the firm (Weststar, 2015, Schwartz, 2018). We can relate this to the wider theory of 'communities of coping' (Korczynski, 2003, Sandiford and Seymour, 2007, Stroebaek, 2013). Which reproduce informal, social and evolving methods of coping at work away from management. However – as described in the table above, in video game development there are multiple 'nested collectives' (Weststar, 2015, Dubois and Weststar, 2021); therefore those collectives may stick within their own subgroup to find support rather than the overall occupational community.

Thirdly, is the use of digital technology. Schwartz (2018) in particular emphasises this point suggesting that online platforms act as potential meeting grounds for occupational communities. Yet, his work was based upon freelancers and potentially contractors or employees may view a video game developer community differently. There is a distinctive gap between Schwartz (2018) and Weststar (2015), with an acknowledgement of both online platforms and industry events as important socialisation spaces – however neither suggests that these spaces blur or are compilatory of each other. Golan and Babis (2019) produced an interesting study about Facebook and the development of a migrant care worker occupational community. They suggested that the platform fostered a sense of power for those involved who were often marginalised. In addition to providing a space where grassroot movements and education could be fostered.

While video game development is certainly not as marginalised in the same manner as migrant care work – it inhabits a sense of 'otherness' to those who lie outside of it. Reinforced by notions of romanticism that is rarely seen once an individual is part of the community (Bulut, 2015). Platforms such as Twitter, a commonly used online space by developers (Komorowski et al., 2018), provide a window for consumers and voyeurs to view publicly available conversations. It also provides a space for individuals to become 'stars' and spokespeople in niche areas of interest (Murthy, 2018).

2.4.4 Clusters and video game development

In the second contextual section, the aim is to narrow down the cluster literature to those that focus on the video game industry and its workers. As Darchen (2016) suggested, video game development is influenced by agglomeration effects, however it does not always adhere to traditional formations – particularly in the UK (De Vaan et al., 2013). A cultural cluster is the agglomeration of various cultural and creative institutions, creative individuals and spaces which allow related firms, networks and creatives to flourish - both as creators and consumers of cultural products (Lazzeretti et al., 2013).

The video game industry, and its relation to clusters and networks, is among one of the most popular cultural subjects to study across the social sciences. Including economic geography (Izushi and Aoyama, 2006, Johns, 2006, De Vaan et al., 2013, Pilon and Tremblay, 2013, Darchen and Tremblay, 2015, Darchen, 2016, Cohendet et al., 2018, Pottie-Sherman and Lynch, 2019) and organisation/management studies (Tschang, 2007, Venkatraman and Lee, 2004, Cadin and Guérin, 2006, Storz, 2008, Cabras et al., 2017). Although both disciplines often cite each other, with few conceptual differences between the two bodies of work. Some are also purposefully interdisciplinary (see Aoyama and Izushi, 2003, Cohendet and Simon, 2007, Vallance, 2014, Storz et al., 2015, Cohendet et al., 2020).

Research has shown that the video game industry is "an ecosystem that is at once broadly global and intensively localised" (Keogh, 2019b: 14). Traditionally, development was centred within Japan, US and UK (Izushi and Aoyama, 2006) with

European countries challenging the triad since the late 1990s (Pérez Latorre, 2013). Development is increasingly becoming transnational, with the industry effectively controlled by a small number of multinational publishers and linked development studios (Johns, 2006) – often within the US and Japan. Previously, this made it difficult for new, independent developers to access certain markets (Kerr, 2006). Although, the democratisation of development tools such as '*Unity'*, increased access to alternative funding via crowdfunding, the ability to self-publish through *'Steam'* and the availability of online tutorials and access to other developers through social media has started to erode traditional methods of video game development (O'Donnell, 2014, Schwartz, 2018). Nevertheless, the triad remains the core of video game development. Influencing not only what is created but also setting a global precedent on how developers believe game making should be and how they should behave as video game developers (Kerr, 2011).

In the UK, the clustering of video game developers does not appear to be typically situated around historically urban cultural centres (Vallance, 2014), unlike other cultural or media products. Instead, UK video game development is more likely to co-locate in business or technology parks or set up on metropolitan peripheries to take advantage of lower rents and studio space. As Pratt (2013) suggested, UK video game firms seem to actively distance themselves from local competitors, preferring to connect via intra-regional and global networks. Supporting recent research which suggests that 'buzzy' clusters are not always indicative of enhanced creative locales for individuals or firms (Grabher and Ibert, 2014, Grabher, 2018, Gong and Xin, 2019).

As video game cluster literature is broader than occupational community, table 2.2 below only summarises studies which include discussions about the role of individual developers and/or developer communities. Which is more relevant to the aims of this dissertation, than of generalised video game production cluster writings (for example De Vaan et al., 2013).

Table 2.2: Selected video game development studies in cluster studies

Study	Location	Key Points
Cohendet and Simon (2007)	Canada (Montreal)	• 'Communities of specialists', i.e., a grouping of game developers, often via role, are the creative units of firms. It is important for these developers to feel like they belong. This sense of belonging is both to a project (firm-led) and community (community-led/intra-firm). • Routines, norms and habits that have emerged organically from community members are more likely to be reproduced than one created for a temporary project team. • Playing video games aid as a method of bonding between the community within all roles connected to game development. • Knowledge moves through these communities via informal ties. Therefore, there needs to be suitable spaces to meet and wander. Creativity stems as much from everyday discussions between a community as they do through hierarchical firm-led creative committees. • Digital communication is insufficient to build bonds and share tacit knowledge. • **Method: Ethnography, semi-structured interviews and secondary sources. Used a micro-level (individual) analysis.**
Grandadam et al. (2013)	Canada (Montreal)	• Externalities emerge through the 'middleground' which allows the spontaneous creativity of individuals (underground) to be structured and interpretated by market forces (upperground). This middleground is where many formations of communities situate themselves. In particular, rivalry tended to be at the firm level as at the community and individual level – co-operation and mutual respect was more common. • Professional organisations, collectives, public organisations, and bars/clubs fostered relationships between Montreal developers. Connecting online is not seen as sufficient as meeting in person. • **Method: Interviewing, participant observation and secondary sources.**
Plum and Hassink (2014)	Germany (Hamburg)	• Video game developers in Hamburg primarily rely on symbolic (know who) and synthetic (know how) knowledge, rather than analytical (know why) which is found more frequently in science clusters. This makes the knowledge for developers spatially sensitive. Symbolic knowledge was found to be particularly useful in constructing aesthetic attributes of a community (here referred to as a 'community of specialists' cf Cohendet and Simon (2007)) • **Method: Quantitative analysis of structured interviews (descriptive statistics and network analysis) and secondary sources.**
Vallance (2014)	UK	• Suggests that developers are more likely to rely on community networks rather than relational network practices based in clusters and cities - Vallance (2014) suggests this is due to the UK having no dominant cluster. Location, he argues, does not have a bearing on creative work practice. • A community of gamework (here seen as community of practice) is becoming more dispersed. • Creative knowing is spatially and temporally situated within projects. • **Method: Ethnography and semi-structured interviews**
Darchen and Tremblay (2015)	Australia and Canada (Melbourne and Montreal)	• Studios in Montreal are embedded, to a greater extent, into wider cultural clusters than those in Melbourne – which are more likely to be found clustered with technological firms. • Developers in Melbourne are more likely to move into other creative or technical sectors during their career, rather than remain within the video game industry. Darchen and Tremblay (2015) argue this is due to weaker clustering tendencies found in Melbourne. • **Method: Semi-structured interviews.**

Darchen (2016)	Australia (Melbourne and Brisbane)	• Video game developers are more likely to operate at the geographical periphery of main cultural clusters. Although, those who are more experienced in the community are more mobile and are able to take advantage of moving out for cheaper rent and better living conditions. • Being able to connect with other developers via digital technology is more important than being able to connect through geographical proximity. • Suggests the term 'networked community' more adequately defines Australian developers as the developers use clusters to share tacit knowledge; however, they are not reliant on it for the survival of themselves as creatives or for their related firms. • **Method: Semi-structured interviews**
Cohendet et al. (2018)	UK, Japan, US (London, Tokyo, LA, San Francisco)	• Developers located within a cluster tend to benefit from externalities and knowledge spillover by purposefully including themselves within a city-based community (local commons). A situated community then aids in validating knowledge gathered through 'global commons' – knowledge often shared at temporary events – about norms, habits and routines. • Although analysis is at the scale of the firm, they suggest that community action has an important role in shaping wider firm practice. • **Method: Interviewing, participant observation and secondary sources.**
Pottie-Sherman and Lynch (2019)	Canada (Atlantic Islands)	• Periphery clustering provides a strategic creative space to central urban clusters. These aid in forming alternative and regional identity for the developers, their work and their related firm. • Conceptions of the local gaming habitus is consistently compared with and integrated into a global gamework habitus. • **Method: Secondary sources and semi-structured interviews.**
Baeza-González (2021)	Chile (Santiago de Chile and Viña del Mar)	• The internet and virtual platforms allow developers in periphery regions to engage in game development. Many developers here started through modding and formal education in game development is rare. The internet, therefore, is an important learning tool. • However, the content created emulates those produced by the US and Japan. The reason for this is two-fold, firstly that developers identify with the games they grew up with (which mainly came from US and Japan) and that their target market for their products is not the local Latin market. • This leads to issues with identity, as games do not appear 'Chilian' nor 'Latin American' for the most part. Instead, they appear 'Japanese inspired' for example. As the majority of the work is 'work for hire' there are few opportunities to invest in original IPs. Developers on the whole are satisfied with this as they are generally happy to just be working in the industry without moving to another country. Baeza-González (2021) suggests this may change if the Chilian industry continues to grow. • **Method: Semi-structured interviews and game play analysis**

The table above leads to three key discussion points relevant to this study:

Firstly, although cities and regions are important, particularly for drawing a professional identity, they are not necessary for video game developers. In the UK, there are no dominate clusters (Vallance, 2014, UKIE, 2021). Following guidance from the studies above, if agglomeration effects are weak then a community assists in building connections to shared norms, habits and tacit knowledge. Although, the concept of community varies throughout the literature – from community of practice focused within firm boundaries (Vallance, 2014), to a looser conceptualisation of community which includes inter and intra-firm ties (Cohendet and Simon, 2007, Grandadam et al., 2013).

Secondly, these communities are crucial to bridge distances (Darchen, 2016, Baeza-González, 2021). Especially via cognitive proximity to find creatives who conceive gamework in a similar way to themselves (Boschma, 2005). A problem occurs by considering how the industry is still controlled via a triad of countries with an extensive history of game development. Therefore, developers in the UK have a role in creating norms and habits of generalised gamework on a global stage – both the positive and negative aspects.

Thirdly, the studies above suggest digital connections are insufficient – with the exception of Darchen (2016) and Baeza-González (2021). However, it is noticeable that these two studies feature geographically distant countries which are away from the triad. Those closer, tend to suggest that temporary events are of greater use to bring together disparate developers. Also, those who critiqued online connections are older studies, when social media was in its infancy and not used as extensively.

2.5 Summary and review

The purpose of this section was to summarise occupational community and cluster empirical work of video game development. From occupational community, the studies suggests that development of a community is used to form identity and provide support in an industry that is fast-paced and continuously evolving. From clusters, a community presence is noted. However, the authors choose to focus on practices of game development, with a community knowledge base fostered for the benefit of firm-level processes rather than for the creative individual and their peers.

Yet, as Keogh (2019b) suggests, there is a wide variety of working practices within video game development. Resulting in a multitude of firm/studio structures, with the only fairly stable element being that of occupational belonging. Therefore, to understand video game development, a researcher needs to consider alternative forms of organising. In this dissertation I argue that taking an occupational community approach starts to move the discussion away from the firm and onto the occupation, which video game developers are more likely to attach meaning to (Dubois and Weststar, 2021).

A research gap emerges with the role of social media. In both occupational community and cluster literature – digital relations tend to be studied through the use of generalised computer mediated communications (CMCs) such as email and forums. With authors concluding that digital relations do not facilitate the same quality of sociality as meeting in-person. The main rational for this is that in digital relations, conversation members do not receive immediate feedback (Schuldt and Bathelt, 2011). Yet, contemporary social media is more immediate and effervescent than previous CMCs and form an integral part of many cultural worker's experience of everyday lives. By considering this research gap, it leads on to questioning the space(s) that an occupation such as video game developers create. I will now turn to the conceptual framework which advances thinking on this research gap.

Level 3: Conceptual Framework

3.1 Introduction

The aim of this chapter is to develop a conceptual framework, critical reflections and guidance for the analysis of my empirical data, drawing on previously reviewed theories and concepts, in particular those of the occupational community literature. The overarching question for this thesis is to understand how video game developers experience communality and the space(s) which emerge from this. I decided that studies on clusters and occupational community were the closest to this aim and I consequently approach this question through the theme of commonality, a condition that pertains even if they work independently to each other. The occupational community literature provided a theory to show how understandings of work contributed to individuals coming together to build a community-like structure. Clusters meanwhile showed how networks could feed into community processes – allowing dispersed individuals to connect, or indeed step away, from a community through manipulating connections and the concept of 'buzz'. Studies of buzz rely upon a concept of relational economic geography, whereby space is understood as process between actors, constellations of actors and their social actions which is contextually sensitive (Boggs and Rantisi, 2003).

The cluster literature also provided a number of empirical studies of game developers – something missing in the occupational community literature; and while the conceptual foundation of the latter was more helpful to my understanding of commonality, I found in the cluster literature empirical details which helped me understand less conceptual and more practical aspects which relate to the experience of gamework as I came to study them in my own research.

In terms of the occupational community literature, I particularly found the framework developed by Van Maanen and Barley (1984) helpful, and I will take this forward into the analysis. However, the majority of occupational community literature to focus in on the community as an isolated entity. I found through the combination of elements of occupational community with the cluster literature would allow me to consider how

a community interacts with other entities and other communities external to themselves. By including a sense of buzz - what brings certain communities together to create certain spaces - the concept of occupational community can be expanded to acknowledge and re-examine how actors create boundaries when comparing to other communities. Or how spaces of work and leisure merge or separate for example. This method also acknowledges that an occupational community may feel inhospitable or threatening to some actors; despite wanting to connect with similar creatives. Leading to potential purposeful distancing to nourish their individual creativity and rejecting norms of the community. I would like to remind the reader that this not a study of innovation and knowledge development, rather the dissertation is a study of congregation around perceptions of work and the nuances such congregations create. Nevertheless, discussions about knowledge will occur throughout as the production and dissemination of knowledge is a recognised aspect of community processes.

Digital elements in both bodies of literatures were often seen as the inferior method of socialisation. While convenient, its use is more as a tool for when actors could not be in a specific location (Jones et al., 2010, Golan and Babis, 2019, Growe, 2019) or to share practical, rather than nuanced information (Rinallo et al., 2008, Grandadam et al., 2013). However, most of the empirical studies saw digital relations as those conducted through emails, forums and firm intranets. The role of social media platforms is much less understood in these contexts. The work of d'Ovidio and Gandini (2019: 51) is a positive exception here, with a suggestion that occupation-based relations are embedded in a "wider 'space' of relations" between face-to-face meetings and those enacted online. Using the term 'wider space of relations', hints at something that is neither wholly online nor offline. Where neither could exist without the presence of the other. This is where the digital element of the thesis is developed from, using a concept of mediated spatialities (see Leszczynski, 2015).

The conceptual framework is structured as follows: 3.2 develops the community element of the thesis, drawing primarily upon occupational community literature. 3.3 develops the digital element of the thesis, taking some learnings from the literature on buzz, and developing them with a concept of mediated spatialities from the sub-discipline of digital geography. The final framework will be presented in 3.4, alongside a recap of the research questions.

3.2 Developing a community

The purpose of this section is to develop the community element of the conceptual framework, adopting a framework of determinants from Van Maanen and Barley (1984) in addition to developing a concept of 'associated community', assisted through the works of Orr (1996) and Sandiford and Seymour (2007).

Before turning to the details of the framework it is important to mention recent developments in organisational studies for a reappraisal on the role of occupation (O'Mahony and Lakhani, 2011, Anteby et al., 2016). Anteby et al. (2016) proposed a framework of 'becoming', 'relating' and 'doing', although their framework leans more heavily on the community of practice literature (Lave and Wenger, 1991, Wenger et al., 2002) where learning takes place and is for the benefit of the organisation/firm. In addition, they refer to occupational community from the work of Orr (1996) and Bechky (2003) – as discussed previously in the literature review, this was when a version of occupational community became subsumed within the concept of 'community of practice' and social processes moved behind bounded walls of a firm, where a community could be cultivated and created. Whereas, in the work of Salaman (1974) and Van Maanen and Barley (1984), the occupational community grew organically and were largely self-determinant in regards to learning, sanctions and identity relations.

Rather than following the example of Anteby et al. (2016), I believe there is still value in using the established occupational community literature which emphasises interrelations of social activity within and beyond the workplace.

The principal element this study takes from Van Maanen and Barley (1984) are the determinants of an occupational community as summarised in table 3.1 below:

Table 3.1: Occupational Community determinants from Van Maanen and Barley (1984)

Boundaries	The active 'othering' of an occupation by its members when considering other occupations.
Social Identity	The shared belief that what an occupation does is special and significant when compared to other occupations.
Reference Group	The construction and maintenance of shared norms, values, beliefs and agreed upon sanctions.
Social Relations	The blurring of work and leisure within a community.

While multiple studies draw directly on Salaman (1974) as their conceptual basis (See: Davis, 1986, Turnbull, 1992, Riley et al., 1998, Sandiford and Seymour, 2007), I chose instead to focus on Van Maanen and Barley (1984) and Van Maanen (2010a), as their work represents an adaptation and development of Salaman's seminal contribution and the four categories above align in condensing Salaman's (1974) occupational components and determinants. Through using these determinants, I can contextualise the findings and compare them to Weststar (2015) who studied North American developers.

Studies on video game development often feature negative experiences – such as burnout and crunch (Peticca-Harris et al., 2015, Cote and Harris, 2021), individual creativity subsumed by studio demands (Whitson, 2020), precarious work (Kerr, 2011) and wariness about 'others' involved in the development process (Kerr and Kelleher, 2015). All of these suggests that a developers' relationship to an occupational community may not be as positive as Van Maanen and Barley (1984) originally conceptualised. Weststar (2015) in particular, develops this thinking by suggesting a concept of identity 'nestedness', where particular job roles are more or less 'worthy' within the occupational community. While Sandiford and Seymour (2007) expands occupational community to include tensions and even disdain for a community; whilst actors simultaneously still wish to be a part of it. These nuances are key to understanding a contemporary occupational community, particularly one which is a cultural industry, as creatives are balancing their individual creativity and identity with market demands and under the gaze of the community as a whole.

An important component of occupational community theory to develop through this thesis's framework is the existence of an 'associated community'. I describe an associated community as a community which actively contributes to establishing occupational community determinants; without being members. Cluster literature showed this through the importance of intermediaries (Jones et al., 2010, Rantisi, 2010, Rantisi, 2014). Occupational community theory meanwhile were less forward in explaining how a community 'bumped' up against related others. With studies sometimes describing a community as akin to an isolated island of social relations; even if they clearly were not. Meyers and Davidson (2016), for example, examined an occupational community of journalists, yet readers of their work were not mentioned. Without readers or customers, this occupational community would fail to materialise. Additionally, readers/customers have an active role in influencing the type of work which is done by the occupational community.

Notably, Orr (1996) and Sandiford and Seymour (2007) explored interactions with customers as fundamental to how they understood their occupation. With their interrelated interactions with customers shaping how technicians approached their everyday working lives. Sandiford and Seymour (2007), in particular, analysed how pub workers continuously switched between worker and patron and how this influenced friendship groups (social relations) and their ability to be on task during working hours.

Both Weststar (2015) and Dubois and Weststar (2021) did not consider customers or video game players in their analysis of videogame developers. Despite the broader video game player community having a similar impact as those previously discussed to professional game development (see O'Donnell, 2014, Poretski and Arazy, 2017). Video game development, as one of the cultural industries, also has this consumer/creator blur with many of those in game development expected to also consume video game products (Kerr, 2011). Therefore, clashes with an associated community could become further entwined when a creator straddles two communities. Only Becker (2008 [1963]) touched upon this with his study of jazz musicians. He explained how often in their free time, the musicians played the style of music they desired to play, with downtime sessions assisting with bonding them together. During

bookings, the musicians were controlled by what the audience wanted to hear, not what the artist wanted to play. They were simultaneously a fan of jazz music, a jazz musician, and a professional musician, which bled into how an occupational community is understood and executed.

Finally, as the research questions leads towards understanding sociality through space, it is important to understand the spatial elements of occupational communities. I previously discussed in the literature review how considerations on space are limited within occupational community studies. Notable exceptions include Orr (1996) and Yanow (2006) – however their conceptualisation of space is one of bounded 'containers', where sociality occurs, because the space is 'there', rather than interrelations actively creating space(s). As this thesis adopts a relational economic geography (REG) approach, spaces are viewed as a process between actors, constellations of actors and social actions which is contextually sensitive (Boggs and Rantisi, 2003, Bathelt and Glückler, 2003, Yeung, 2005, Ibert et al., 2015). By taking this approach, the relationships between the individual (micro) on the community (meso) can be analysed through the spaces which interrelations create (Ettlinger, 2003).

Although not an occupational community study, Cohendet and Simon (2007), adopted a similar approach with studying video game developers in Canada. Moving between individual social action and how it affected firm-based networks and a 'community of specialists'. However, an issue with this and others which are similar; is that data collection focuses mainly on those who are top of hieratical organisational structures. As Orr (2006) explained, his work on occupational community has been misinterpreted and aligned with the sub-discipline of organisational behavior. The worker experience is overwritten by managerial concerns and places management as the ones who 'know best' for social, cultural, and political life, with a focus on controlling a community that poses a threat. Therefore, to study an occupational community is not only to capture stories from those in control; but to also focus lower on those doing routine tasks and roles.

For video game development, this can include roles such as QA, artists, producers and programmers. Nevertheless, due to the varied development practices in video game

development (Keogh, 2019b) even those technically in charge of their own studio, can be seen as relatively small compared to CEOs and managers in multinational development studios, who are often the participants in video game cluster studies (see Cohendet and Simon, 2007, Grandadam et al., 2013, Plum and Hassink, 2014, Pottie-Sherman and Lynch, 2019).

In regard to space and occupational community, although not explicit, Van Maanen and Barley (1984) does conceptualise in a manner which aligns with REG. Van Maanen and Barley (1984) suggests that workspaces occur through the actions of workers. Yet, a 'workspace' is not only where work occurs, but where understanding of work emerges. Fundamentally, the spaces created are not special or unique, but are reflections of the everyday and mundane. Here there is a direct link to REG which advocates for a focus on everyday social processes (Ettlinger, 2003).

Similarly, Van Maanen and Barley (1984) hints at how occupations change over time and space through their descriptions of separate police forces adopting slightly different occupational understandings. Weststar (2015) also noted how socialisation altered depending on where it occurred. Such an understanding of space aligns with REG, whereby space is a process that is never finished as it continually unfolds, becoming and evolving via relations (Massey, 2005). It also reenforces the importance of socio-cultural context.

Van Maanen and Barley (1984) additionally adopts learnings from Salaman (1974) whereby geographical proximity is not necessary for an occupational community. Salaman (1974) explored this through his conceptualisation of a 'cosmopolitan community' – observing an occupation as a whole rather than 'local' which is focused on a region or city. Which aligns concepts of communities as seen in the cluster literature (see Florida, 2005, Cohendet et al., 2010). The cosmopolitan community is not to unpick specific work situations; but is there to present an image of the occupation as a whole. Members are friends with those they do not work with, unlike those in local communities and often cross geographical distance (Salaman, 1974).

Nevertheless, both Salaman (1974) and Van Maanen and Barley (1984) agree that close geographical proximity does make social processes easier. And communities are

rarely fully local or fully cosmopolitan. An idea likewise reflected in temporary and virtual buzz theories (Bathelt and Schuldt, 2008a, Bathelt and Turi, 2011, Growe, 2019). I will develop thinking on the role of digital relations in the following section.

3.3 Developing digital(ly)

The purpose of this section is to 'add in' and (re)focus on digital relations when studying an occupational community. I will first summarise findings from previous studies which inform the conceptual framework. Before, augmenting this body of research with learnings from the sub-discipline of digital geography – integrating a concept of 'mediated spatialities' (Leszczynski, 2015) to present a potential way to view digital relations as something that is part of multiple everyday social interactions; rather than a dyadic online/offline worldview. I will then introduce Twitter as a suitable online platform to study mediated spatialities.

In previous studies, digital relations appeared to be useful in providing a source of knowledge, a sense of belonging and a connection to similar individuals where weak or no organisational/firm ties appear to be present (Rinallo et al., 2008, Watson and Beaverstock, 2016, Schwartz, 2018, Baeza-González, 2021). Particularly relevant for the UK video game industry, which consists mainly of solo developers and micro-small studios (less than 30 people) (UKIE, 2021). The presence of multinationals such as *Ubisoft* is more of an exception, than a standard of the UK development scene. Digital relations also appear to be useful where there is not enough geographical proximity to bring people together (Grabher and Ibert, 2014, Darchen, 2016, d'Ovidio and Gandini, 2019). Beneficial again in the case of the UK game developers who tend to be dispersed with weak agglomeration effects compared to other cultural industries (Vallance, 2014). Although there remains hubs such as London, Manchester and Leamington Spa which incorporate a higher density of video game development activity (UKIE, 2021). However, these hubs do not align vis-à-vis with an everyday experience of *being* a video game developer, only showing where production tends to occur.

Previous research does not go far enough to include the everyday or mundane digital relations when connected to an occupation and there is an empirical gap for the role of social media in relation to an occupational community. Research which originates from buzz theory likewise tends to negatively view digital relations as a method of inferior socialisation compared to meeting face-to-face. This is also reflected methodologically through the prioritisation of in-person data collection, despite also including discussions about online activity (see Bathelt and Schuldt, 2008b, Grandadam et al., 2013, Cohendet et al., 2018).

One study which starts to explore this gap is d'Ovidio and Gandini (2019), who suggests that knowledge-creative professionals form a space of relations through their exchanges on and offline. The space also includes activities of non-work, with those who are integrated into the space more likely to be involved in shared leisure activities. There is a link here to occupational community theory too, with the blurring of work and leisure crucial for members of a community (Van Maanen and Barley, 1984). To develop thinking about this 'space' – one which includes digital and physical exchanges simultaneously – this thesis turns to the work of digital geography - specifically, mediated spatialities.

Mediated spatialities is a conceptual framework which comprehends our lived reality as a result of "multiple, yet contingent coming togethers of technology, people, place and space" (Leszczynski, 2019: 18). Our understanding of spaces, experiences and interactions are the result of such mergings; with lived reality relying upon the co-construction of technology, sociality and spatiality. A departure from the earlier framework, and more recognisable, hybrid space (De Souza e Silva, 2006, Jordan, 2009, De Molli et al., 2020) which sees digital and physical worlds as ontologically and materially distinct from each other (Leszczynski, 2019).

Using the term 'mediated' is perhaps a little confusing as these spaces do not mediate *per se*. Instead they, "capture, enrol and put information into circulation in new and unprecedented ways that are generative of emerging forms of sociality and spatiality" (Leszczynski, 2019: 19). There are no 'digital' and 'physical' versions of the same world; nor is the digital 'out there', floating above society where people jump in and out. They are co-implicated and cannot meaningfully be disentangled to examine

‘online’ and ‘offline’ as both are active in creating an observed nature of society and of spatialities (Timeto, 2015). Perceived online space(s) are argued to only exist because of the collective actions of people who gather and interact – through which create spaces between (Massey, 2005). Take any of these elements away and life, as currently experienced, fails to emerge. As with REG, space is not perceived as a passive entity. It is a process that is never finished as it continually unfolds, becoming and evolving via relations (Massey, 2005, de Freitas, 2010, Leszczynski, 2015).

Studying social media platforms is a useful way to view and research contemporary mediated spatialities. Social media is a system of connecting and information sharing borne from the movement of Web 1.0 to Web 2.0 in the 2000s. While Web1.0 was dull in appearance and directed by those who created the digital frameworks; Web 2.0 instead focused upon consuming and remixing data and ideas from user-generated content (O’Reilly, 2009). Users are seen as a community of collective thinking who co-create platforms such as Wikipedia, Google, Twitter or Craigslist (Fuchs, 2021).

Social media is the leading element of this user-led approach; one that has shaped how we see and approach the world in the new millennium. It is a set of tools, practices and ideologies which increases “our ability to share, to co-operate…to take collective action – all outside the framework of traditional institutions and organisations.” (Shirky, 2008: 20-21). This is particularly relevant for the aims of this thesis in understanding how people bound via an occupation, find and build collective commonality away from a firm.

I am using the term ‘social media’ here to distance from the more academically common, and older term, ‘social networking/ social networking sites’ (SNS). Although often used interchangeably, there is a nuance to each term. SNS focuses research on the networking element of social media – prioritising how relationships are formed and maintained, often with strangers. While certainly not misleading, networking is an important function to social media, the use of SNS leads researchers back to the technicalities of social relationships as viewed through digital platforms. Yet, networking is not the primary practice of social media nor what makes it different from other computer mediated communications (CMC) (Boyd and Ellison, 2007: 211).

What makes social media unique is that it makes visible social networks; not only facilitating the act of networking. While this can be connecting individuals, who would otherwise be distanced, often this is not the primary goal. Instead, social media users tend to have a "collection of 'latent ties' with some offline connection. On many large [social media sites], participants are not necessarily 'networking' or looking to meet new people. Instead they are primarily communicating with people who are already part of their extended social network " (Boyd and Ellison, 2007: 211).

There are obvious links here to occupational community theory, with individuals creating latent ties with those in the same industry – not necessarily strangers as they initially share a perceived reference group and social codes (Van Maanen and Barley, 1984). There are also connections to the previously discussed 'virtual buzz', which suggests that digital technology allows individuals and groups with a shared history to remain in contact. The issue with virtual buzz is that it views online/offline as two separate spatial realms – with online only being useful to facilitate the offline. What are 'real' are the connections made on the trade show floor or in offices; the digital relationships are a simulacrum of these with digital technology reduced to its technical affordances.

However, social media is more about the cultural and social positioning created through bundles of interaction than technical affordances (boyd, 2015). Mediated spatialities aids in explaining this, with Leszczynski (2019) arguing that digital technology is not an intermediary or active broker of social relations across space. Instead, interfaces are the result of social and spatial intersections. Platforms such as Facebook or Twitter may appear to be its own place and space (Blanch, 2016); however these platforms can be seen as a multiplicity of spaces created through interrelations (Massey, 2005).

3.3.1 Twitter

Twitter can be theorised as a site of collective communities of knowledge, where communication is simultaneously individual and communal (Murthy, 2018). Users 'tweet' 240-character messages, which have been likened to micro-blogging and diary entries, an intoxicating mix of the banal and profound (Dijck, 2011, Murthy, 2018). These tweets curate on a users' 'newsfeed' and on the newsfeed of those who follow. To interact, users can retweet or like a tweet, by doing so it increases the tweet's engagement and likelihood to be seen by an extended network. Hashtags are integral to aggregate conversations, linking topics of interest together and directing readers to information.

Twitter has been studied as the public-by-default social media (Takhteyev et al., 2012) due to the ability to lurk around and view conversations combined with the ability to be able to tweet to anyone without a protected account[12]. However, when considering public/private via a framework of mediated spatialities, public means more than simply access or ownership relation as these relate to the *technical affordances.* Being public is specifically the *reach* and *effects* into the everyday spaces and practices of a community, culture or society (Leszczynski, 2015). In regard to occupational community, it is how Twitter is part of the overall understanding of *being* a video game developer – feeding into the boundaries, social identity, reference group and social relations. Rather than how do video game developers use Twitter.

While it may appear to be a 'bounded' place – there's a domain name, a logo and a data feed. Twitter is experienced and used from multiple places, both geographically and technically, for example through using *Hootsuite* or using an app. Additionally, Twitter is experienced through multiple interrelations – users and their content are the creators of 'Twitter spaces'. As interrelations vary, spaces likewise vary - resulting in no two spaces being identical (Massey, 2005, Leszczynski, 2019). Popular lexicon hints at this multiplicity of space through reports on increasingly niche sections of society emerging through Twitter, for example 'Fiat 500 Twitter' (O'Niell, 2018), 'academic Twitter' (Mojarad, 2020) and the topic of this dissertation, 'Gamedev

[12] Protected accounts were introduced in 2014. A Twitter account is public by default; however, a user can prevent others reading and interacting their tweets by 'locking' their account.

Twitter' (Komorowski et al., 2018). Figure 3.1 below provides an example found on Twitter and figure 3.2 is a QR code to a continuously updated stream of tweets relevant to Gamedev Twitter.

Figure 3.1 – Example of the term 'Gamedev Twitter' which suggests that the Twitter Gamedev community defends those in QA who are generally seen as the lowest rank in game development. 14th January 2021.

Figure 3.2 – QR to aggregated Gamedev Twitter stream

3.4 Summary and recap of research questions

The purpose of this chapter was to amalgamate learnings from the occupational community and cluster literature to assist in developing a conceptual framework to take forward into the method design and analysis. The research questions led me to focusing on community and digital elements when considering how video game developers may find commonality away from firm boundaries. A recap of the research questions is found below in figure 3.3:

Main Question: How do UK video game developers experience communality and what space(s) emerge from this communality?

To aid in answering this question, two sub questions have been developed:

RQ1: How is communality established and maintained through Twitter?

RQ2: How do digital relations assist in developing space(s) with offline communality processes

Figure 3.3: Recap of Research Questions

From investigating the literature, grew an appreciation of spaces; how through examining specifically relational spaces created through interrelations of actors, I could study how developers understand their occupation beyond documenting practices. A conceptual gap is found in analysing the role of associated communities to an occupational community. Likewise, social media has not been considered enough in analysing digital relations of an occupation. With studies asserting that face-to-face sociality is preferable, with digital relations relegated to being facilitators of future physical proximity.

Figure 3.4 summarises a tentative framework of this thesis.

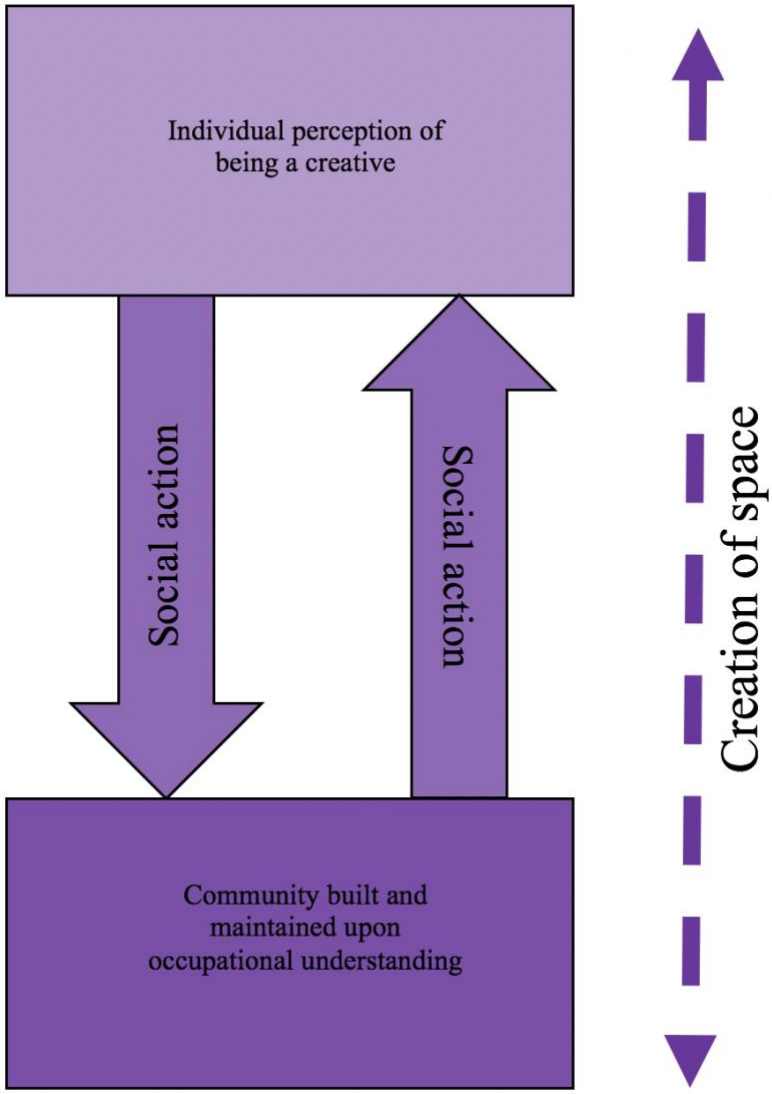


Figure 3.4: Tentative Conceptual framework

The tentative conceptual framework recognises that a community is built upon the actions of individuals. The congregation of these actions form, in the case of this study, occupational determinants and a generalised 'sense' of what a community should do, how it should appear and how members are bound. Individuals can also refer back to the community in order to benchmark their behaviour, morals and identity. These are developed through social interaction which involves elements of work. Social actions here include online and offline relations as co-implicated and cannot meaningfully be disentangled to examine 'online' and 'offline' as both are active in creating an observed nature of society and of spatialities (Timeto, 2015). Therefore, the

intermingling of socialities form co-created space(s) between members of an occupation – a space which is a process, is continually unfolding and has no discernible end (Massey, 2005).

What I do not know as yet is what these social actions comprises of and how they are understood by members of the UK video game industry. I also do not know how the inclusion of an associated community, in the case of this study the video game player community, may influence or disrupt UK video game developer occupational processes. Therefore, the purpose of this conceptual framework is to summarise my theoretical foundation which I take into the method design. I will return and develop this framework with learnings gathered from the findings.

The following chapter explains the methodology of this study.

Level 4: Methodology

4.1 Introduction

The aim of this chapter is to present the methodological approach of this thesis. Section 4.2 explains the philosophical positioning of the thesis, section 4.3 explores the chosen research methods and data design, section 4.4 describes the data collection strategy and section 4.5 explains how the data was analysed and includes a discussion of establishing rigour in the study.

4.2 Philosophical positioning and story of this research (Part I)

The application of philosophical thought can be considered as a guiding set of principles, practices and protocols for a researcher (Benton and Craib, 2011). The guidance provided through a philosophical paradigm can aid in questioning prejudices and assumptions, to remind researchers of ethical processes or to highlight patterns that may go beyond a basic understanding of linkages (Law, 2004). Comprising of ontology, which highlights researcher assumptions about how reality is understood, epistemology, which highlights assumptions about the creation of knowledge, and axiology, which refers to the personal influence placed upon values and ethics and how researchers deal with them (Eriksson and Kovalainen, 2015).

Table 4.1 summarises common philosophical positionings used within social science research as it is important to introduce multiple methodological perspectives to situate this study within alternative frameworks. A research paradigm is not only a support system for the researcher but also a set of lenses (Burke, 2007) to help clarify the world and how to understand it. There are no ideal or best paradigms (Saunders et al., 2019) and neither are they placed on a spectrum of ‘easier’ or ‘harder’ to understand or implement. The choice of paradigm is reliant on the epistemological, ontological and axiological stance of the researcher and the context and personal understanding of the research.

Table 4.1: Philosophical Frameworks

	Positivism	*Critical Realism*	*Interpretivism*	*Postmodern*	*Pragmatism*
Ontological assumptions	Reality is external, ordered and universal.	Reality is composed from subjective and objective meanings composed of the 'actual' and the 'experienced' with recognisable social structures.	Reality is constructed through language, processes, practices and culture. There can be multiple realities.	Realities can be reproduced in multiple ways with no version being the 'true' or 'correct' version with power relations influencing meaning.	Reality is constructed through ideas, processes, practices and experiences.
Epistemological assumptions	Knowledge follows logical and observational rules or laws.	Knowledge is a social process that is not free from inherent values such as history or location. What is known is socially constructed.	Knowledge is dependent on perception, narratives and interpretations. Worldviews are context specific.	Knowledge is shaped by dominant ideologies of the time and context. There is a focus to bring out the 'silenced'.	Knowledge is the practical and successful application of theories in specific contexts.
Axiological assumptions	Researcher is highly objective and distance from the research.	Researcher acknowledges positionality and what bias they may bring to the research yet remains as objective as possible.	Researcher is part of the research with interpretations key to the research. Reflexive throughout and positionality explained.	Researcher and researched are embedded in power relations. Highly reflexive with positionality explained.	Researcher uses their beliefs about problems or issues to guide the research in a reflexive manner.
Goal	Discover truth.	Describe meanings and understandings.	Understand the lived experience.	Uncover hidden interests and contradictions: critique and transformation.	Find concepts that supports action.
Methods focus	Uncover facts, compare these to hypotheses or propositions.	Understand critically and historically the creation of realities and pre-existing social structures.	Explore lived experiences through in-depth investigations.	Understand evolution of meanings, material practices, contradictions and inequalities in a deconstructing manner.	Follows a clear research question and problem; emphasis is using a method(s) that lead to practical outcomes.
Example Theorists	Durkheim (1982); Kuhn, (1962); Popper, (1968)	Archer (1995); Bhaskar (1975); Habermas (1985); Sayer (2000)	Heidegger (1953); Husserl (1965); Merleau-Ponty (1974); Simmel (1950[1908])	Foucault (1972;1977; 1978); Lyotard (1984); Derrida (1976)	Dewey (2008[1920]); James (1981[1907]); Peirce (1877)

Adapted: Gephart (2004: 3) and Saunders et al (2019: 136-13)

When I first designed this research in 2017, I followed an interpretivist paradigm. As an interpretivist, the researcher aims to find the complexities and richness of social life within multiple interpretations and of the researched (Crotty, 1998). Placing participants as knowledgeable actors with the intention to understand the world as seen through the eyes of those involved (Saunders et al., 2019). I had my empirical question, "*how do video game developers find commonality with each other, even if they don't work together?"*, I was interested in communal experiences but recognised that social constructions about communality and 'being' a video game developer were interlinked with a recognition of economic and organisational structures. Some of these are latently manifested (e.g., the boundaries of a community are reflective of social class, education, social mobility and so on), but those are wider themes and developments which lie beyond this study. I therefore aimed not to work from or towards a form of structure in which communal relations unfold, but to stay within the community and to investigate social action in context, exploring a world in which my participants see themselves in, built by their own language, to find rationality where at first it may seem illogical (Hammersley, 2013).

This positioning led me to adopt a qualitative methodology. Qualitative research describes the "ways of studying perceptions, experiences or behaviours through their verbal or visual expressions, actions or writings" (Salmons, 2016: 2) with the ability to "say a lot about a little" (Silverman, 2017: 433) through extracting rich and detailed data and analysis (Weathington et al., 2012). Common methods used for a qualitative enquiry include focus groups, ethnography, interviews and participant observation (Gephart, 2004). Qualitative research is a frequently used when studying cultural industries (McRobbie, 2016b), as it allows a detailed and rich analysis into creative processes and creatives and is particularly useful for cultural industries, such as video game development, who are new, rapidly evolving, or who fall outside of SIC codes (Hautala and Ibert, 2018). Studies of video game developer embrace qualitative research across multiple social sciences (e.g. Cohendet and Simon, 2007, O'Donnell, 2014, Vallance, 2014, Kerr and Kelleher, 2015, Crogan, 2018, Cote and Harris, 2021). In particular, qualitative research involving interviewing and ethnography is cited to be particularly useful in uncovering the messy everyday experiences of game developers (O'Donnell, 2014, Whitson, 2020).

My initial research questions evolved from the empirical observation. I wanted to find out not only how commonality between developers were formed in the absence of a firm structure, but also what was the influence of digital platforms such as Twitter, with previous studies tending to prioritise face-to-face method design. In the buzz literature, Bathelt and Turi (2011) and Schuldt and Bathelt (2011) conducted qualitative research to investigate virtual buzz and its relation to on-the-ground 'local' buzz. Yet, despite talking at length about digital connections and individual's use of CMCs, little effort was made to understand the digital, *digitally*. They chose instead to interview in-person and asked the trade show attendees about their use of CMCs on the show floor. A positive exception is Jones et al. (2010) who studied blogs as a method of filtering buzz out from the New York theatre scene, both as a topic of research and part of the method design. In the occupational community literature, Rinallo et al. (2008) used netnography, a digitally-native method of conducting ethnography online (Kozinets, 2019), to present an interesting account of how woodworkers use digital interfaces to share practical knowledge. The majority of occupational community literature focuses on in-person data collection methods – in particular ethnography as this method collects rich data about culture and the contribution and maintenance of cultural codes and norms (Van Maanen, 2011).

Reflecting upon this, I decided to embrace a digital qualitative method design to overcome what I saw as 'location-bias'. Studies of cultural industries, particularly video game development, continued to prioritise in-person research methods despite the continual rise of social media importance to creative individuals (Turner, 2016). Digital qualitative research is "[a] term used to describe methodological traditions for using information and communication technologies to study perceptions, experiences or behaviours through their verbal, visual, actions or writings" (Salmons, 2016: 6). Digital methods can be versions of their location-based counterparts such as virtual ethnography (Hine, 2008), online interviewing (Deakin and Wakefield, 2014) and participatory methods (Hookway, 2008) or be classed as 'natively online' such as netnography (Kozinets, 2019). Although a method may be considered native to the Internet, established qualitative techniques such as visual and narrative analysis can be used (Costello et al., 2017) making the distinction between digital and non-digital methods perhaps more arbitrary than previous scholars have suggested. Salmons (2016: 6) suggests that learnings from undertaking location-based qualitative research

can inform and progress what can be administered online, with perceived online/offline binaries becoming less important than the subject of research (Kinsley, 2013). As I am embracing a concept of mediated spatialities, this mixing of established qualitative techniques and digitally native methods was appealing. Therefore, I decided to undertake online semi-structured interviewing and netnography.

I would like to highlight here I adopted abductive analysis traits later in the research process after a time of reflection with the data. Abduction is often linked to a pragmatic approach (Tavory and Timmermans, 2014) and involves the researcher moving back and forth through theory and data. Although I am aware this is not an ideal way of conducting research, it was a development this study needed to cut through noisy data and shows how I embraced reflection throughout the research project. I will discuss this at greater length in section 4.5.2 after presenting the chosen methods and research strategy for this study.

4.3 Research Methods

4.3.1 Multi-method and research design

The study adopts a multi-method approach, which is described as the adoption of two or more sets of data to enable a broader investigation, validity check or as a methodological check to a study (Lewis-Beck, 2004). The approach adopted here is primarily for data complimentary purposes by maximising a digital approach through talking to participants about their everyday lives and industry experience (interviews), in addition to viewing their everyday lives involving a digital context (netnography). The research is not aiming to consolidate a universal worldview by using one method in comparison to another as a validity check, therefore, it is not considered triangulation in the traditional understanding of the term (Flick, 2014). Instead, the combination of methods aids by filling methodological gaps (Richardson, 2017). Bringing clarity and validity as the researcher is able to question what is being observed and provides an opportunity to understand reality as constructed by participants (Salmons, 2016).

Kozinets (2019) suggests that a multi-method approach assists in amplifying specific topic areas that are unable to be explored in enough depth or specificity within an online environment. When designing the project, I did not consider netnography to be suitable as a singular method as I was aware of potential performativity issues (Papacharissi, 2012) in addition to an interest in investigating participants' career paths, past events and moments of industry reflection. These issues are difficult to capture through Twitter, as the platform prioritises discussions and reflections of contemporary events. Nevertheless, netnography works well to observe impacts and changes as they occur. Additionally, despite Twitter being popular for video game developers, I was aware I may be ignoring a section of the community who did not want to use Twitter who are important members of the community which netnography would not capture.

As the video game industry is a rapidly changing environment, I decided to adopt elements of qualitative longitudinal analysis (QLA) although this is not a QLA study *per se* as data was only collected for 12 months and did not follow all participants

through the same timeframe. QLA is a method of observing unit(s) across time, noting any (d)evolution, changes or statis (Taris, 2000). I adopted the concept of multiple interviews using a wave method, whereby participants were interviewed three times within a specific timeframe (Vogl et al., 2018). I primarily chose wave interview technique to capture responses to industry events throughout the year. A secondary benefit was being able to move between the data, adding questions to the interview schedule, questioning what I saw on Twitter and being more aware of topics on Twitter because a participant had brought them to the forefront during an interview. Allowing me to be flexible and reactionary to the mood of the community and by valuing reflection and second thought (Holland et al., 2006).

4.3.2 Internet-based semi structured interviews

Interviewing remains a popular and trusted method for social science research (Eriksson and Kovalainen, 2015). Interviews are a conversation with a purpose (Eyles, 1988) allowing participants to describe emotions or activities in the way they deem most suitable. Knowledge is therefore situated and reflects the context of the discussed subject and their associated worldview. Semi-structured interviews are structured around guidance questions in the form of an interview schedule, allowing for diversions and expansions on a conversation alongside to potentially gather knowledge beyond what the researcher could have anticipated through their own life experiences or reading of literature (Brinkmann, 2013).

As I wanted to embrace a digital methodology, I decided to undertake synchronous internet-based interviews (SIBIs). SIBIs enable real-time conversations across video conferencing software, instant messenger or chat rooms, with one of the most popular methods being Skype based interviews (Deakin and Wakefield, 2014, Janghorban et al., 2014, Seitz, 2016). Skype is a free communication software which allows voice and video calling, messaging and sharing of files (Skype, 2021). When the web camera is in use, Skype interviews provide a similar experience of capturing non-verbal cues, however the whole body is unable to be seen because of the ‘headshot’ profile which is considered best practice for talking via Skype (Sullivan, 2012, Seitz, 2016). When it is just voice-based then the interview is more akin to a telephone interview.

Positives of using Skype interviews for this study is firstly, video game developers are known to work long hours, therefore I could conduct data collection around participants' schedules, making it easier to access key informants and increase participation (Janghorban et al., 2014). This led me to conducting interviews at a range of different times, including up to 10pm at night, which normally would be a potential safety issue if I were to travel out to meet the participant. Secondly, the video game industry is renowned for high levels of secrecy (Pratt, 2013). Conducting interviews via Skype allowed the participant to control their environment through what was placed in the webcam frame and/or choose where they would feel more comfortable, therefore increasing the likelihood of a participant being more receptive to questions, while also providing a level of safety and protection for both the participant and researcher.

A limitation of using Skype interviews is a greater chance of a disruptive environment, especially if a participant sees the interview as something to fit in around other tasks (Deakin and Wakefield, 2014); potentially affecting data gathering and researcher concentration. I only experienced this once through a participant's cat knocking off the call. To monitor the situation from my side, I conducted all the interviews from my home office which provided a quiet space with good internet accessibility. Additionally, while face-to-face relies on one or two forms of technology to capture the data such as a Dictaphone. SIBIs comprises of multiple equipment and tools, for example the researcher's laptop, recording software, Skype software, Dictaphone for a backup recording and modem for internet access in addition to the participant's replicant equipment and software. All of these needed to work, or an interview cannot go ahead or be captured. In worst case scenarios, technological issues can lead to a loss of a participant or slowing of the data collection (Salmons, 2016). Luckily, technological failures were infrequent and dealt with swiftly, as this study involves those who are generally comfortable around using technology and use it as part of their everyday work and life, it was fairly simple to arrange interviews and cope with issues knowing that the participant had the required equipment and experience.

4.3.3 Netnography

Netnography can be described as a method of "studying culture and communities that emerge from online, computer-mediated, or internet-based communications" (De Valck et al., 2009: 197). Data can include written accounts, in a similar vein to ethnography, screenshots, images, hyperlinks, GIFs, videos or any combination of these. Netnography is inherently a flexible method which allows the research field and research questions to direct the means and type of data collected (Kozinets, 2019). In combination with Skype interviews, netnography assists in (re)focusing on the digital through using a sister method to the well documented methodological tradition of using ethnography for studies of community and communality in regard to organisational interests (e.g. Van Maanen, 2011, Vallance, 2014). Netnography also aligns in thinking about socio-space(s) as a mediated spatiality, with netnography viewing online platforms as socially constructed entities where social actors acknowledge, and are fully aware, of their situatedness (Kozinets, 2019).

Netnography can involve following individuals across multiple online sites, or alternatively be focused on the one platform (Costello et al., 2017). This study decided to focus on Twitter as the field of research as Twitter is known to be the primary social media platform for video game developers (Komorowski et al., 2018). Studies are split between those who observe hashtags, taking a 'broad' approach (e.g. Roland et al., 2017, Eaton and Pasquini, 2020) and those who undertake 'participative netnography' (Logan, 2015), which involves tracking social activities of a number of participants via social media, taking a 'focused' approach (e.g. Logan, 2015, Wang, 2019). As I was also using interviews as part of my method design, I wanted to follow my participants as they navigated through Twitter, therefore I decided to take the participative netnography method.

The key benefit in using netnography is that it is a naturalistic method as the data gathered is often unprompted, which is difficult to observe in-person where the presence of a researcher may be 'felt' by the participant (Kozinets, 2017). Another benefit is the ability to place the subjects as valuable knowledge creators with netnography recognising that communities are constructed by those who are invested (Costello et al., 2017).

For limitations, there could potentially be interpretation issues, particularly if the researcher is new to a community and does not fully integrate themselves to understand why such language or motives are used. I had the benefit of previously working in the industry, so I was knowledgeable on terminology and developer culture. Nevertheless, my experience is not universal, and I had the option of using industry contacts as cultural guides if I needed clarification[13]. Conducting an in-depth analysis can sometime be an issue. This can be alleviated through the use of multi-methods to inform, expand and explain social processes (Kozinets, 2002) as developed in this thesis. I will now discuss the overall design of this study and ethical considerations.

4.3.4 Ethical considerations

I gained ethical approval from the University of Liverpool in September 2017. Participants were given an information sheet, consent form and Twitter consent form which needed to be digitally or physically signed and returned to acknowledge their involvement (see appendix A). I explained how participants could remove themselves and connected data at any time throughout the research process. I also verbally confirmed their consent at the start of each interview, with collection of Twitter data only occurring after this verbal confirmation. This process was informed through three considerations:

Firstly, with digital methods, there is a higher concern for recording and storage of images and voices (O'Connor, 2008) due to increases in residual evidence via call logs, cookies and saved data. All data collected for this study were stored on university servers, with the printed transcripts used for analysis anonymised before printing. I anonymised all identifying characteristics which included name, studio (if applicable), projects worked on and used pseudonyms.

Secondly, informed consent is imperative, as it is with face-to-face. However, with a digital method design, there is an heightened awareness to ensure a participant understands what the research is and why it is being conducted (Eynon et al., 2008).

[13] I will develop this further in section 4.5.1.1 when discussing positionality.

To ensure clear consent, traditional ethical practice such as providing an information sheet, consent form and asking the participant if they have any further questions was conducted alongside an increase in communication compared to face-to-face (such as multiple emails or communication over Twitter direct messages) assisted in clarifying the ethical process. As I was conducting overt netnography, I created an additional Twitter consent form to provide an additional layer of acknowledgement and consent to myself collecting data from their Twitter activities.

Finally, the behaviour of the researcher must always remain appropriate with the interview space created via Skype considered a private space and treated in the same manner as going into someone's home or office (Adams-Hutcheson and Longhurst, 2017). In the context of this study, appropriate behaviour included: refraining from discussing other participants and their projects to other participants, avoid pressing for particular answers, abstaining from industry gossip that was uncritical or derogatory in nature. I will now detail the research strategy for this study.

4.4 Research Strategy

4.4.1 Sampling and recruitment

The sampling technique used was purposive sampling, described as the ability of the researcher to use their judgement in selecting participants who they believe would meet the requirements of the research aim and questions (Saunders et al., 2019). A criteria checklist, based upon the research questions, was produced to assess potential recruits (figure 4.1).

1. *The individual must be a developer based in the UK or work for a UK video game studio remotely.*
2. *The developer must be part of the development process and not part of publishing or hardware.*

Figure 4.1: Sampling criteria checklist

I started by emailing existing industry contacts, which resulted in 4 participants – 3 of which do not use Twitter. From there, I went to Twitter and Facebook to find developers who met the criteria outlined above. I tweeted an initial recruitment post in December 2017 which resulted in 3 participants. I created a post in 'Women in games' page, 'BAME in games' page and on my own personal page. I gained 1 participant through the post on my personal page being shared by a friend. From there, I used hashtags such as #indiedevwednesday and #Gamedev to search through posts and investigate profiles. I also used the Twitter search function, using terms such as 'UK game dev' to find developers with descriptions in their bio. What was particularly useful was through clicking 'follow' on a potential participant, with Twitter then displaying 'people you may be interested in', presenting an array of similar developers. However, I was aware that there may be an algorithm bias, and found mainly white, male, London-based developers using this method. Therefore, to increase diversity I purposely sought developers outside of London in addition to female and ethnic minority developers during the latter stages of recruitment.

Once a potential participant was identified, an initial tweet or direct message (DM) was sent to request participation and provide information about the study. If a

developer was interested, I conducted further communications through either DMs or email as directed by the individual, sent relevant documentation and organised an interview date. When data saturation became apparent, I had 25 participants in total with 17 arriving through Twitter. I contacted 96 potential participants with 20 who agreed in principle but stopped communicating before arranging the first interview, 1 who once starting the first interview I realised was unsuitable for the study,11 who declined and 39 who did not respond to the outreach message. Table 4.2 provides an overview of the participants and their involvement.

Table 4.2: Participant list

Participant	***Location***	***Studio Type***	***Job Title***	***Changes***
Nathan (M)	Manchester	AAA	Lead Compliance Tester	From 3rd interview – Cinematic production assistant
Ash (M)	Wrexham	Indie	Managing Director/ Contractor	
Isabelle (F)	Manchester	Indie	Producer	Undisclosed work issues, left study after 1st interview
Adam (M)	Liverpool	Indie	Programmer	
Jack (M)	Milton Keynes	Freelance/AAA	Programmer	From 2nd interview – no longer freelance, works for a studio
Sully (M)	Birmingham	AA	Creative Director	
Joel (M)	Guildford	Freelance	Writer	Left study after 2nd interview
Leon (M)	London	AAA (fulltime) Indie (side business)	Brand Manager (Full time position) Director/Writer (Side business)	
Alec (M)	Manchester	AAA	Senior Game Designer	
Connor (M)	Sheffield	AAA	Designer	
Jacob (M)	London	Indie	Owner/Game Developer	2nd – Accepts job at a studio, 3rd - Returns to own business
Max (M)	Edinburgh	Indie	Studio Founder	Studio liquidation in June 2018, left study after 2nd interview
Gabriel (M)	Cambridge	AAA	Game Designer/Artist	
Miles (M)	London	Indie	Studio Founder	
Jason (M)	London	AAA	Core Designer	
Kurtis (M)	London	Freelance	Writer/Narrative director	
Lara (F)	Sheffield	Indie	Technical Director	
Chloe (F)	London	Indie	Studio co-founder/ producer	
Elena (F)	London	AA	Marketing Manager	
John (M)	London	Indie	Developer	
Markus (M)	Leamington Spa	Freelance	Porting specialist and contractor	
Ethan (M)	Cambridge	AAA	Senior technical artist	
Ellie (F)	Cambridge	AA	Lead environmental artist	
Gordon (M)	Guilford	AA	Studio founder/Team lead	
Zelda (F)	London	Freelance	Network programmer contractor and influencer with Patreon	Moved to Ireland, left study after 2nd interview

M= Male, F= Female

4.4.2 Data collection

Data were collected between November 2017 and November 2018. As I conducted rolling recruitment, netnography was not collected for a full 12 months, and only occurred once a participant had completed interview 1 and continued until November 2018, I did this to ensure there was consent for collecting Twitter data. The schedule for the interviews typically involved a three-month wave structure over a duration of twelve months, table 4.3 demonstrates the timescale.

Table 4.3: Data collection timescale showing number of interviews in relation to wave

	Nov	**Dec**	**Jan***	**Feb***	**Mar***	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**
Wave 1 (n=25)	1	3	3	2	2	10	3	1				
Wave 2 (n=24)					1	4	4	1	12	2		
Wave 3 (n=21)									5	1	3	12

** During these months I suffered personal issues which impacted my data collection.*

As the table shows, duration between interviews were variable between participants, however the majority (n=14) did align to the planned 3-month timescale, with the maximum time between interviews being 4 months. Two factors contributed to this, firstly, personal issues disrupted data collection for a three-month period between January and March 2018. Secondly, participants often asked to delay interviews while they met work commitments, resulting in them being placed in the next month. As one of the key reasons this study conducted wave interviewing was to provide flexibility to participants, I expected delays to happen to some degree. To create consistency, I tried as best as possible to keep to the three-month timeframe and conducted the interviews according to participant availability.

Taris (2015) reports that wave interviewing has on average a reduction in response rate from 58 percent at the first wave to 29 percent at the last. Within this study, the initial response rate was 58 percent at the first wave, before rising to 92 percent of the cohort by the third wave. I believe the high response rate is due to disclosing the

timeframe at the start of the research process alongside further communication of dates after each interview, combined with participants being able to suggest suitable times and dates for themselves.

The interviews were conducted via Skype. Before each interview the participant was reminded of their right to withdraw at any time with permission sought to record their voice and image. The interviews were recorded using ECAMM, a downloadable Skype recorder for Mac and Dictaphone as a backup. Allowing the visual and sound (20 participants) or audio-only (5 participants) recording of both the interviewee and interviewer. A MP3 version of the recording was then used to transcribe the interviews verbatim, which I did myself.

Four participants asked to remove themselves from the study, due to personal issues. I enquired all leaving participants if they would grant permission to use previously collected data, and if I could continue netnography data collection until November 2018. All participants agreed, presenting another benefit of a digital multimethod approach, as I was able to continue with a method of data collection despite participants being unable to continue with interviews.

The interview schedule[14] used was split into three sections that each reflected one interview:

- Interview one focused around the general industry and sense of community.
- Interview two focused around their working location and/or studio.
- Interview three focused around industry events and use of social media.

Each interview consisted of open-ended questions that allowed the participant to expand if they wished to tell further stories, creating an active dialogue and a flexible approach. In interviews 2 and 3, the opening question was “So has anything changed or happened since last time we spoke?”; often leading to insightful stories.

In total, 70 interviews were conducted with 25 developers and 21 participants completed all three waves.

[14] Appendix B

Those who had Twitter accounts (n=22) were also part of a netnographic study on Twitter. I placed confirmed participants into a dedicated private list on Twitter, accessible only to myself. As one of the main elements of netnography is active participation (Kozinets, 2019), my own Twitter account was used as I deemed the age (established 2012) and previous use as a video games industry account provided a sense of trustworthiness that a new, dedicated account would not. I captured developers engaging with other as they continued their everyday lives, ask others for advice, completed, or started new projects, attended events and chatted about popular culture or latest world events.

Data consisted of screenshots and saved in a dedicated password protected file. As screenshots were taken, these were automatically timestamped and organised within the file by date. Fieldnotes were recorded within an electronic diary using Evernote[15], noting down personal reactions, key events and general thoughts and observations alongside related hyperlinks, images, and videos. Twitter was checked at 1pm each day, for an average of fifteen minutes to reach the end of new updates. A total of 672 screenshots were captured for analysis.

Honesty and disclosure about a study should be portrayed through the social media platforms used for recruitment and netnography (Kozinets, 2019). This was executed by including the title 'PhD researcher' within my profile biography, by pinning posts and by tweeting monthly updates about the study - particularly thanking the developers for their time. Evidence of these posts are unable to be included within this thesis due to the potential for reverse-searchability. I will now discuss how I analysed the data.

[15] Appendix C

4.5 Data Analysis and verification

4.5.1 Establishing rigour and researcher positionality

Validity, reliability and reflexivity form three interlinking pillars of rigour within qualitative research (Silverman, 2017). These show how a study is adequate and correct for that particular research context, with a particular sample at a specific time (Eriksson and Kovalainen, 2015). For qualitative research to be deemed rigorous and stand up to evaluation, a level of transparency and development of a measurement criterion is necessary. Lincoln and Guba (1985) provide a criterion which is useful to evaluate qualitative research, a version of which is provide in table 4.4 below and based upon a table by Longhurst (2010).

Table 4.4: Evaluating qualitative research (based upon Lincoln and Guba (1985), Longhurst (2010), and Bhattacherjee (2012))

Criteria	Definition	Assumptions	Strategies adopted	Alternative strategies
Dependability	Transparency in providing adequate details about phenomenon of interest and social context to allow the reader to authenticate the data.	Analysis of data, by similar researchers, using the same context should arrive at similar conclusions. Researcher as instrument. Consistency in the context of the researched. Multiple realities	Multi-method and triangulation (of any style) Mechanically recorded data	Multiple researchers Repeated study Low inference descriptors Inquiry audit Participant researchers
Credibility	Presenting a believable account of a phenomenon.	Researcher as instrument. Transparency of the research journey. Collection of meta-documentation available upon request Multiple realities	Efficient data management Mechanically recorded data Notes on theoretical and methodological decisions Purposeful sampling Detailed observations Triangulation (of any style) Member checking	Peer debriefing Negative case analysis Referential adequacy Bracketing Prolonged engagement
Confirmability	The extent reported findings can be independently confirmed.	Inter-subjectivity. Positionality of the researcher can influence interpretation of data.	Research diary Audit trail products Declaration of positionality	Thick description of audit trail Autobiography
Transferability	The extent of generalisability for findings.	Studied phenomena is bound in time and context. However, clear description of structures, assumptions and processes allows readers to assess the extent of transferability.	Thick description Purposeful sampling	Member checking (external to studied sample)

Being reflexive can be used to check that each of these validity criterions are present in research design, with the researcher considering their role in the research and how it may influence method design and data collection (Alvesson and Sköldberg, 2017). Reflexivity also includes (re)evaluating thoughts, methods and analysis as more is known about the study (Alvesson and Sköldberg, 2017). Practices I adopted, such as keeping a research diary, thick description, mechanical recorded data and suitable data management enables reflexivity to be documented and presented as evidence of trustworthiness and transparency. Adopting a multi-method approach was key to providing a comprehensive dataset, that did not rely on my sole interpretation of phenomena on Twitter. Additionally, with interviews conducted in waves, member checking occurred horizontally through requestioning findings from previous interviews and enquiring on observations seen on Twitter. Member checking was also vertical across participants, with strict anonymity, by questioning participant on themes and observations that other participants had mentioned. Discussing consumers and the 'gamer' community was a significant learning which came from this process. Thick description used later in the findings provides a 'voice' to the participants, allowing the reader to visualise and contemplate interactions, providing a transparency to the emotional and cognitive state of both the researcher and the researched. Thick description also allows future scholars to get a 'feel' of a phenomenon before they embark to do their own similar study
(Ponterotto, 2006, Geertz, 2008).

Self-reflexivity is expressed through the act of 'coming clean' (Mullings, 1999), presenting a critical engagement and reflection of self and environment (Alvesson and Sköldberg, 2017). The next sub-section explores this through an explanation of the researcher's positionality.

4.5.1.1 Positionality

Positionality is perhaps one of the most important elements of qualitative research, showing a level of intellectual rigour through acknowledging limits to researcher's knowledge and potential interferences which may influence a study. There are moral responsibilities in writing accounts of others' lives which cannot be articulated as objective accounts (Van Maanen, 2011). Therefore, an honest account of the researcher's and participant's position needs to be actively written into the research process (McDowell, 1992). Informing how research is conducted, potential ethical issues, how findings were developed and context for the reader (Dowling, 2021).

In light of this, let me introduce myself, I cannot suggest that this is an exhaustive portrayal as there may be factors that go unnoticed to myself, however by 'coming clean' I will present myself to the reader. I am an early-thirties, white, female, able bodied, PhD student from the North West. I previously worked in the video game industry as a social media assistant in addition to doing 'fan work'/hobbies such as running a video game blog, costuming and generally keeping up to date with industry news. I am also an interdisciplinary researcher, moving from geography to a management school.

These traits influenced this study in a number of ways. Firstly, women studying video games are known targets of online harassment or not taken seriously (Huntemann, 2015, Paaßen et al., 2017, Dowling et al., 2020). Whilst sharing recruitment posts, I was aware that if the post went viral, then my personal account would be targeted. Fortunately, I was not part of any negativity on social media and those who responded took the project seriously. Nevertheless, when interviewing female participants their responses sometimes fell into a pattern of talking about being a woman in the video game industry without prompts from myself. I assume this is due to a large volume of academic and popular culture studies about women in games feeding into an assumption of what two women coming together to discuss video games would typically talk about, in addition to the participants being able to see my female presentation on social media and on Skype. I purposefully tried to distance myself from a gender-led project design as these topics, I believe, are more suited to other

researchers and other projects, yet issues of gender did bleed through into the data and findings.

Secondly, dialogues on insider/outsider binaries are a common way to express a researcher's relationship to the research, although many scholars agree that insider/outsider positions are neither a binary nor static (Herod, 1999, Mullings, 1999, Dwyer and Buckle, 2009). For studies of a community, there is a small margin between being too detached where nuances are overlooked and being too involved where the researcher 'goes native' (Crow, 2017). Through previously working in the video game industry, I could use some industry terminology, and understood the production process, which tended to ease the flow of conversation. However, there were limits to this, as my experiences only cover a small section of game development; additionally, I often felt an outsider, which arguably I was, because my current position is within academia. Undertaking netnography on my personal Twitter account also made an insider/outsider positionality blurry, as netnography involves active participation from the researcher on the platform (Kozinets, 2019). I was 'following' these developers and observing and engaging with their life as shown on Twitter, most of the participants also followed me back and engaged with my content. It was incredibly difficult to draw a line and not recognise these as 'friendships' as social media vernacular often dictates (Fuchs, 2021). I mitigated this by being mindful about my interactions and restricting social time on the platform. Overall, I saw myself as a 'partial insider' (Chavez, 2008) whose available 'insider knowledge' was used to aid rapport and sampling. I purposefully remained mindful and critical about assumptions that came from my understanding of the industry and wrote these thoughts into my research diary alongside observations. The data collected is a representation of these interactions of positionality, and if another scholar would repeat the study, neither would be 'truer' representations, as knowledge is situational, complex and sometimes contradictory (Herod, 1999, Van Maanen, 2011).

Finally, is my position as an interdisciplinary researcher. I opened this dissertation with an account of empirical curiosity and explained how I thought back to my previous geographical knowledge. Throughout the whole research journey, I saw organisational phenomena, and indeed the world, through the lens of space and place which is fundamental to the geographical discipline. The production of this

dissertation is an amalgamation of moments that are connected to me – from starting with a geographical foundation, to taking time away from university to work in cultural industries to gain inspiration, to moving to a management school where I studied different bodies of literature, leading to the discovery of occupational community which is fundamental to this thesis and not featured in geographic works. Cunliffe (2018b) describes this process as 'wayfaring', through being reflexive about our journey, recognising that "we are humans living in a human and material world saturated with history, culture, relationships, emotions, intentions and imagination" (*ibid*: 1430-1431). These do not make the data invalid, rather, being transparent about how a study came into fruition assists in showing to the reader where knowledge originates from and the purpose for its existence. I will now present how the data was analysed.

4.5.2 Data analysis and story of the thesis (part II)

Analysis of data began through thematic analysis of both the interview transcripts and netnographic journal and screenshots, which started by following the six-step process by Braun and Clarke (2006). Thematic analysis is a method of moving themes and concepts found in data into theory to present an accurate and detailed overview of a phenomenon (Rubin and Rubin, 2011).

Stage one was becoming familiar with the data through transcribing and organising my research notes. Stage two involved open coding (Strauss, 1987) where I closely read the transcripts and netnography data (journal and screenshots) three times:

- Readthrough 1 – Highlighting anything relevant or interesting which stood out from the data with codes organised into a codebook. Codes were created through using words or short phrases which captured the essence of a thought, action or phenomena (Saldaña, 2021).
- Readthrough 2 – With the initial codebook, I then went back and reviewed the data to observe if any codes created later in the process could be found in earlier transcripts or netnography data.
- Readthrough 3 – Acted as a final check where I changed the order of the documents and worked back and forth between them and the codebook.

I decided to refrain from using NVIVO as I wanted to immerse myself and feel tangibly close to the data for meaning extraction (Coffey and Atkinson, 1996, Cooper et al., 2017). Therefore, I used anonymised printed copies of the transcripts to enable highlighting, scribbling and note making, which assists in bringing the researcher closer to the data (Saldaña, 2021). Figure 4.2 and 4.3 below show the transcripts and examples of mark-ups:

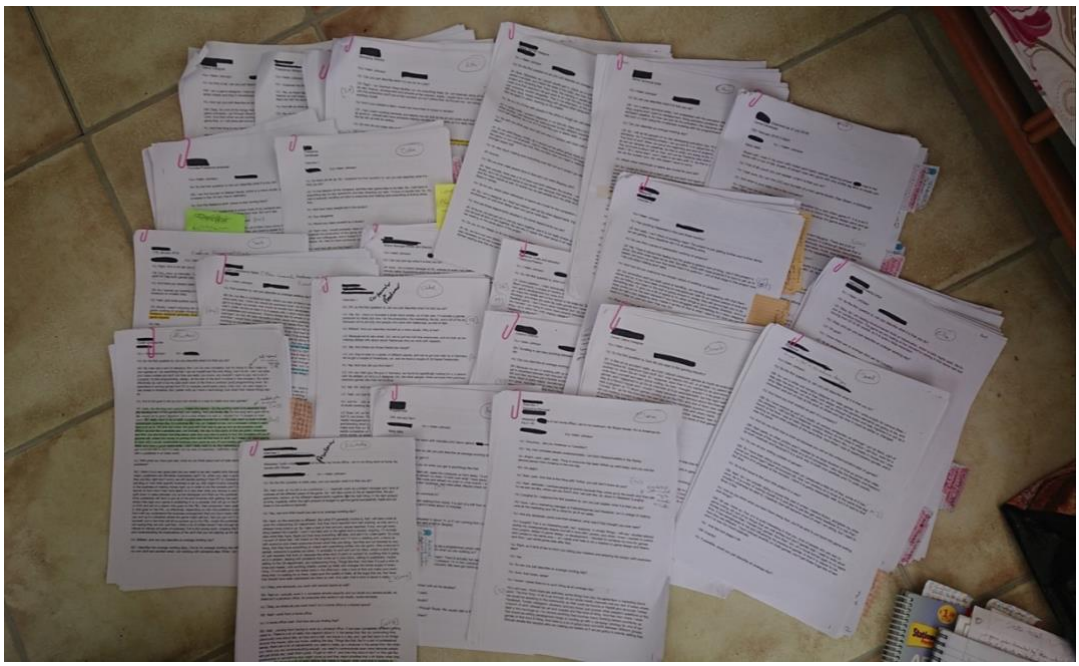
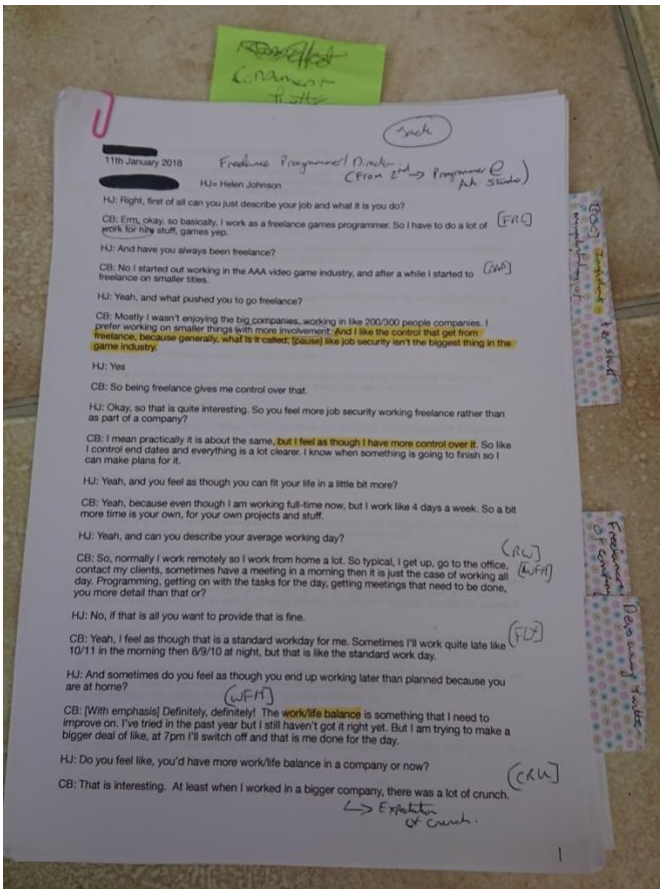


Figure 4.2 Transcripts



11th January 2018

HJ= Helen Johnson

HJ: Right, first of all can you just describe your job and what it is you do?

CB: Erm, okay, so basically, I work as a freelance games programmer. So I have to do a lot of work for hire stuff, games yep.

HJ: And have you always been freelance?

CB: No I started out working in the AAA video game industry, and after a while I started to freelance on smaller titles.

HJ: Yeah, and what pushed you to go freelance?

CB: Mostly I wasn't enjoying the big companies, working in like 200/300 people companies. I prefer working on smaller things with more involvement. And I like the control that get from freelance, because generally, what is it called, [pause] like job security isn't the biggest thing in the game industry.

HJ: Yes

CB: So being freelance gives me control over that.

HJ: Okay, so that is quite interesting. So you feel more job security working freelance rather than as part of a company?

CB: I mean practically it is about the same, but I feel as though I have more control over it. So like I control end dates and everything is a lot clearer. I know when something is going to finish so I can make plans for it.

HJ: Yeah, and you feel as though you can fit your life in a little bit more?

CB: Yeah, because even though I am working full-time now, but I work like 4 days a week. So a bit more time is your own, for your own projects and stuff.

HJ: Yeah, and can you describe your average working day?

CB: So, normally I work remotely so I work from home a lot. So typical, I get up, go to the office, contact my clients, sometimes have a meeting in a morning then it is just the case of working all day. Programming, getting on with the tasks for the day, getting meetings that need to be done, you more detail than that or?

HJ: No, if that is all you want to provide that is fine.

CB: Yeah, I feel as though that is a standard workday for me. Sometimes I'll work quite late like 10/11 in the morning then 8/9/10 at night, but that is like the standard work day.

HJ: And sometimes do you feel as though you end up working later than planned because you are at home?

CB: [With emphasis] Definitely, definitely! The work/life balance is something that I need to improve on. I've tried in the past year but I still haven't got it right yet. But I am trying to make a bigger deal of like, at 7pm I'll switch off and that is me done for the day.

HJ: Do you feel like, you'd have more work/life balance in a company or now?

CB: That is interesting. At least when I worked in a bigger company, there was a lot of crunch.

Figure 4.3 Example of mark-up including coding, highlighting and note making

With the netnography data, I used the electronic diary and collection of screenshots as a document which I then wrote analysis notes into the new analysis diaries which also held the codebook.

Stage three involved creating themes from the data, as with the initial coding, the process is inductive starting with a few initial codes that were prevalent through the previous stage before moving across the data set, continuously returning to the codebook to consider where connections and polarity between codes occur. It was at this stage where I realised there were a lot of 'noise' in the data with lots of very interesting, but not always relevant data. Therefore, I felt some structure was needed in the analysis to organise this bundle of knowledge as I began to "drown in data" (Brinkmann, 2014: 720) Stage four can be included in this realisation, as at stage 4, researchers are encouraged to reflect and do a quality check. I stepped back from the data to look at the thesis as a whole.

From here, I started a method of abductive analysis (Tavory and Timmermans, 2014) and returned to literature for guidance. Abductive analysis is "one-part empirical observations of a social world, the other part a set of theoretical propositions" (*ibid*: 2), enabling a creative conversation between evidence and theory which is not a step-by-step process but encourages exploration situations (Rinehart, 2020). At this time the literature on communities of practice which I started with alongside clusters did not seem to fit with what I was seeing through the data. I spent time investigating alternative methods of understanding community and communality and came across occupational community theory, specifically Van Maanen and Barley (1984) and Weststar (2015) which connected to my observations. Upon returning to the data, I could 'see' different elements, with the theory providing a method to organise themes which I struggled to integrate despite knowing that they were important – for example the role of consumers. I made the decision to use occupational community determinates (boundaries, social identity, reference group and social relations) as broad guidance themes.

A reanalysis occurred where I went through all the data, re-coded and repeated step 2. I then used the determinates guidance themes to organise codes and collected quotes, with associated community (then simply 'consumer') added as a fifth theme. I then inductively went through the data to create and name sub themes[16] to the detainments which structured writing up of the findings using the voice and terminology of the participants.

I was able be reflexive and adapt the analysis due to starting with an interpretative approach with qualitative methods. Qualitative research is rarely pure inductive or deductive, with many researchers falling into shades of abduction even if they do not declare it (Brinkmann, 2014). Despite abductive analysis tending to be linked to a pragmatic approach (Tavory and Timmermans, 2014), through using reanalysis with a thematic method, which holds no theoretical substructure (Braun and Clarke, 2006), I believe my philosophical positioning has not changed because without the first stage of analysis I would not have been led to re-evaluating my conceptual underpinnings. It was data which led me to that point, not theory, occupational community was used

[16] Example thematic table – appendix D

as a guidance to cut through the noise and enabled me to go back and forth to discover relationships between spaces, communality, and occupational understandings that I struggled to see initially. I will now consider some limitations to this study.

4.5.3 Limitations

As with any qualitative research, the data collected cannot be argued to be representative of the entire community or population (Crow, 2017). As data were primarily collected through social media, I was more aware of those who were active, which potentially can create issues of representation with those who are the 'loudest'. The data presented here is also contextually situated in time between 2017-18 and through the eyes of a few members of the UK video game industry. Tracking developers over a period of year has shown how unstable the identity and experience of a video game developer is. Further to the changes occurred during the data collection process, multiple participants have changed role or studio after November 2018, therefore, although this research recorded their communal experiences; it is not reflective of how they are working in 2021.

Regarding analysis, due to the nature of doctoral research, the data were analysed through the sole interpretation of myself and only discussed with a supervisor as a check. Additionally, switching method of analysis is not generally best practice and I would try to avoid in future studies, nevertheless it did provide clarity to the thesis overall and I judged the alteration a beneficial risk as long as the process was transparent. The findings will now be presented in the next chapter.

Level 5: Analysis

5.1 Introduction

The purpose of this chapter is to present the findings from the data collected, using the language of the participants where possible to assist in representing their communal experience. For example, I use the term 'gatekeeping' which is often used academically to refer to codified rules and restriction of information, particularly of the media. However, my participants used it more fluidly to explain a general feeling of exclusion and what they saw as exclusion of certain individuals. Where these terms occur in the following analysis, I will highlight and explain them. I also retain technical, explicit and potentially controversial language to allow the participants to speak in their own voice.

Stories form the foundation of analytical inquiry and are organised using Van Maanen and Barley (1984) initial occupational determinants to show how these tales fit within broader occupational themes. I cannot say that this was not a messy business, as tale telling in the modern day is messier and harder to locate in time or space (Van Maanen, 2010b) especially when grappling with mediated spaces. There will be moments where a story overlaps into another category; where this occurs, I will explain and expand. The following analysis presents a thick description of an occupational community and their related spaces; in what amounts to guiding the reader through a culture these video game developers are a part of. Weststar (2015) concluded that an occupational community was evident within videogame development – however she suggested that more research was necessary to uncover the nuances of a community. Therefore, this chapter structure assists as a response to the need for a more in-depth understanding by applying primary data to an established format.

The following analysis includes: Boundaries (5.2) which discusses issues surrounding the social construct of boundaries around the occupation. Social Identity (5.3) which discusses how video game developers construct their own identity and introduces conflicts between community ideals and individual creativity. Reference group (5.4) introduces the act of storytelling as a method for developers to build communitywide

rituals and expected behaviours including ‘crunch’ practice and the expectation of helping community members. Social Relations (5.5) explores the multiple connections that developers have between spaces or work and spaces of non-work – including personal relationships and the blurring of hobby and paid employment. The final section, Associated Community (5.6), is an addition to the established occupational categories by highlighting a specific ‘other’ to the developer community – the influence of consumers.

5.2 Boundaries

The boundaries of an occupational community refer to the active 'othering' of an occupation by its members when comparing themselves to members of other occupations. Often creating a sense of mystery to those who are perceived to be located outside of these boundaries. I will explore this concept through three steps: firstly, by exploring how video game developers define themselves through comparison to other industries (5.2.1), secondly through the experiences of initially entering the industry – in particular the role of the student (5.2.2) and finally through the role of gatekeepers (5.2.3).

5.2.1 Occupational boundaries

The clearest way to view an occupational boundary is to see how video game developers describe themselves when compared to other industries. Jacob, an owner and game developer explains how he views the opinions of those he sees as outside the occupational community – in this example within an academic setting where he guests lectures about video game design:

> *"Sometimes if you ask the opinions of someone who isn't a developer, like who doesn't understand the processes, they ask for stuff that is not impossible, but might be unrealistic within the scope of the project. They can't see the whole picture – you can"*
>
> (Jacob, Owner/Game Designer – 18th May 2018)

Jacob focuses here on the assumed 'special' knowledge that creates the boundaries for the occupational community. Those outside of the community do not know how development processes work and so are assumed by developers to do not fully understand the work that takes place. Leon, a Director/Writer, alternatively uses cognitive proximity and distance about the occupation of game work to his advantage by recruiting friends to provide feedback, test his game and help with admin tasks. During this part in the interview, I was asking Leon where he sourced help for his start-up indie game:

"LE: I have friends who are writers and I give them scenes to look at and feedback on. I have colleagues who I give bits of the game and they'll highlight certain problems. So, it is quite broad in that respect and there are various different pockets of help I tap into, because I don't have a QA team either. So, getting feedback is one of the hardest things to do in one way. That is the most valuable thing I could get I think and where friends come in to help.

HJ: So, are your friends previous work colleagues or current ones?

LE: A mixture really. Some are from older jobs, some who actually work in QA as a job, which is quite helpful, and then colleagues at [main employment] are less on the developer side, because I work for a publisher, so they are less dev'y. Like one of the designers on [redacted], I talk with him a lot and he's played the game, so he's helpful, so his base of knowledge is invaluable. But my "friend, friends" are less into games and they sort of help in a community sense, like updating Facebook and Twitter pages and using them to build up numbers [laugh]."
(Leon, Director/Writer – 6th February 2018)

The quote above firstly shows how Leon considers friends who are writers to be within the occupational community through trusting their opinion on prototypes. The feedback sent back would be considered by Leon as valuable knowledge and close occupational connections assist in filling in gaps in his development team. He then goes on to talk about colleagues at his main employment which is part of publishing rather than development. Here there is an element of drawing a boundary of 'them' (publishers) and 'us' (developers), where despite both being integral elements to the video game industry, Leon views them as different because they are not as exposed to the daily experience of being a 'developer', he follows on by disclosing a tie to an external developer which his main employer publishes with who Leon views as invaluable. Finally, he compares with his friends outside of the industry who he trusts to update social media. Although, his friends who are not game developers are able to provide useful labour, their opinions on the game and its progress are portrayed as less valuable than the options that emerge from inside the occupational community. Through this example, the occupational boundary and who is considered inside of it,

is actively formed through community members thinking about those who appear similar.

A term that was frequently used to describe the experience of the community was 'incestuous'. I was not surprised by the use of such term as it is commonly joked about online and whilst I was in the industry, I heard the term used multiple times. Developers use incestuous to explain the feeling of being locked in and negative group thinking. While boundaries may be positive in that they provide a guidance, who is part of the community, it can go too far, and the industry can become too inwards looking if they only focus on the trials and tribulations of the video game industry rather than attaching them to wider cultural labour issues and policies for example.

5.2.2 Boundaries and entering the industry

There was an interesting divide in access to the occupational community between those who started in the 1990s and early 2000s, and those who started late 2000s to the 2010s. Sully, a creative director explains his route into the industry from an electrician for nine years to a QA tester in the mid 1990s:

"I was always mad into games. And the town where I went to school [redacted] and that was where a games company called Ultimate started up. They were, the two guys who started it up, they used to live with their parents above a post office and I used to walk past the post office everyday saying 'ooh that's where they made [games] for the Spectrum and Commodore' - all those things you are nowhere near old enough to remember!

So, I've always grown up knowing that was there. And Ultimate, eventually became Rare, knowing that they were in the area and they were just bringing out Goldeneye on N64 and I used to have Edge magazine and they did a big Rare cover version, with a big gold R on the front, and I was reading it and they said what they look for people getting their foot in the door, and they said they weren't looking for a big long string of qualifications or necessarily experience, just people who are mad passionate about games. So, my mum said why don't you apply for a job, and I said,

doing what? [Laughs]. Yeah, I didn't know anything about game development, I can't draw, I'm not a programmer, so I thought, what would I do? So, I literally said, I'll come, make the tea, the coffee, sweep the floors and then…apparently my application fell through the door the day one of the testers were sacked.

So, this guy got sacked and they said, '[Sully], we normally advertise', because they normally advertise in like industry magazines and websites. But they were like, should we just get him in and see what he's like? So, I went in, and [High Profile Developer] interviewed me, asked me what my favourite game ever was and I said Elite on the BBC [micro] and it was [his] favourite game too. So, he gave me the job there and then as a tester. I didn't even know that was a job. I was a tester for about 11 months before they asked me if I would like to go into design.

(Sully, Creative Director – 29th November 2017)

Sully happened to be in the right place at the right time and his passion for games is what led him to his career. Boundaries were present, but previous exposure to video games and assumed passion assisted in crossing the occupational divide. Evidence of passion formed a trusting relationship that someone's potential talent meant that they were understood to be a good fit, they were similar to those already in the occupational community. Therefore, rather than being separated by perceived 'otherness', they were connected via perceived 'sameness'.

Leon, (Writer/Director) presented an interesting case. His personal game development career occurs after his main role as a marketing manager at an influential AAA multinational video game publisher. It took him a while to get into the industry in the 2010s and only felt confident to start his own development project after finding some security in an adjacent part of the occupational community:

"Unless you have been in a job or had a formal education, you can't just get at this stuff. You really need some base experience"

(Leon, Director/Writer – 20th May 2018)

Passion for video games, it appears, decreases in its role of being able to cross the boundary as the industry becomes larger and more professionalised. While previously

the mystery of game development came because of its youthfulness with developers experimenting and seeing what works; the mystery of the present day concerns the industry becoming increasingly formalised, with varying key roles from studio to studio. It can be difficult to know, if all someone has is a passion for video games, where they could fit in. The professionalisation of passion can therefore be seen to be the bedrock of cultural industries (Hesmondhalgh and Baker, 2013), however there are limits to the extent passion assists with breaking into an industry, crossing an occupational boundary and knowing where a creative person could feel belonging. Chloe (Co-founder/Producer) explains her experience of breaking into the industry in the early 2010s after taking unpaid internships:

"I think I didn't know enough about the industry and the roles honestly. I grew up playing games and knew that they were fun and that some people work there. But the industry itself was quite opaque and I couldn't really see in to see what was happening so the key thing was finding a way in through the door. So, I focused on indie studios when I was applying initially because I thought they were more likely in need of someone who was smart and resourceful in a way that bigger studios, would have a constant stream of professionals."

(Chloe, Co-owner/Producer – 19th July 2018)

Another example is that of Alec, a senior game designer, who knew he wanted to work in the industry but had few ideas on what each role meant in the context of team development:

"I don't think I really knew what a designer was until I studied game design"

(Alec, Senior Game Designer – 24th April 2018)

Alec, nevertheless, was pushed by passion to enter an unknown, the unknown here being video game development. By studying game design at university, it provided a space to experiment and learn what roles were available, acting as a bridge to assist passage across the occupational boundary. Stories such as Sully's previously are much rarer as the industry becomes increasingly professionalised, and university becomes one of the ways which aspiring developers can access the occupation. Throughout the data, participants spoke about their time at university as opening up opportunities, a

time to figure out and hone their skills and develop networks. However, there was also a growing recognition that a university education is becoming stale, with lecturers relying on technology and software which does not meet contemporary industry needs, and too many similar developers graduating with not enough demand for them. Therefore, there were developers like John (Developer) and Max (Founder) who appeared to be reverting back to older practices of taking risks and self-learning, as seen by the older cohort of developers – Sully (Creative Director), Miles (Founder) and Markus (Coder), who entered the industry before there was structured game worker education – as a reaction to both the assumed staleness of developer education and perceived value for money of British education. Miles (Founder), reflected on how potential developers today have the benefit of learning from online sources, which he himself actively contributes to with content:

"If you have like a video camera in a meeting post launch, you can release a developer discussion. And people love that, peeking behind the curtains and that is really easy to do. And if there is something sensitive, that is really easy, just put a non-copyrighted track over the top."

(Miles, Founder – 29th August 2018)

Miles uses the term 'peeking behind the curtains' which is a useful analogy for how passion and interest can be used as a method of crossing the occupational boundary. With the process of game making as secretive as the games themselves, those who are in the occupation are the ones to grant permission for enthusiastic outsiders to 'peek in' through controlled content. Miles here discusses using a non-copyrighted track over the top of video clips to obscure information which should not be available beyond the studio space. For information that can be disseminated, Twitter appears to be influential, for example Joel (Writer) produced a monthly newsletter discussing writing techniques and shared via Twitter, Leon (Director/Writer) shared his 'behind the scenes' learning journey while producing his first indie game, Markus (Coder) shared coding tips and Zelda shared data she uncovered from *Unity* blogs. In the age of social media and especially Twitter – the process of video game development is as open as it has ever been which assists in breaking down occupational boundaries.

The presence of developers on Twitter also brings them closer to those located outside of the industry, nevertheless, while activities such as the developer discussion provide a window into the occupational community, there remains an element of control to the information. Those releasing information either provide clips without context as digital curios for those interested, or context is provided as a specific learning exercise. These are useful for specific skills, but to understand what it *means* or *feels* like to be part of the occupational community is harder to share without a person being part of the community to start with. For example, the information shared through tweets and newsletters tends to be practical information or reflections, but to the reader of this content they are only viewing the industry though the window provided by those inside the occupation. A person outside of the occupation may have the information to know what a developer does yet is unable to achieve the *knowing* to understand a concept that relies on context and experience. Elena reflects on this notion of crossing an occupational boundary and changing from absorbing information, to occupational knowing:

"It's still surprising to me today how crazy it is to go from not being in the industry, whether as a student or just a prospective person that wants to be part of it - to when you work on your first game. Because there's, I feel like the games industry is so closed off in information sharing as an outsider – you might think that you know a lot of things about game building. Because obviously game companies do share bits and pieces about development. But it is such a mind-blowing experience when you really see the development process. So, all those little bits and pieces I think really did get me closer and closer to that point – but I do feel like there is a really big leap that you have to take from when you are not in the industry to when you are"

(Elena, Marketing Manager – 26th July 2018)

Elena highlights an underlying grey area within the occupational boundaries – the role of the student. Courses for video game development are relatively new and despite technically being part of the industry, students are often othered by those in the industry, as Markus explains while reflecting on an exchange with a student:

"There's a course at the local collage and they do a two-year foundation degree in game art and it is a really good course, like it doesn't make sense that such a small

local collage would be doing it, but it is brilliant. So, they do like end of year showcases and they invite local developers to come and judge the games and there was the one that was beautiful, stunning, funny and I thought wow. So, I needed some work doing and he was looking for a job, but the thing is while they have learnt how to do they weren't sort of ready to go and do a real job yet. Like they knew how to make a model but there is a whole bunch of stuff between knowing how to make a model and making art for a game because there are a lot of time constraints on stuff, you have to work to specific scales and textures and all that stuff."

(Markus, Owner/Coder – 20th July 2018)

Video game design students appear on the periphery of the community, who are restricted members until they achieve their first 'proper' job. Nevertheless, some courses benefit from being tied to specific studios; while other institutions create video game courses as way to bring students to their institutions with few links to the industry. As these courses grow, they are becoming increasingly distant from the industry the students wish to enter. Further marginalising students in the wider occupational community:

"The common advice is, if you want to be a programmer, do computer science, maths, physics. Artists do art stuff. Don't do games. We'll teach you that"

(Miles, Founder – 29th August 2018)

Here there is the assumption that the knowledge to enter and succeed in the video game industry comes from the industry once you are a part of it. As mentioned previously, the industry is evolving at an unprecedented rate. The base skills of knowing how to work code or create a striking piece of art transcend across time. Teaching the tools and how to create games results in a perceived 'correct' way to create. One that dates as tools and software become obsolete. As Miles suggests, once in an occupational community, access to industry relevant knowledge is presented.

5.2.3 Gatekeeping

Gatekeeping in an occupational community context is utilising an embedded power to restrict access to others. The process of othering creates a them and us approach, gatekeepers are prominent individuals who aid in maintaining an occupational boundary. While this can be understood as negative, by restricting access, it can also be positive particularly if a community feels threatened from external forces.

From the data, I found that gatekeeping is not prominent, at least in the context of the UK game development industry. While it can be challenging to enter the industry there are multiple individual developers and schemes actively helping potential developers. For example, Isabelle (Producer) is part of the Women in Games organisation and set up her own non-profit to help teen girls enter the industry. Miles (Founder) helps to run BAME in games and multiple participants engaged with BAFTA initiatives. Joel (Writer) creates his own newsletter and Jacob (Owner/Game designer) volunteers for lectures at local educational institutions.

However, online there are key individuals who form the narrative of the occupational community. While I will go into this in a greater depth during the 'reference group' subsection. It is relevant here when discussing indie developers. Indie development, unlike AAA, has a lower entry requirement in regard to equipment needed and style of product produced. Resulting in malleable boundaries where the potential population who can create games is widened (Anthropy, 2012). To some indie developers, this can be read as an erosion of their art and work, therefore they artificially gatekeep through emotional and social methods through suggesting the 'correct' way to do game design and feed these notions through popular hashtags (e.g. #indiedevwednesday) and through online conversations. Jacob reflects on this trend:

"It does seem like the space is owned by a few key players and there is no room for indies with a bit of ambitions"

(Jacob, Owner/Game Designer – 28th January 2018)

Gatekeeping is also dependent on the nation-state in question and its respective video game industry. Throughout this dissertation, I can only speak from a British

perspective, although, where relevant, participants referred to other countries' video game industries if they had experienced them. By doing this, it is an interesting account on how an occupational community may not be inherently international and is affected by cultural norms as much as they are their own internal community norms.

Elena (Marketing Manager) is originally from the USA. After unsuccessfully attempting to break into the American industry, which is heavily dominated by AAA studios compared to Europe, she decided to move to the UK:

"I'm here in the UK because I thought it quite difficult to even talk to anyone in the US. It feels much more closed off there. But even the people I did meet were pretty harsh about anyone trying to join the industry. Like one of them was really depressed sounding and told me to never join the industry, ever. And like, I didn't have enough skills to go in or anything like that and was like 'okay. Wow. Great. That didn't stop me though and I came over here [the UK] and found the community here was much more open to chatting about any questions you may have."

(Elena, Marketing Manager – 26th July 2018)

While issues of precarious work and unhealthy work practices have been studied globally, both within academic and industry press – studios in the USA have routinely been shown as examples of exploitative work in game development (Peticca-Harris et al., 2015, Cote and Harris, 2021). Therefore, the above statement can be read in two ways, firstly that members of the internal occupational community were warning newcomers about their previous experiences. Secondly, that the occupational community had felt they had suffered enough to get where they are and feel threatened by outsiders trying to make their way in.

5.3 Social Identity

The social identity of an occupational community refers to the shared belief that what an occupation does is special and significant when compared to other occupations. The social identity is often framed around concepts of danger, however in this dissertation danger is understood to be a generalised risk – whether that be emotional, financial, or societal. In its initial conception, a shared social identity tended to relate to positive aspects which spawned from challenging occupational activities (Van Maanen and Barley, 1984). However, more recent readings also highlight collective negative aspects to social identity (Sandiford and Seymour, 2007, Van Maanen, 2010a, Schwartz, 2018) – it is this duality of relating to a social identity which is taken into the analysis.

I will explore social identity through three steps: firstly, as a generalised account of video game developer identity (5.3.1). Secondly, through investigating the fragmentation of social/game developer identity and the concept of internal othering (5.3.2). Thirdly, by considering the conflict of individual creativity to a communal social identity (5.3.3).

5.3.1 The video game developer social identity

|Netnography| On the 9th July 2018, the video game side of Twitter exploded into a mass debate - who was a video game developer? The origins of the debate could be traced back to a well-known video game consultant and indie studio owner who had previously been a game journalist. In his tweet, he stated 'these people are all game developers' – before listing various job titles: programmers, designers, artists, producers, community managers and quality assurance (QA) among many more. He signed off the tweet by questioning why are people gatekeeping? Every single person, he argued, kept studios afloat and continues the flow of video game content for consumption in one way or another.

In six hours, the tweet had 101 comments, 701 retweets (9 of which who were participants of this study) and 2.9k likes and spawned multiple supplementary

conversations and subtweets. Responses had developers arguing between themselves – some who took a strict approach that only those who work on the code were video game developers and that each discipline should have its own support scheme. Every person in a studio does not *need* to be labelled a video game developer to find worth in their work, they argued. Suggesting that by being inclusive and broad the title loses meaning.

Opponents (those who agreed with the original tweet) contended that these developers were guilty of gatekeeping. One developer in particular, a writer and audio specialist, became emotional when describing how he has a bad enough time avoiding imposter syndrome for others in the community to start calling him a 'non-dev'. Another developer spoke of time when she had shipped her first game and passed a copy around the studio. Those in HR, she said, were hesitant to sign as they did not perceive themselves as to have worked on the game. Humorously, a producer quipped that he didn't know that other people in the industry were debating his identity.

A spinoff Twitter conversation started with the suggestion that being called a game developer has little benefits in wider society. A programmer jokingly replied it has negative benefits. Further tweets had them joking between themselves with a coder aghast at his peers who held themselves so highly suggesting that being able to write code as the most absurd form of self-lionizing. From this Twitter thread, a quote from a 2018 Guardian newspaper article titled 'How to get rich quick in Silicon Valley' was shared and received 53 likes and 13 retweets:

"Techies would call themselves just about anything to avoid the stigmatising label of 'worker'. They could only face themselves in the mirror if their business card proved they were rockstars or ninjas or something romantic and brave. Anything but the truth, anything but a drone." (Pein, 2018)

The distinction from being a standard worker is something that is synonymous with other creative industries (McRobbie, 2016a) and links to crossing boundaries via passion as explained in the previous section. Although with video game developers, they are more likely to distinguish themselves from other creative industries than the

worker class as a whole. Markus exemplified this while discussing his partnership for a new project:

"So, for my stuff, really, because I am a single person company at the moment, I have got specific people I am working with, so there is a guy I am working with who now works for Games Workshops making the covers for their pulp fiction Warhammer books. So, he is like an artist's artist, he's not just, I don't mean in anyway mean that, the word 'just' in that context, he's not supposed to say that someone is worse who makes art for games rather than art art. Because, you know, that is what he does. But he used to make games and he did so for about a decade and now he does kind of like fine art stuff."

(Markus, Coder/Founder – 20th July 2018, emphasis added)

Markus distinguished between the experience as an artist and experience as a video game artist. While this is adding towards the boundaries of an occupational community – it also provides a guidance to how a video game developer identity is borne. The core skill, in this case, is to be able to produce a product of artistic merit for the purpose of external consumption. Such description can be applicable for a range of job roles, from a video game artist to a children's book illustrator, logo designer or a portrait artist. Nevertheless, Markus distinguished that a video game artists' purpose is different to these; part of the creative process requires certain skills. These skills are specifically tied to the industry, therefore social identity is also tied to what the industry dictates:

"Marketing, PR, community managers, lawyers, office staff aren't developers because they could move around and work on other things"

(Ellie, Lead Environmental Artist – 8th October 2018)

A problem when discussing video game social identity is the speed in which the industry has developed. As one of the youngest creative industries, despite now being around 40 years old, it is still expanding rapidly with new roles and responsibilities added year upon year, as development becomes increasingly specialised and roles are created to meet the needs of the industry. However, this specialisation tends to be tied to the AAA industry, where large budgets allow the segmentation of a workforce into

smaller role descriptors. At the indie level where a team of no more than 10 work on a game, developers are more generalised and take on a higher percentage of non-creative work. Even at AA, where teams and budgets are larger than indie, there will be more than likely a general art team rather than being split into specifics of environmental, weapon design and character design for example.

Reflecting on this, taken at an industry level, the universal title of 'video game developer' does not bode well to being boxed in as it is likely to change over time and as the developer moves within the industry when changing jobs. Legault and Weststar (2017) suggested that the act of shipping a game to market is crucial to the professional identity and reputation of a developer. While they discussed this in terms of AAA development in North America, the data also showed this act of social proof, particularly for those who are indie developers:

"It is weird, before you have released your first indie game, you are in a certain bracket where you are unknown and I very much noticed the first event we went to after we released, and we had a successful launch that people were like ah! Hey [Gordon], congratulations, and then suddenly, like social standing, you get promoted. But I don't know what would happen if you came out and then disappeared or had immense success"

(Gordon, Founder/Team Lead – 1st October 2018)

Being a developer therefore relates to visibility and success. As an individual you take a risk that the game you are working on may run out of funding, the studio could shut down or the title is rejected by publishers. A risk is taken in partaking in crunch time, long hours and precarious work that has become synonymous in video game development. To the point that some romanticise the practices while others try to educate other game developers on Twitter that video games can be produced without these risky practices. In particular, this is especially hard for indie developers. The line between hobbyist and legitimate developer is having your name attached to a published product, ideally a recognisable name within the industry. This relates to Crogan (2018), who suggests that unlike other technology-aligned work, often the goal of video game developers is not to become rich or famous, only to be able to sustain

themselves using their skills. However, this risk aligns with the burden of game work, whereby hard work does not always result in commercial success:

"It is a slog. Four and a half years and we have made games that we are proud of. But that doesn't always convert to commercial success. I have one friend who hasn't even released a game and he started at the same time as me. Like dude, your game is taking too long! Even fiscally, if he makes back more than he spent I don't think he'll have the emotional pay off. That is a long period of time. But that is someone's dream, you can't be like, oh you should give up. You can't be like that. And they wouldn't listen anyway, they'll just keep going."

(Miles, Founder – 29th August 2018)

Therefore, a game developer identity is not always what is produced, but the community recognition of effort and risk – with risk a key identifier of an occupational community under the basic assumptions of Salaman (1974). Roles are in a continual flux as a person moves between studios and as the industry changes around them leading the universal, all encompassing 'video game developer' title to be unstable. Taking this conceptual point is where there is a chance to uncover fragmentation and disruptions within the community.

5.3.2 Fragmentation of video gamer developer social identity

Fragmentation of social identity in the video game industry can be split multiple ways and work intersectionally. Previously, I discussed fragmentation in terms of job roles – which is the most common and easiest to observe and has been previously been examined as 'nestedness' (Weststar, 2015) . From debating on Twitter, to developers casually suggesting that there are "a load of artists thinking they are game devs" (Sully, Creative director) when explaining issues with past projects. Yet, we can also see fragmentation of social identity through working styles (being freelance, a contractor or employee) and also through studio structure (AAA, AA, indie). The use of these by the occupational community to validate their own identity creates internal othering. Therefore, while boundaries produce othering from developers outside of the

industry; a fragmentation of social identity produces internal othering from perceived differences within the industry.

With working styles, there can be a wariness of hiring freelancers or previous indie studio owners, as they can be viewed by larger studios as risky and potentially unreliable. In part, because they assume these developers already know and inhabit skills to make publishable games away from a large studio structure, therefore these developers may be seen as harder to control. Jack, a programmer is an example of this fragmentation. In Jack's first interview, conducted in January 2018, he described himself as a freelance programmer and director. Jack explained he did mostly 'work for hire' and embarked on freelancing after a few years at a AAA studio. I asked him why he had gone freelance:

"Mostly I wasn't enjoying the big companies, working in like 200/300 people companies. I prefer working on smaller things with more involvement. And I like the control that get from freelance, because generally, what is it called, [pause] like job security isn't the biggest thing in the game industry. So being freelance gives me control over that.

HJ: Okay, so that is quite interesting. So, you feel more job security working freelance rather than as part of a company?

JA: I mean practically it is about the same, but I feel as though I have more control over it. So, like I control end dates, and everything is a lot clearer. I know when something is going to finish so I can make plans for it."

(Jack, Programmer/Director – 11th January 2018)

Jack linked the precarious working environment of video game development to being able to gain control for himself by being freelance. Zelda, a freelance network specialist remarked upon a similar sense of control, in that by working on her own projects, means she is able to have a sense of control over her days to fit around her mental health:

"Like lots of people in the industry, I suffer for mental health issues, so when I am coming off a particularly bad down point, like I am at the moment in my life. But that means I am quite unstable and not, not good at being there at like 9-5 like a contractor would need me to be. So, like, moving towards something like this, I can very much have my own schedule, my own time, and not negatively impact other people's schedules by deciding I am not going to do anything for 3 days because I physically can't."

(Zelda, Freelance Network Specialist – 4th May 2018).

Returning to Jack, in his second interview (April 2018) I asked him the usual opening question of 'has anything changed in past three months? He laughed and apprehensively said that he is no longer freelance and discussed with me his journey over the previous three months. Jack explained how he is now on a permanent contract with an AA studio, and he discussed a conversation that occurred with his new employer:

"So, I offered them, would they want me to work as a contractor, but they wanted the insurance of me being a part of the team, I guess. Because they were worried about my contracting background, but I was able to convince them that nah, I am not going to disappear. They told me they were worried about that, me disappearing for a better paid contract. But I gave them some things in writing saying that I wasn't going to do that. I have also put my freelance company into no longer trading. It pretty much means if I wanted to freelance after this project, which I might do, it's only been two weeks and I like these people so it might be a bit longer, but I can always go back to freelancing pretty easy."

(Jack, Programmer/Director – 21st April 2018)

The new employer had pre-assumptions on freelancers and contractors whereby Jack needed to prove he was not going to chase a better contract. Trust therefore was crucial and was shown through signing a document and Jack closing his company. In his third interview (July 2018) Jack was visibly more comfortable in his role suggesting that:

"*I feel more integrated, more part of the company I work for. As a freelancer, I was always on the outside edges of a company."*

(Jack, Programmer – 18th July 2018)

Joel, a freelance writer, remarked a similar statement that he never fully felt part of a company as a freelancer, always an outsider. It is within these experiences where observations about internal othering occur. Such pre-assumptions are not unfounded however, as I observed the alternative with Jacob who had owned his own studio for eleven years, started a new role at a games engine company and left within a month, as he clashed with the studio culture, to carry on with his own work.

There is also a fragmentation between studio structures, of those who are linked to the creation of AAA, AA and indie games. To be an indie developer typically means a greater risk is taken as a member of the occupational community as they are working on smaller budget, perhaps more niche, video games that does not have a recognisable name pre-launch. Linking back to a previous statement where a video game developer's social identity is only confirmed once they have published a game. For an indie developer, they are reliant on that title to perform well post-launch to demonstrate their validity as a developer. Nathan (Cinematic Production Assistant) reflects on this when he discusses a studio in Manchester where many of his ex-peers have moved to. Three years later, a video game has yet to be released from the studio which makes Nathan believe it could be a scam:

"As long as I have been at [redacted] I have like, 6 games on my CV, whereas if I had been there, I would have nothing.

HJ: And if it does come out as a scam, you would have that company on your CV as well?

NA: Exactly. Small industry. It is such a small industry, I know it is a big industry but somehow, everyone knows somebody. Like you can't do something bad without someone somewhere hearing about it, so I think getting clued up works in my favour. If you leave a bad taste in someone's mouth, it is going to reach somebody else's ears."

(Nathan, Cinematic Production Assistant – 28th May 2018)

Nathan's current role is at an AAA studio, and by staying there he has a strong social identity due to the consistent and recognisable titles that are on his CV. For an AA or AAA, often the name of the associated studio or franchise provides a level of influence, as social standing has already been confirmed and the social identity of the staff is tied to the publishing history of a studio or recognisable franchise. Therefore, their job role is more likely to define their place in the industry whereas indie developers are more like to be defined as the generalised 'indie developer' – the one who wears many hats!

"Being a manager or marketer, they are their own skills. I think if you are an indie developer, you need to wear all those hats. You often hear that indies spend 50 percent of their time making the game and the other 50 percent selling it"
(Leon, Director/Writer – 13th September 2018)

The industry recognises the difference between indie and the rest of the industry by pricing tickets and creating events that are specifically indie focused. For example, Connor (Designer) notes how he chose the cheaper indie tickets for EGX 2017 as he couldn't afford "the full developer tickets". While Chloe (Co-founder) explains she frequently attend indie events to network. On Twitter, indies have their own hashtag events (#indiedevhour for example) and tend to be more open about their current project because they control the process and the information that is shared. What is shown here is that not only is there fragmentation in social identity, but that fragmentation also feeds into the related spatialities of video game developers through what they can access and how developers interact and move through online and offline locales.

What may transcend fragmentation is a connection that video game developers have through genres. Leon (Director/Writer) was discussing how video game developers can sometime feel a little cliquey, and I questioned:

"HJ: Do you think people can be divided by the types of games they are making?

LE: That is an interesting question, maybe not divided, I think almost the opposite is true, so narrative games for example, there is a scene that comes together those. It is more people are gathered around a genre than are divided by one. I think people are way less genre defined than say 10 years ago."

(Leon, Director/Writer – 13th September 2018)

Leon presents an interesting consideration by suggesting that genres bring developers together while simultaneously, as a worker, those genres may not hinder career development as it had done a decade previously. Feeding into the potential of horizontal career mobility. Throughout the data collection time period I had participants who had moved horizontally into new roles – as a few examples, Nathan moved from Lead Compliance Tester to Cinematic Production Assistant, after previously being a Producer at a different company and starting his career as a QA tester. Leon works simultaneously as a Brand Manager at a publishing company and Director/Writer on his own game while starting in the video game industry as a journalist. Sully started as a QA tester before moving to design and working upwards from there to Creative Director.

When examining the career history of the participants, it appeared to be more important to stay active in video games production, in one way or another, to remain socially tied to the industry. Even if it moves away from your original role. As Leon suggested, genres did not seem to influence career progression and identity of a developer, rather the genres brought developers together socially during side projects and hobbies.

As a conclusion to discussing fragmentation, it is again important to emphasise the youthfulness of the industry. From the 1980s to mid-1990s, the occupational community was not only much smaller in terms of available roles, styles of working and studio structure, but as a cultural industry it was not taken as seriously as film or music (Banks and Cunningham, 2016). Therefore, those who experienced occupational othering from outside of the industry during these times are more likely to feel threatened by the broadening roles and working practices and may wish to gatekeep their occupational social identity internally, as Gabriel summarises:

"I was one of the first users of Unity and I have been using Unity for 10 years, since it was Mac only. Which is astonishing. Back then, there was already so much gatekeeping, because basically if you were a programmer, you were a programmer. Programmers make games, everyone else stays behind this velvet rope. So, I was building my first few games and I was very pleased with it, I showed it to one of the programmers at the company and he said - that isn't a game. And I was like, it is, you do these things, and it's fun and this is the goal. But he was like, it wouldn't fit into his rules of what a game was. I was like, these are methods not rules. There is an old guard of gatekeeping. I think what we saw in July [Twitter debate mentioned previously] was the ongoing throws of this where people wanted to go, no, this person is not a developer, they don't count. But the rules are always changing. But what they want is elite clubs and walled garden where they feel protected and special. They are investing a lot of time into this practice, so they also want to feel like they are protected from upstarts who are not as invested as they are."

(Gabriel, Game Designer/Artist – 12th October 2018)

5.3.3 Individual Vs communal social identity

The final part of discussing social identity is the conflict between a developer as part of a team and a developer as a creative individual. In a conventional understanding of occupational community – social identity is wholly found through the work done within the boundaries of employment. However, the data from this study suggests that hobbies and side projects additionally matter to the creation of social identity; rather than simply a method of social relations as Van Maanen and Barley (1984) and Van Maanen (2010a) describe.

What is important here is that individual pursuits to form an individual identity does not take anything away from the occupational community, rather it enriches it by showing the multifaceted sides of what it is to be a video game developer. To be a video game developer, typically means that passion for the craft extends beyond the workplace, into side projects and hobbies. Indeed, these are frequently a way to demonstrate skills when a developer has no employment history or to show the wider industry what else a developer can do. As active video game development is tied with

non-disclosure agreements (NDAs) - restrictions are placed on exhibiting current personal creativity to the wider community, when taken from work done within the confines of employment. Making it difficult to define individual identity when a studio/firm controls creative decisions. These extra-curricular activities aid in an individual gaining back some creative control away from the studio/workplace; or in the case of freelancers – from their current project(s). Indie developers rarely have this dichotomy as their projects are of their own creation.

This can be related back to a divide between being a successful developer as achieving a personal goal and being a successful developer as just being employed. The latter is shown through those who are happy to work on anything, as it is more important that they are part of video game development. Zelda (Freelance Network Specialist) explored this when discussing her career to date:

"When I work, I like to have it varied as possible to see how it works. Like there are areas where I am a specialist in the Unity platform, but I am also a generalist, and I want to experience as many games as possible. Like I hate sports games, but I took the MLB [US baseball] job because I have never seen a sports game, I have never played it, I have never really dealt with that specific set of problems before, so that was more interesting than the fact it was a sports game. Like if I only ever made stuff that interested me, that would ruin games more than it already has."

(Zelda, Freelance Network Specialist – 13th August 2018)

Zelda, in addition to network programming, runs her own Pateron for educating other developers about hidden tips and tricks with the *Unity* platform. Her Twitter output is filled with nuggets of information, taken from unwieldy Unity blogposts and from what she describes as 'secret areas' on the website, and transformed into easy to consume tweets. During the interviews, Zelda came alive when speaking about her side project which pays for almost half of her living expenses. Within the industry, she is known as much for her educational work as she is as a Network Specialist. Jacob remarked upon her work during an interview suggesting that he does not know how she gets her hands on the information – but he finds it incredibly useful.

Jacob also relates to a concept that simply being employed makes you a video game developer and it is what is done away from the workplace or personal projects are what make you an individual creative:

"When people say, 'oh I really want to work in games!' I say could you work on 'My Little Pony'? Could you enjoy doing graphics or coding for that? My worst thing would be to work on a train simulator. I am not a fan of trains. I am not a fan of football. But I have worked on those games because they are a job. When you get to the foundation of it, they are all the same"

(Jacob, Owner/Developer – 18th May 2018)

Away from his work, Jacob makes boardgames and educates at a local collage. As with Zelda, he is known for his teaching as much as he is as a developer. These occupational commitments, rather than organisational commitments aid in keeping the creative feeling as though they have control of their creativity and occupational identity tends to overshadow the organisational identity of being an employee (Marks and Scholarios, 2007, DeFillippi, 2009).

Nevertheless, some try to align personal creative goals with their paid employment. Gabriel, when discussing dream projects suggested that "life is too short to work on a football game" (Gabriel, Designer/Artist – 20th July 2018). While Gabriel also has multiple projects away from work that they are known for – Lolita fashion design, digital art and personal games – they tie their identity as a video game designer closer to employment work than Zelda and Jacob do. To Gabriel, being passionate about work means that an inherent interest is needed, a job is not just a job. Neither of these viewpoints are necessarily more valid than the other, rather they further show the shades of video game developer identity and why people view themselves and others as they do.

Twitter plays a particular role in creating this 'whole' video game developer – an identity that is not only defined by the attachment to a studio/firm. Twitter becomes a space to explore and demonstrate the individual creative rather than social identity being wholly led by a studio/firm. This is shown through the common use of 'VAMO', 'views are my own' or 'tweets not affiliated with X company' added to a developer's

bio. Twitter can be argued to be a quasi-public space (Murthy, 2018), therefore it would be detrimental to show NDA protected work on Twitter. Nevertheless, bonding and identifying each other as community members is facilitated by sharing information and creative outputs. Twitter assists this by the accepted statement of 'VAMO' being a norm of using the platform. With a sense that on Twitter, a developer is showing themselves as a multidimensional creative rather than an employee.

|Netnography| On 19th April 2018, Joel (Writer) tweet quoted a Gamasutra blogpost by prolific developer and video game industry blogger, Laralyn McWilliams, discussing 'Twenty things I've learned about game development':

"*The game industry discourages individual pride in your work in favor of team recognition. Don't undervalue your own contribution and worth*" (McWilliams, 2017)

Alongside this quote, Joel wrote how narrative designers and writers in particular have their creative efforts hidden by team recognition. As a role, Joel argued they are not vocal about their achievements or work enough. Respondents to Joel's tweets were fellow video game writers who agreed with him. Each one, sharing stories of when they felt they did not celebrate their successes as much as they could have done.

Nevertheless, the developers are not free from the ties of their respective employer. Control from the studio/firm remains by developers knowing they are unable to tweet certain discussion points or NDA-covered content. If they do, there is an acknowledgement that there will be sanctions. Misdemeanours would find their way back to the studio/firm via external reports from either consumers or other developers; or reported internally by peers who saw the tweets. Therefore, there is an illusion of a digital space that is free while monitoring remains for those whose creativity is tied to external influence.

Restriction of individual creativity by a studio/firm goes beyond Twitter as this next example shows. Nathan (Cinematic Production Assistant) explains how his current employer restricts creativity away from the studio:

HJ: Finally, do you run any fan projects?

NA: I mean, I'm technically not allowed to without running it by [redacted]. Even something as simple as writing a short story or creating a piece of art for Instagram, [redacted] needs to see that and make sure it is compliant because technically everything of my output is theirs.

HJ: Even if it isn't their IP?

NA: Yeah. I suppose that is one of the things they are looking for when it goes to their compliance department. Are you representing the company in a negative light, are you doing anything with any of our IPs. I have not known anyone to be rejected, but then again, I do know people who do their own thing under a different name. I know some people who do erotic art even, which I know [redacted] certainly wouldn't want anyone from the company associated with. You kind of have to if you are an artist in the company, you are just creating [redacted] all the time. It is not creative doing [redacted] day in day out, so if anyone wants to do erotic art then they should be allowed to.
(Nathan, Cinematic Production Assistant – 21st August 2018).

Ash, a managing director of his own indie studio previously worked at the same studio as Nathan for over a decade. At the time of interviewing, he was working on a game with his daughter which he was enjoying immensely. Ash compared his creative experience now to what he experienced at the studio he previously shared with Nathan:

"It is turning out really nicely, so I am hoping we can finish that over Christmas and release it! And then she can have her first credit. It was something that was mooted at [redacted], that they could have a little label for jam games and side project that the staff could work on in their spare time and pitch to the company. And they would take the ones they thought would have legs, allocating staff to polish it up and whatever. So, the company would have new ideas coming in and staff could have a creative outlet. But this was when [redacted] came in and decided that everything we make, belongs to them. I had to shut down a web series I wanted to make because I asked [redacted] legal permission to do it, and they said no."

(Ash, Managing Director – 14th September 2018)

Social identity, created through additional individual creativity, in these two examples have been restricted by control by the studio/firm. Therefore, to engage as a 'whole developer' in the occupational community, pseudonyms or contravening employment regulations would need to be used. Typically, the larger studios are the ones who have a tighter regulation on creativity outside of the workplace. However, both Ellie, Gabriel and Leon describe positive relationships with their respective multi-national employers allowing them to work on side projects - as long as studio IPs are not used. Those who were free to work on side projects seemed to be more at ease with their identity as it allows them control over their own lives in an industry that is constantly moving - as Gabriel suggests:

"I think when you are doing your own personal projects on the side, it is nice to do small projects or small creative efforts during the end of a project where there is no room for creativity. So, you tend to pick when to live differently."

(Gabriel, Designer/Artist – 12th October 2018)

5.4 Reference Group

The reference group of an occupational community relates to the construction and maintenance of shared norms, values, beliefs and agreed upon sanctions. These are both positive and negative attributes of a community. I will explore the reference group for the UK video game industry through three steps – firstly, I will describe how the method of storytelling enables the reference group to be established (5.4.1). Secondly, I will explore two reference group traits that emerged from the data – the expectation that the community as a whole should help and support each other; and the development of emblematic figures as voices of the occupational community (5.4.2). Thirdly, the role of 'crunch' working is used as an example of these reference group traits in action (5.4.3).

5.4.1 Storytelling as a method of developing a reference group

Before exploring the reference group, it is important to explain the role of storytelling as the key mechanism of establishing and nourishing occupational references. Both as data and as part of the method – stories allowed developers to explain and understand their experiences, distributing success, knowledge, information and a relatable shared existence (Orr, 1996). Storytelling, in the context of this study, assists in warning other developers about potential negative individuals and studio/firms who may exploit naïve or new developers. Sharing of stories is a social aspect that has been picked up by many community scholars – in particular Bechky (2006b) referring to Orr (1996) in describing how stories aid in bonding those in a similar working space together. However, it is not only the content of the stories which are important but also the when, where, and why a creative tells a story. For my participants, stories were shared face-to-face, in and around studio locations, akin to findings from Cohendet and Simon (2007) and Grandadam et al. (2013), but most importantly stories were also taken online and dispersed on Twitter.

Twitter, in this respect, acts like an 'industry notice board' to post and reflect about current industry issues and allows those who are lurking to learn about the everyday experience of video game development. Hashtags are utilised as a structured method

of sourcing stories by providing a specific 'digital location', expected behaviour and content:

"Wednesday has #indiedevhour where everyone chips in on what they have been working on and #screenshotsaturday where everyone shows screenshots and updates. I like that there is almost a structure to that sharing process because people will collaborate and chip in with feedback and ideas"

(Leon, Director/Writer – 13th September 2018)

Thread stories, where multiple tweets are linked together to provide a singular narrative, is the most efficient way for a developer to share their knowledge or experience. Throughout this section, thread stories were used to enrich learning within the reference group, and I will highlight these where relevant. Often, these were not only words but included the use of industry specific memes to provide a relatable moment for the reader if they understood the context (figure 5.1):

Figure 5.1: Butterfly meme and career path (Source: Joel, 8th May 2018)

The assumption that the context is readable from the meme hints at how Twitter is divided and curated by those who use it. Figure 5.1 above, provides an example of sarcastic humour relating to assumption of overwork in the video game industry. The

original meme asks, 'is this a pigeon?' while the character points at a butterfly – highlight the naïveté of the comment. The reader would need to be aware the original meaning of the meme and the industry commentary of the adaption. The tweet was not intended for the whole of Twitter, it was directed to video game developers and those interested in the industry. The tweet attracted multiple comments and shares, with developers agreeing with the sentiment, providing a moment of relatedness. Storytelling therefore adapts to the community and their methods of communication – from the standard vocal exchanges during face-to-face interaction, to written in blogposts and Tweets and through logical semantics via memes and GIFs. They all create the reference group and continue to nourish it.

5.4.2 The ability to help and emblematic figures

One particular belief of the reference group is that developers should help each other, as Joel suggest:

|Netnography, paraphrased tweet| "If you are successful through the support of a community or privilege – you owe it to aspiring developers to pay back what you undoubtably gained from other sources. Help others, don't gatekeep" (Joel, Writer – 16th August 2018)

The occupational community helps in creating channels away from a studio/firm as sources of assistance and support, and has links to similar processes in communities of coping (Korczynski, 2003, Stroebaek, 2013) in that, while support is needed for issues related to work, the studio/firm is either ill-equipped or unwanted in the coping process. Therefore, the emotional labour is outsourced to the occupational community. Within the UK video game industry, this often involves the coming together of 'friends' that span multiple studios and working practices. Due to the fast-paced and project-based nature of the industry, those that were once teammates can find themselves as technically competitors; yet their active nature in the occupational community nurtures the social binds:

"It's that weird thing where we are competitors, but still help others out"

(Gordon, Founder/Team Lead – 2nd May 2018)

The expectation of help and the concept of friendships is where this community of coping feeds into the reference group. Working in the video game industry is a shared knowledge of being part of something that many dreams about, yet that knowledge does not make the everyday experience less of a struggle with precarious contracts, stress and long working hours a typical part of being a worker in the industry. Developers understand that their employer can be asking too much of them or feel drained working on a project they have no passion for. Nevertheless, as Nathan explains:

"If it is a hard time you are going to bitch and moan. But as long as I can do that with other people. That is the tip, I suppose, you are not on your own and everyone is going through the same cycle. It is subjective for people though, other people's hard times are other people's easy."

(Nathan, Cinematic Production Assistant – 28th May 2018)

Reaching out for help also assists indie developers specifically to discuss ideas and remove oneself from periods of lulls. As indie developers are more likely to work solo – feelings of self-doubt and isolation can grow when an onsite team is unavailable or remote:

"Getting out of your bubble is important, because you can get so in your head with it, because it is your project and your brain, all in your head and I think getting a second perspective is crucial. It serves two needs; it serves the fact that you are getting outside perspective on what works and what doesn't. Because as the designer, you are oblivious to a lot of assumed knowledge, it might make sense to you, but it doesn't to everyone else. The other benefit is the excitement and inspiring yourself to keep going with it – I think that is quite key."

(Leon, Director/Writer – February 6th 2018)

During the data collection I captured multiple acts of helping and support, both through Twitter and explained to me during interviews. Participants described as both the helper and the helped that this social act is expected and as a developer you have a duty to be there for others of your occupation. Twitter in particular played a role in

connecting members of the occupational community together to share tips and tricks. There are too many examples to go into detail in this dissertation; however, I will provide a few examples of developers helping via Twitter as illustrative of wider reference group norm and values:

|Netnography|

- Call to actions were frequently used to help indie developers support other indie developers' projects. Tweets involve requesting the reader to 'check out' or 'buy' a game with a link included to the sale site. Joel for example requested that other writers using the 'inkle plug-in' to consider donating to their new Patreon to help support the developers of the tool (26th April 2018).
- During studio closures and when individuals become unemployed, the community bands together to retweet job searching posts of those affected or create their own posts to highlight the work of said developer. Max tweeted out that he knew of two developers looking for a job and asked if anyone knew of anyone needing help with social media or community. Replies came with job posts, offers of small projects to keep them going and general supportive comments wishing them well on their job search. (6th May 2018)
- Information retrieved from prominent sources were shared to other members of the community – Leon retweeted a post from an indie developer in Belgium who previously had a meeting with a staff member of Valve (American producer, distributor and creator of the Steam platform) which is notoriously difficult to access. The original tweeter explained that he found through the meeting that the method of achieving frontpage exposure on Steam relies on how many consumers add it to their wish list. Leon suggested that the attached thread story was a useful peak behind the curtain of how the biggest digital distributor works. (13th July 2018).
- Information can also be requested from the community – Gabriel was struggling with the writing software provided by his studio. He asked video game Twitter, what writing software did others use. The replies became a well-mannered debate on the pros and cons of certain software. Gabriel by the end had found a few new pieces of software that he wanted to try out (27th April 2018).

- A sense of relatedness can be shared through posts on Twitter to make others feel less alone in their experienced world. Joel notified his followers that his plan to get up early for GDC failed miserably. Fellow developers responded in a jokey tone that they 'had all been there'! (20th March 2018)

Linking to the expectation of helping is the concept of friendship. During data collection the participants rarely referred to others they knew in the industry as colleagues (even if they technically were) or simply 'people they knew'. Instead, the participants referred to these people as 'friends'. For some friends, the participants had not met them outside of Twitter, however the frequency and perceived quality of conversation had elevated their relationship to a perceived sense of friendship.

Friendship is important because workers of the industry sometimes see it as them and their creativity against more powerful forces – larger studios, publishers and higher management for example. Elena summarised this concept through a tweet advising developers to nurture friendships, as your next role comes from your peers not your superiors (Elena, Marketing Manager – 3rd September 2018). I have previously shown this with how a community bands together during studio closures and redundancy, these opportunities for new roles tended to come through friendship networks and the circling of developers through the industry, due to short-term contacts and precarious work, rather than purposeful networks.

However, these friendships tend to follow the social identities as outlined in a previous section. While there will be friendships that cross roles and studio structures – it is more likely that an indie developer will look out for other indies, writers will look out for other writers, etcetera. Miles (Founder) highlights this when discussing how he hints to other developers about potential publishers:

"Publishers don't talk to everybody, but everyone obviously wants to make games and obviously we sign NDAs and stuff. Where I have come close to the wind has literally been like, someone has shown me a game a game and they want to speak to publisher X. So, I say to them, I saw publisher X, and they are not looking for that type of game. So, it isn't my place to say in a legal construct -but just building trust with that dev – he'll be like, thanks man. Time is important."

(Miles, Founder – 23rd October 2018)

An example to explore friendship and its role in the reference group is through a concept of 'friend DA' (FDA). The FDA is the rogue counterbalance to NDAs and was a term that emerged through the interviews, and is used between developers as a method of trusting whilst sharing confidential information. O'Donnell (2014) explains that the NDA is the embodiment of secret keeping, one that is ingrained into video game development since the introduction of licencing on the Nintendo Entertainment System (NES) in the late 1980s. Yet, the informal conversations that developers have means the NDA is among one of the most frequently breeched legal documents. I found evidence for this throughout the data when developers were careful to not release too much on Twitter, even though they simultaneously tweeted – I wish I could tell you more. Likewise, upon being released from NDA, the participants joyfully spoke of what they had been working and hinting at for all the months. The act of skirting around NDA provides a community agreed upon method of monitored communication. The studio/firm legally remains in control of the information, however developers if they wish, find ways to share issues and discuss projects without divulging too much detail.

The FDA in contrast, occurs once a relationship is built in a space that is also trusted to be able to hold secrets. Therefore, one would not see a moment of FDA on Twitter as Twitter is too open for others lurking and increases the potential of sanctions from the community and employer. When discussing how he starts conversations at industry events, Alec introduced me to the concept of FDA:

"My friend coined the term friend DA which was pretty cool. A lot of people in the industry do talk and I think it is natural and everyone understands you are not supposed to talk about this publicly; but I do think that there is a good level of trust between different developers to know that, if I tell you this, it is in confidence. Unless you have otherwise said.

HJ: So, like an unwritten rule?

AL: Yeah, exactly."
(Alec, Senior Game Designer – 15th December 2017)

Connor develops FDA further:

"It is hard to know what I hear about word of mouth and what I hear about officially. I don't know what I know is official is anymore. I can't remember who said it, but someone said friend-DA, so you have like NDAs and then there's friend-DAs, and the things I know are mostly through friend-DAs. People aren't supposed to tell you, but they do anyway because they trust you. I don't think anyone, it is not in their interest to break NDAs, and stir up, for lack of a better phrase, a shit storm. Where, a lot of people, one thing that happened with [redacted] that was quite annoying was that, this one person leaked a lot of info, I don't know exactly who leaked the info, and it is kind of like. At this stage, we have been working on this for just over two years. Not being able to tell any of my friends what I was working on. And it feels really like a punch in the gut to have this other person go, oh this what he's working. And all my friends come to me and ask, is this what you are working on? And I still can't tell them. And it is a bit of a harsh move. I would really love to talk about it, but you have just made it even harder for me.

HJ: So, does it hit on a personal level?

CO: Yeah. So, I mean, I think most people who are quite close to the industry has experienced that themselves. So, I feel like most things you say in the confines of the studio is quite safe. It is just obviously when people say stuff when they are drunk at parties.

HJ: I was just going to ask, is anything said outside of the studio?

CO: Yeah. But again, it is this whole friend-DA thing. You have to be careful, and it is no one's intention to leak this information. But I wouldn't have a loud conversation on the bus for example. I have spoken a bit too loudly in pubs in the past, I think. But it is mostly alright. I wouldn't say anything too damning."
(Connor, Designer – 20th April 2018)

Connor explains here not only what FDA is, but also sanctions when FDA and NDA are broken. The community sanction becomes a sense of future distrust for the developer who leaked information which may have future ramifications on the expectation of helping each other. If a developer cannot be trusted to abide by community rule, then they lose the benefit of community assistance and may even be blacklisted at a studio/firm level. As Ash, suggests:

"The industry is quite small. If you are rude to somebody, it is going to get back to other people and you want avoid getting a reputation for that sort of thing."
(Ash, Managing Director – 7th March 2018)

Despite the expectation of helping, as with all emotional labour, there is a limit towards how much one can provide:

"I love giving back to other devs, but for the past few years I have done a bit too much of that. To be super selfish. So, basically, I get to an event and assess the level. I hang around for an hour, chat to a few people and then leave. But if it is the other way around where I am at a lower level then I will stay for longer and try to focus energy on me and my company rather than the other way around"
(Miles, Founder – 23rd October 2018)

Miles is extremely active on Twitter and through his interviews he seemed happy to help other developers where possible. However, as a Black developer, he sometimes felt as though he was expected to invest further labour into providing a figurehead for

other Black and ethnic minority developers[17]. Likewise, female developers interviewed expressed a similar sentiment of increased labour, outside of work, to be actively helping other female developers. Whether this be through organised schemes such as Chloe's monthly female developer meetup and dedicated Twitter account (separate from her personal one), Isabelle's start up to help young girls into video game related careers and a general membership to 'Women in Games' as an ambassador – which all six of my female participants were involved with. Or through tweeting about experiences as a female developer to provide a reference for others. This issue with diversity will continue in the next part of the analysis when considering the role of emblematic voices.

The second reference group trait extracted from the data is the development of emblematic voices or figureheads in the community. These not only cultivate the reference group, but also show who has the potential to control it within the occupational community. High profile names are often used to be emblematic of the community and industry. Names like Neil Drukmann - the creator of *The Last of Us*, and Mike Bithell – creator of *Thomas was Alone* and prominent speaker on indie game design; are often seen as the pinnacles of video game development, whose tweets rarely go unnoticed as they swarm around video game Twitter. When attending industry events, their presence becomes part of the reason for developers and consumers to attend – they want to hear their views during talks and presentations.

During moments of storytelling, my participants referred to high profile names, such as Mike Bithell, to expand upon the sentiments of their explanations. Who they would like to be like, who they look up to, and who they wish they could work with in dream scenarios. These are what may be described as 'gurus' – developers who use their visibility to vocalise positive issues within the industry and provide a guiding figure. Relating to the expectation to help, the gurus assist on the level of the whole

[17] The term BAME is often used in the video game industry and throughout the UK; however there have been recent moves within the UK to move away from the acronym BAME. In this thesis, ethnicities are named where possible in an effort to move away from undesired language.
See: *"Lifting the barriers for Black professionals in the games industry [Game industry.biz]* - *https://www.gamesindustry.biz/articles/2020-10-27-lifting-the-barriers-for-black-professionals-in-the-games-industry*
And – *"So the term BAME has had its day. But what should replace it? [The Guardian]* - *https://www.theguardian.com/commentisfree/2021/apr/08/bame-britain-ethnic-minorities-acronym*

community and provide a framework of what a video game developer should be like and what practices are acceptable. Van Maanen and Barley (1984) likewise emphasised the guru role as high profile individuals in a community who had earned ranking within a community through proving their social worth; while Orr (1996) saw a guru-style figure through technicians who had a perceived ability to solve any problem and passed on knowledge to newer technicians. Contextual examples captured through netnography and spread via gurus included the rejection of crunch-time, the treatment of minority developers and how to be more inclusive in development, and a recognition of all video game developer roles.

Within my participants, a couple could be classed as 'gurus' – however they tended to be gurus for their sub-discipline with some of their tweets attaining a viral status within the broader video game Twitter landscape. Joel is a guru figure for writers who tweets his reflections on the writing process, on the industry as a whole and practical writing tips. Additionally, he frequently creates workshops and writes a blogpost each week about the art of video game writing. Zelda is a guru figure for her work uncovering secrets from *Unity's* website and publishing via Twitter and Patreon. Other developers rely on her findings to improve upon their work, when discussing this industry-specific recognition, Zelda explained it as such:

"I have specific bits of work that I am known for in the community, for the kind of work I do - that has brought me a degree of freedom to be listened to almost."
(Zelda, Freelance Network Specialist – 4th May 2018)

The recognition of Zelda as knowledgeable has risen her status within the occupational community. She becomes a trusted source of information, one that other developers respect and listen to. For those who are not visibility active in the community via Twitter, their opinions do not appear to reenforce the reference group.

Nevertheless, the alternative of the guru is the 'arsehole genius', the maverick developer who wields a considerable amount of power yet is generally viewed by those who know of them in the community as a negative element. Creatively and in business terms, the arsehole genius more than likely succeeds – however they may exhibit or practice exclusionary behaviours, negative working practices or lionise their

achievements. I adopted this terminology as it was used by Joel, Kurtis and Gabriel to explain what they saw occur in the industry:

"But there is this sort of 'arsehole genius' figure. Really smart, tells everyone what to do. Or like Sherlock with Benedict Cumberbatch, where people idolise them – but actually they are quite mean to people. That is a definite danger, so you have people who have the vision but are like that…if you are really into ideas you want to make and you really want people to do that, and you care about that a lot – maybe it is a lot harder to be nicer to people. And I think that is why you get that stereotype of the mean genius in our industry"

(Joel, Writer – 26th April 2018)

Gabriel, explained how interacting with an arsehole genius in a previous role makes them question the state of the industry:

"I think is just the culture, there is this sudden celebration of games as a culture, and it is not a culture, it is more like a frat house [laughs]. The celebration of like, doubling down on what was kind of, juvenile, poisonous behaviour, like for example, not to going into specifics, one of the senior members that were at one of the companies I was at, had alt right memes as their desktop wallpaper. And it was reported to HR, but apparently, they didn't have it on their screen, and they are very senior, they are very important at this company, we can't really ask them to stop being terrible. Meanwhile they are having massive rants about women and guns on Facebook. So, nothing that physically would surprise you, but you kind of realise this is the make-up of the industry. Just a lot of people in senior positions that are very much the people you wouldn't want to be in positions of power."

(Gabriel, Designer/Artist – 21st July 2018)

Such interactions create wariness of the industry and a potential for general distrust of fellow community members whereby the norms, values, and sanctions, are manipulated by those who control the narrative.

Diversity remains an issue within the industry, in particular for high profile roles both within studios and as voices of the occupational community. Such lack of diversity

can lead to implications on how the reference group is maintained if it continues to reproduce a heteronormative, white, male approach to the occupational community. While it is beyond the scope of this thesis to discuss this issue at length, it is important to show an example of this in practice and how it relates to the development of emblematic figures:

"If you look somewhere and you don't see people like you, you feel like you don't belong. No-one has to say anything, it is just implied."
(Miles, Founder – 22nd June 2018)

A core element to occupational community is the sense that you belong with others that are similar and bounded through work. What Miles suggests is a systematic bias towards a particular imagining of an occupational community – in this case towards ethnicity. If we consider how spaces inhabited by the occupational community feel, they can become one of unbelonging and unease. Miles explains further in his interview that these feelings are particularly prevalent at industry events and online. Female developers interviewed for this study additionally suggest that they are aware of potential repercussions on Twitter because they are a vocal female developer. It is hard to know how to act as black developer, a female developer, a LGBT developer, or any other intersectional identification as the reference group, as a whole, does not represent a diversity of experiences.

To address this, the UK video game industry has made efforts to be more inclusive – led by leading governing bodies such as UKIE, TIGA and BAFTA to provide best practices and developing initiatives by pushing particular minority developers as industry figureheads. However, such attempts can be seen as tokenism, resulting in a burden of additional labour. Miles discusses how he has become tired being pushed by UKIE and BAFTA:

"It is always me they [UKIE and BAFTA] come to. I am not, sorry to be flippant, I am not the only brown and you can't just put an advert saying come join the board. You have to speak to them. A big eye opener for me was when I was speaking to people and I was asking them to join the board and they said, what is the point? We are going to lose. Like. Fuck. Maybe? But that isn't fair. You have different views than I have. Just because I go to events, I am more visible doesn't mean I am more popular."

(Miles, Founder – 23rd October 2018)

5.4.3 Crunch – The reference group in action

Reflecting upon the reference group as a whole; I will now consider it in action with a specific industry example of crunch time. Crunch time is the practice of intense periods of work with long hours and high pressure to complete a project. O'Donnell (2014) explains how crunch relates to meritocracy – if a developer ends up crunching, then they did something wrong and to object crunching is a rejection of the what the industry is, with blame is placed upon the individual rather than the system. However, when taking an occupational community approach there is an interesting clash with how a system is maintained through a reference group, a system that has established crunch as a 'natural order' rather than a choice and those who are now rejecting it:

"I have worked in companies where crunch is a really big thing and I have worked long, long days. 17 plus hours that have been thankless or even unpaid completely with no bonuses. At the time, because I was more junior, it was like it was okay because I am making a name for myself in the industry. But now I am able to look back at that time, it is a very toxic environment and probably caused a lot of problems like in other parts of my life. I see a lot of people coming into the industry now and they have the mindset of, oh I'll just do crunch, and I think it is really toxic for people who are now more senior positions to promote that because I think you get all these junior guys thinking this is how it is. And I think we need to break that and say, look, this is not how it is. And I agree, sometimes there is no way around it, but it shouldn't be planned for in a project. It should be appreciated when developers do it and reward with time off in lieu or paid overtime or bonuses or whatever.

There is a lot of romanticism in the industry, it is almost like a badge of honour. Like you hear people say, oh I was in this late and you think, this isn't how it is supposed to be because, I mean really, unless you are doing this for yourself on your own game. I mean, even then, you shouldn't be doing it, it's unhealthy. You are always doing it for someone else and it feels like, they are kind of taking advantage of your passion to make themselves more money and get the game out. The industry needs to be more transparent about that and it needs to be more transparent about crunch being more about bad management."

(Alec, Senior Game Designer – 24th April 2018)

Alec presents a damning contempt for crunch – explaining how when he was coming into the industry, he too believed it was just part of video game development. On reflection, he can see how others in the community do not understand that crunch has become a standard; indeed, it has become a characteristic of being a video game developer – filtering from the reference group into social identity. Alec explains how it is those with power – developers in senior positions who are passing down the tradition of crunch rather than questioning its practice. Helping other developers here can be twisted to reenforce negative working practices, in a sense this is how it is, but we can help you through crunch. During all interviews, participants told stories of their crunch time experiences or reflected upon the practice. While none technically agreed with crunch, some were ambivalent towards it as though they had absorbed the narrative that crunch is just part of what makes video game development. Crunch has been argued to be fuelled by a passion to create (O'Donnell, 2014), and it is this passion that is systematically abused by those in power positions:

"I think, in the industry as a whole, a big topic that everyone talks a lot about is crunch and overwork in the industry and this is a problem. It is very pernicious in that it often relies upon, the idea that everyone is creatively motivated to be involved in a project and wants to be there because it is a fun industry to be in and it is a high value industry to be in. In terms of how you value your job. But it is an exploitative labour practice because of burnout and it relies on the fact that if you don't, then they are not helping the team and it is, made a bit of an emotional issue I think…but I do think crunch practices are a kind of exploitation of trust because this kind of model where it is all like, we are all friends! We are all a family or whatever, it is isn't really because as soon as the company needs you do something, that family/friend relationship is gone. It is an illusion."

(Joel, Writer – 17th July 2018)

Joel highlights how crunch can abuse the sense of bonding that can come through an occupational community. I previously discussed how 'friendships' were often used to explain close relationships in the community – here Joel suggests a way that a false sense of friendship (especially in studios with weak organisational hierarchies) can be

used to exploit the worker. Those who were freelance and worked from home, referred to 'self-crunch' – the practice of repeating studio-based crunch habits despite being free from organisational control:

"I worked 12- or 20-hours days. And I felt guilty for not working enough even though my entire life was doing stupid work on stupid games"
(Zelda, Freelance Network Specialist – 13th August 2018)

Zelda and other participants such as Leon and Jacob who partook in self-crunch were reluctant to vocalise their working practices to others as they felt it was creating an unhealthy precedent of what video game development is. Nevertheless, they still engaged with long hours on a semi-regular basis. Although they were aware of it and actively taking steps to reduce it. What this relates to is how crunch became a quasi-work practice of video game development. It had become an unquestionable entity as consumers of video games who read articles, watched video essays and generally picked up on whispers of the occupational community. Potential developers absorbed crunch practice as standard and brought that knowledge with them when entering the industry – even if they were not told specifically this is what should or should not happen.

Contractors fall in a middle ground that they are often under control of a studio/firm's established crunch practice – even if they themselves reject it personally. Yet, they have increased freedom to choose projects, especially if they are a well-known developer:

"As a contractor, the way that can affect me, I mean I am more insulated from that, I am often, I mean I often have to crunch when I am involved, because they have given me 10 days, sometimes 20 to work on projects and I have got a lot to do. So, I pretty much have to go all out in that time to do it, because of the constraint. And that, I am protected from and I don't have to do it for months on end, but it can be unnecessarily stressful, and I think people who are in employee relationships are even more bound to that because they don't have the freedom to go elsewhere as much."
(Joel, Writer – 17th July 2018)

Joel frequently critiqued crunch on Twitter, in particular how crunch is a systemic industry problem and that it is absurd to tell developers within self-help think pieces to simply stop crunch at will. Developers, Joel suggested in his story thread, are trapped by the decisions of others. While Joel was referring to those developers who are employees, as previously shown, the decisions of others build the reference group for the occupation and influence what is considered 'normal'. When crunch is romanticised and/or expected then it feeds back to the reference group that this is a norm for video game development.

Despite this, there are community members who reject the practice and make their views known via Twitter:

|Netnography| On 26th October 2018, *Rockstar* released the much-anticipated *Red Dead Redemption 2*. Alongside the usual reviews, the gaming press reported atrocious working conditions that the developers of the game had endured – including overnight stays in the office for days at a time, unpaid labour and limited breaks. Despite this, the game received $538 million in royalties. Five of my participants, alongside other community members, used the moment to remind people of the horrors of crunch as the topic went viral. Some like Max and Alex were sarcastic saying how it looked like crunch paid off [rolled eye emoji]. Gabriel discussed how consumers of video game media need to face that their much-loved products and icons of the media (he used *Ico* and *Shadow of the Colossus* as examples) are typically produced under merciless conditions. Joel reminded readers that developers do not get royalties, very few are millionaires - and in a typical AAA studio structure – those actually making the game do not receive anywhere near the same wage as higher management in publishing houses. Connor used the moment to highlight that his current studio has a no-crunch policy and has never felt more respected. He then linked a current vacancies list. (26th October 2018)

Key moments that occur in the industry, such as the one shown above aid in questioning reference group norms and values. While traits cannot change overnight, the general sentiment of the industry is that crunch has gone too far – however as individuals they can only do so much, especially if they are employed by a studio. As

a community, they can only support each other as a community of coping and pressure for change until those with greater power and influence start to implement tangible adjustments. By doing this, the reference group norms and values can be rewritten – however it needs the occupational community to not only perform a desire to change, but to actually put systems in place to change.

5.5 Social Relations

The social relations of an occupational community convey the blurring of work and leisure within a community. These can be either be leisure activities that are associated with work or where there is an extensive overlap between work and social activity. I will explore examples of social relations for the UK video game industry through three steps – firstly, I will explore the role of personal relationships of friendship and family (5.5.1) which span beyond work yet are intrinsically linked to the work of a video game developer. Secondly, I will explore the role of the 'hobby job' (5.5.2) which straddles the blur between work and leisure. Finally, I will explore how the act of conversation creates blurs between work and leisure (5.5.3).

5.5.1 Personal relationships

Personal relationship here are discussed through the exploration of friendship and family. A theme which ran throughout the data collected was how intrinsically linked a developer's life outside of work linked to their work and video games in general. As Lara, a technical director tries to explain:

> *I don't hang out with people from school or uni. The people I have managed to stay in touch with are those I've worked with at my first job. This is my life, there is no outside work, there is no line. There really isn't. I was speaking to somebody, I think it was life insurance, and they asked when they thought I was going to retire, and I thought that was such a ridiculous question. Like how can I retire? How can I retire from my life?"*
>
> (Lara, Technical Director – 3rd May 2018)

Lara explains how she finds it difficult to imagine her life without video games. Work and life are intrinsically linked making working milestones, such as retirement, harder to comprehend. In addition, Lara suggests that her current friendship circle started with her first job as a junior programmer in a AAA studio in Brighton in 2002 – a moment when work and life began to merge themselves with greater intensity due to the close geographical proximity of being surrounded by so many people who worked

in video games. Lara now lives in Sheffield due to financial reasons and runs her indie studio with her husband. I ask if this has changed her social activity with her friendships:

"Yeah, I think so, I think will be better if there was a good hub of creators in Sheffield. It will make it better, but also to some extent, my heart belongs in the South and I'll go back down as soon as I can afford it"

(Lara, Technical Director – 24th July 2018)

Despite being connected online and being able to work remotely, Lara felt the distance from what she considered to be her collective friendship group. One that is tied to her entering the industry via the gaming scene in Brighton and then removing herself to an area of lower developer density.

Friendships revolving around those who are part of the industry was common throughout the participants – all of them mentioning 'friends' while telling stories of their work and leisure experiences. Work colleagues were 'friends', people they felt close to and interacted with on Twitter were 'friends' and people they knew from previous jobs or rival companies were also 'friends'. Fellow developer friends are part of the fabric of experiencing leisure and sociality in video game development:

"Basically, my entire social circle is game developers. I'm sure you, I mean, you must have lots of mates in games as well?"

(Chloe, Co-Founder – 25th April 2018)

I found this quote from Chloe interesting as she brought me into the conversation to explain her rationale. I was seen as somewhat of an insider; as someone who was previously in the industry, Chloe assumed there must be shared similar friendship traits of knowing other developers – of which I do. Although, I felt an outsider when speaking to those who are employed to make video games rather than simply studying them. Therefore, from this exchange, there was an assumption by developers that once someone is a part of the industry, then the individual should actively start to gather these friendships. With friendships acting as a route to access support, information

and help in a precarious industry, as previous discussed in section 5.2.3 which introduced the importance of friendship.

Nevertheless, the term 'friend' was used loosely and did not always signify a longstanding or intense relationship – often it was used to signify a shared connection that occurred in the past that made a person appear trustworthy:

"There are a number of people who I socialise with at the pub on a Friday evening or who different parts of the company. A really good friend of mine is a UI coder on [redacted] team. Like, I've never worked on [this game] while being at [AAA studio], so I would never interact with him, but he's a really good friend of mine. And actually, when I went to Boston and Montreal last year, and he borrowed my [Nintendo] Switch and he bought a pro controller that he is just giving me when he gave it back! So, I got a pro controller because of that!

I play football with a lot of people as well so, at the company we have 30 or 40 people who play football on a semi-regular basis so they're all good friends of mine. From other studios I find it is not usually a case of, I'll just meet someone randomly, I will know someone there and they will introduce me, and I'll make friends that way. For example, I have a friend of mine who I worked with at [Japanese AAA studio] and they now work at [Indie studio] and I still regularly drink with him. So now I know a lot of people from [Indie studio] from 'Loading Bar'[18] because you always drink at one of them."

(Jason, Core Designer – 19th April 2018)

As Jason shows, friendship crosses beyond firm/studio boundaries and the mingling in bars that are known to be popular with developers encourages this crosspollination of fostering these friendship connections. Jason's social life around an urban area reflects findings from Grandadam et al. (2013), whereby a healthy middleground of bars and casual social spaces assists creatives in sharing tacit knowledge and building connections. I would like to remind the reader again that while discussing these connections the developers rarely spoke in terms that referred to calculated network building, even if this is what was occurring. These people were rarely explained as

[18] 'Loading Bar' is a small chain of video game and pop culture themed bars in London.

‘connections’ or ‘part of a network’. They were friends, or friends of friends, and this concept of friendship provides a foundation for the developers to build a social life away from the firm/studio yet remains within the boundaries of the overall occupational community.

Industry friends tended to emerge from moments of entering the industry – either from their first role in a studio or from a university course. Those who started as indie developers, setting up their own studios, such as John (Developer), Chloe (Co-Founder) and Max (Founder) had a reduced friendship circle of other developers and sometimes had to rely on non-developer friends for support. Chloe notes how she believes this is rare in the industry when discussing how her friendship group is split between developers and non-developers:

“It's such a source of passion for everybody. I know it is a massive cliche to say passion, but it does seem to be that people get into this industry because they are basically obsessed with it. Which tends to mean that you bore your friends who aren't in games. So, I think I'm relatively unusual in that I do have a separate group of friends that actually aren't interested in games at all, and they will be like ‘you're such a nerd child!’ But everyone else I know tends to basically only socialise with game developers.”

(Chloe, Co-Founder – 25th April 2018)

Chloe says that her non-developer friends titled her as the ‘nerd child’ and this relates to a previous discussion in section 5.2.1 with boundaries. The non-developer friends do not understand the processes of being and becoming a video game developer, and while they have shared similarities that foster their friendship, it is hard for them to understand what Chloe does due to this occupational boundary. Isabelle provides a similar sentiment:

“Video games is one of those industries that is quite difficult to talk to your friends who are not involved in it, or family. It is difficult to put across a difficulty they don't understand, just in the sense of any industry, people in the industry understand it be like ‘oh I had that, and it was so annoying’ or ‘here's what I did’ or ‘Oh my God that sounds really amazing’.”

(Isabelle, Producer – 28th March 2018)

Additionally, it can also be difficult for developers to foster friendships away from video games or related creative pursuits as social life is determined by the style of work – long hours, weekend work, precarious contracts, the expectation that a developer will migrate to where jobs are and the need to be up to date with popular culture. It is easier to build a friendship on the basis of a shared occupational knowledge.

"When talking to new people, when they generally ask, what do we do and I say video games and they will be interested in that and will ask questions. It isn't like 'hey, I work in video games, here's my life story'; it is more like 'oh what does that involve?' And so, I will tell them a little bit about that. But it is just something you can't gauge with the individual; are they interested in video games or not?"

(Isabelle, Producer – 28th March 2018)

Nevertheless, friendship circles have the potential to turn into cliques which presents a negative aspect to social relations. When discussing the role of trust in the industry, Gabriel (Designer/Artist) suggests:

"Sometimes you get that kind of rapport between people who work together but it gets muddled with friendship and cliques. Friendship and cliques are a great thing in theory, but they can also be isolating"

(Gabriel, Designer/Artist – 27th April 2018)

Friendships at this level build their own boundaries and creates a style of 'internal othering' (as previously discussed in section 5.2.1). Friendship have the potential to promote negative practices in the illusion that they are there to provide support – creating divisions instead of belonging and unity:

"We encourage people to mingle and meet other people. Talk about ideas, get some diversity in. Too many companies I worked at were all male and they were horrible to work at. You need that diversity, and you need different thinking and you just don't get that working and socialising with the same people. Which is part the reason I

don't like being in a clique, because the clique mentality of clique thinking. Like this is wrong, you can't do that, you are breaking our rules."

(Jacob, Owner/Developer – 28th January 2018)

Kurtis (Writer/Narrative Director) similarly suggests he is wary of being involved with more events in London as he believes that most London developers are within established friend groups. In addition, London as a 'gaming scene' is more intimidating than smaller cities and towns such as Manchester or Guilford for a freelancer. Nevertheless, this does not stop Kurtis being social online as a frequent tweeter.

A second personal relationship is that of the family – the blurring of not only work and leisure but also of close personal ties and a shared homelife. Upon reviewing the data, seven of the participants divulged that they were in romantic relationships with other video game developers – Isabelle, Chloe, Markus, Kurtis, Adam, Nathan and Lara. In addition, Jason lived in a house share with two other developers.

Similar to friendships, these participants valued the shared occupational knowledge, of being able to mention a problem or share a success and the partner would know what was being spoken about without needing to explain details. Likewise, the long hours and precarious work practices were understood, and expectations aligned with the life of being video game developers. Kurtis mentioned how he was lucky that he was not tied down with family as both he and his girlfriend were able to move and work remotely as freelancers while Chloe, Lara and Isabelle spoke of being able to unload issues at the end of the day. Therefore, some form of feeling supported was important to the participants to their wellbeing and perceived success. A factor that is held also by Lebuda and Csikszentmihalyi (2020) in their study of Polish creative individuals who suggested that a majority of those in cultural industries struggle without a collection of close personal ties.

They met their partners through industry events such as at casual developer drink meets or post-event parties, a conceptualisation of the 'middleground' (Cohendet et al., 2010, Grandadam et al., 2013), with these spaces encourage the mingling of likeminded people and allows the development of social ties. Adam (Programmer)

began laughing when I asked him if he saw he saw other video game developers outside of the studio:

"[Laughs] Well my fiancé, I met her at [previous studio] so I see her everyday!"
(Adam, Programmer – 12th January 2018)

Those who referred to their partners who do not work in the industry during the interviews often explained how they tried to be encouraging but could not fully comprehend the issues at hand. Naïveté to the industry could be seen as a positive in that it allowed the developer to take a breather from the shared worldview and physically leave the work in the studio upon coming home or closing the door of the home studio. Jacob (Owner/Developer) detailed the experiences of his wife playtesting his latest build on Twitter:

|Netnography|
Jacob tweets how he is finally finished his latest playable build and has invited his wife to try out the game as the resident household guinea pig. Jacob is a solo indie developer and makes all his games out of his home office/studio. He explains he uses his wife for playtesting as if she can understand it, as someone not interested in video games, then others should be able to pick it and enjoy. Jacob creates story-driven games and has previously stated how accessibility is important to him as a creator. I checked Twitter again about two hours later and Jacob has tweeted to say that his wife has now been upstairs for an hour – good news, unless she has died from boredom! (29th August 2018)

5.5.2 The 'hobby job'

I will now consider the role of the 'hobby job' for social relations. I have defined a hobby job as an activity that has the potential to be an employable role, however it is enjoyed in leisure time and may or may not be financially viable. The main purpose is to be enjoyable for the individual. In terms of social relations, a hobby job straddles itself neither as being fully leisure nor work, yet the learning and social potential feeds into both. Two main purposes of the hobby job have been found from the data - firstly that engaging in a hobby job means that a developer is kept visible within the community. Secondly, a hobby job cultivates creativity away from the workplace or current project.

I have mentioned previously the overarching precarity within video game development as one of the cultural industries, with this arrives the potential for periods of time being unemployed or looking for a change in career direction. From the data, I found that hobby jobs enabled developers to mitigate these downtimes and provide a source of activity to show and talk about with peers either online or offline. Adam (Programmer) explained how he relied on a hobby job during a year and half of unemployment after being made redundant from his first video game role:

"AD: In the first few months I was thinking, oh it would be alright. So, for like half a year I was thinking, something is bound to happen. And it ended up that I needed to make a real proactive decision to improve my skills and get better. So created a company to help make games for the [Apple/Android] App Store to hopefully get more experience and hopefully that would get me a job

HJ: And did that help, setting up your own company?

AD: I think so, when I went to an interview, I could show 3 little games I made. One that was in progress and they seemed impressed. That helps!"
(Adam, Programmer – 12th January 2018)

Adam's hobby job aided in keeping him part of the overall occupational community. Although, he was unemployed, his identity as a gamer maker remained through taking

on side projects. Therefore, he was able to continue conversations about making a game and socialise with peers and potential employers. By continuing to create, it was a way to remain visible to the occupational community as a whole without relying on the directive of a firm/studio. Leon, a Director and Writer took a similar approach with his hobby job, however it was slightly different as explained below:

Leon is already employed as a Brand Manager for a AAA publisher. However, his hobby of setting up his own indie studio aids in increasing visibility as a creator of games not just a marketer in the industry. I asked him if he thought he could develop the hobby job into a full-time position and leave his current position as a Brand Manager. Leon replied:

"I've thought about that question a lot. So, I read a lot of books about entrepreneurship and starting your own business. And its attractive, I don't think I could deal with the pressures of having to deal with an income and be successful because at the moment what I do in my spare time, [I do it] because I enjoy it, if that makes money. Great. But I want to put a game out there for people to enjoy. For me to be able to tell that story, that is the reason I do it. And if I do it as a full-time thing, the worry about it being financially successful and then get the next bit of work or not, or I can't keep a roof over my head, that would scare me. Would worry me. So, I actually really enjoyed it being a side project and I don't think given the opportunity turn into a full-time gig, I don't think I would."

(Leon, Director/Writer – February 6th 2018)

Here we have an additional benefit of the hobby job providing a simulacrum of a job, without the unnecessary hassle of needing to support the creator and their responsibilities. They are using their leisure time to replicate a different kind of work to their paid employment. Extracting the 'fun' side and reducing the negative elements as much as possible. As I have previously mentioned in 5.2.2 – these side and hobby jobs enable another facet of social identity to emerge that a developer can use to navigate through the occupational community. For Leon, the hobby job enables him to access others 'sides' of the industry and occupational community, further opening social relations, particularly online:

|Netnography| Leon is always interesting to watch on Twitter. He rarely discusses his day-to-day role at [Japanese publisher] despite detailing his role on his bio. The bio is shared by his side hustle, his own game making endeavour. Both it seems, is important to how he wants to be shown to the community. His tweets are filled with updates on how his game is going (however, I suppose there are no NDAs!) and I can see him chatting with other solo developers about how to overcome problems and sharing articles about top tips when launching your first game. (18th June 2018)

In addition to visibility and opening social relations, the hobby job enables creativity away from the firm/studio structure. Following a similar line that a hobby job is a simulacrum of work that embeds itself into leisure time, simultaneously being neither one nor the other, creativity is developed on an individual basis. Alec, a Senior Game Designer, explains how his hobby job enables him to keep busy and stay creative:

"I am working on a small little Unity game as a hobby, it's horror game, the type of game that I always wanted to work on. Because it is the type of game I have always loved and played. So just a small little game in Unity working on it for a few hours here and there at weekends when I can. It is just for fun I have no plans to sell."
(Alec, Senior Game Designer – 15th December 2018)

Likewise, Ethan a Senior Technical Artist, explains how he spends his free time:

"I quite often do my own tinkering with games and stuff. Little builds and stuff. I haven't gotten anything off the ground. I'll just throw somethings together in in afternoon. It is just a fun creative thing."
(Ethan, Senior Technical Artist – 9th October 2018)

As the previous quotes suggests, often it is not the completion of a project in a hobby job that is important. More so, the process of being creative and finding a time and space where a developer can be creative on their own terms, away from market restrictions. Nevertheless, the tinkering comes with learning and builds upon transferable skills which enable future social relations:

"I'm lucky, my job is fairly creative, but it is a very different creativity. So, is great to come home, because you do pick up stuff on the day job that translates to the side project."

(Leon, Director/Writer – 6th February 2018).

Hobby jobs are not restricted to video games, Jacob an Owner/Developer, was enthusiastic about his board game he was creating. During the third interview I asked him about any side projects he may have, and his face lit up as he spun his computer chair around to grab a prototype:

"JA: [Laughs] Board games! I have one here [pulls game from behind] I'll show it to you! [Holds up to the camera and explains the concept].

HJ: Oh nice!

JA: It is brutal. So, I'm doing that because it isn't video games. I don't need to code. For the publishing deal I have got, it is a two-part deal for video game in the board game version. So, that is turning professional. It was a hobby.

HJ: Are you okay with that happening?

JA: Well, it is my own fault. I said I'm making a board game version if you were interested and now that takes me from being just published in video games to also being published in board games. It's another string to my bow."

(Jacob, Owner/Developer – 25th September 2018)

For Jacob, the line between hobby job and job was crossed due to him sharing about his side projects with his publisher. It was still new to him making a board game, despite his hobby turning into part of his paid employment. As discussed with Leon previously, the hobby job developed skills away from work and opens up new potentials for social relations, nevertheless the boundaries between work and leisure continue to be blurry.

5.5.3 Blurring work and leisure through conversations

In the final sub-section of social relations, I will now analyse how the act of conversation creates blurs between work and leisure. This is explored through two different blurs – talking about work outside of work and talking about leisure time and hobbies during work.

From the data, talking about video games and video game development outside of work was a common part of life and spanned in-person and online conversations:

"Work is such a huge part of your life isn't it? Like when you are asking how somebody is - like a lot of that can be impacted by how your day-to-day life is going. So, I say, 'oh how are you doing?' and someone says, 'I'm really busy, I have all this stuff to do, being really stressed because of like a deadline or such'. And you do inevitably end up talking about work and then comparing as well"

(Ellie, Lead Environmental Artist – 24th April 2018)

Ellie here explores how work has bled into understanding everyday life. Bonding, and by extraction feeling belonging, comes through sharing the woes of work, which needs to be understood to foster a conversation. Relating to the reference group, there is an assumed knowledge shared by the developers of this occupational community. Conversing about a deadline may not be specifically be about the deadline – instead the hidden conversation may relate to the community acknowledged norms of an approaching deadline. Crunch time working, waiting for feedback and organising platform submissions for example.

Nevertheless, while conversations about work, outside of work, are common and expected by the occupational community; it can become difficult to limit the blurring when a developer wants to move on or discuss other issues:

"It's been a bit of difficult with my previous studio. So, a lot of my friends in the industry are still working at that studio or recently left it, so they tend to want to complain about their bad treatment. I'm very happy to listen to that as their friend.

And I co-founded with my romantic partner, so he's my business partner, so work tends to filter into our private life as well, for obvious reasons"

(Chloe, Co-Founder – 25th April 2018)

Isabelle, a Producer also remarked that living and conducting a relationship with a fellow developer means that conversation inevitably turn to work in what would be classed as leisure hours. Identity too, comes into relevance here, I started this section with a quote from Lara who expressed it was difficult for her to imagine her life without the presence of video game development as that is how she showed to the world who she is. Therefore, developer identity does not stay locked into spaces of work, and part of identity formation comes from the conversations that are conducted. As Elena, a marketing manager explains:

"At the end of the day, even though we are outside work, we are still gamers, and we still enjoy talking about the mechanics of a game that we're working on. So, it is really hard not talk about work."

(Elena, Marketing Manager – 27th April 2018)

I will return to the concept of 'gamers' and being a 'gamer' in the final section of the analysis. However, this quote is important to show the multiple blurs of conversations that are occurring and how they cross communities. Elena described herself as a 'gamer' which tends to mean a consumer of video games. She then goes on to talking about the mechanics of game making which refers to her as a game worker. Work then spans not only leisure time in regard to time that is demarcated away from work, but also leisure pursuits that are intrinsically linked to work – that is playing video games. A video game developer is balancing between these cross-sections of communities and therefore knowing where work ends, and leisure begins can therefore, be difficult for the developer.

This can also be seen where conversations about hobbies are brought into the workspace. In this situation, the blur is multi-directional. Rather than work merging into leisure and changing how leisure time is spent; what occurs in leisure time through hobbies is fed back as a contribution to work. John provides an example of this in practice:

"JO: When it comes to a normal 9-5 job there's only one type of group of people you are going to find, compared to if you're working on a game. You've got, we could talk about, 'oh what's the latest game you you've played? Or something'. Whatever the latest piece of entertainment you've consumed.

HJ: And with that is it like a blur between your hobbies and what your job is essentially?

JO: Pretty much. So, it's like, because it's a creative game [we are currently making], we can say oh— we can push it! We can push in what our hobbies were! So, like if we were making a specific type of boss fight. We can say, let's reference this film we really like, and we can all say yeah, we love that film as well. So, it does become a blur between; Is not just a job. It becomes something that showing what we like and showing a bit of who we are as well."

(John, Developer – 24th July 2018)

John spoke as one of only two developers (the other being Max) who had work experience away from the video game industry and uses this to reflect on what he is able to do when working on his game compared to a non-creative job. John explains how he can include references to media he enjoys in his spare time. By talking about these, it opens up communication and provides a level of shared knowledge based upon popular culture. To John, the end product is a showcase of who they are as video game developers, and part of that is the media they love themselves which is consumed during leisure time.

Finally, the main hobby of the participants was playing video games themselves. During the interviews, participants would discuss with me the latest title they were playing and on Twitter they would share to their followers' thoughts about a latest release, using the hashtag suggested by the developers of that game. Sparking conversations by providing shared reference points. Ash, a Managing director, provided an example of using his leisure time to transfer knowledge back into conversations at work:

"I could have been working over the weekend, instead of playing 'Horizon Zero Dawn'[19]! But that is also good. I have made so many notes by playing it!"

(Ash, Managing Director – 14th September 2018)

Ash here shows how the lines between work and leisure can blur. Playing 'Horizon Zero Dawn' became quasi-work, rather like the hobby job mentioned previously, even if it was meant to be for leisure time. He did not do any 'actual' work during the weekend, however by continuing his interests in video games, he has provided himself with conversation starter points when going back into the studio the week after. I view this as part of internal learning and will build upon this in the following section. The exchange was also interesting in the way Ash spoke of Horizon Zero Dawn and assumed that I would know what it was. I did, and that provides an additional example of how hobbies and how leisure time is spent is used to build and nurture social relations through conversation.

[19] Horizon Zero Dawn is a AAA, PS4 open world game created by Guerrilla Games and published by Sony in 2017.

5.6 Associated Community

The final analytical section presents findings about the role of video game consumers to a developer's occupational understanding. In the context of this study, 'consumers' are viewed as an associated community to the occupation of video game development, a separate community which is integral to how an occupational community understands itself. I have used the term 'consumer' here to signify a broader acknowledgement of people who play, and are interested in, content produced by the global video game industry. I adopt Du Gay et al's (2013) argument whereby production and consumption are not separated entities, rather they weave throughout each other with no ultimate end point. As such, here the consumer and the developer are viewed to be weaving amongst each other.

Consumers are seen here as a heterogenous 'community of video game players' – whose only criteria for membership is to enjoy spending time playing a video game in any form. Which is distinguished from the more ideological and controversial 'gamer subculture'[20] label (Shaw, 2012, Grooten and Kowert, 2015, Dowling et al., 2020). Nevertheless, debates relating to the 'gamer' subculture does come through sometimes during analysis, therefore, the gamer subculture is a part, albeit the negative side, of the broader 'video game player community'.

I will explore the role of the consumer through three steps. Firstly, through a 'clash of the communities' (5.6.1) where I present from the data, evidence of how the occupational community of video game developers clash with those of the video game player community. Secondly, I explore how complex histories of being a consumer aid in developing the occupational community and problematises video game developer identity and boundaries (5.6.2). Thirdly, I investigate the concept of the consumer as a 'hidden developer'. Someone who influences the process of making a video game, rather than only consuming the products of a studio (5.6.3).

[20] The gamer subculture has been broadly seen as negative due to the tendencies of hardcore members to exhibit racist, homophobic and misogynistic language and actions. Resulting in # Gamergate in 2014 - an online culture war stemming from the diversification of what it meant to be someone who played video games. See: Mortensen, (2018) and Dowling et al., (2020)

5.6.1 Clash of communities

During data collection, the topic of consumers was perhaps one of the most animated conversations I had with the developers. Trying to identify a consumer tended to be a tricky thought exercise by the participants, Gabriel for example suggested:

"A games consumer is a lot more complicated than it ever used to be. People are consumers when they don't think they are, and they are embroiled in the culture or subculture for the culture more than the actual product"
(Gabriel, Designer – 12th October 2018)

Gabriel picks up on how a video game consumer can mean more than being the endpoint of a creative process. Miles (Founder) responds in a similar way, suggesting how often a consumer has an emotional investment in addition to a financial one. While recognising a consumer's role as source of revenue came through all the interviews, many laughing and apologising for being so blunt that a consumer was there to buy the products. The story often did not end there, there would be a pause, and then a reflection on what a consumer meant to them beyond financial matters. In my questioning, I did not direct them to consider any specific facet of consumer identity and the developers used their experiences both as a creator and consumer themselves to navigate the question:

"That is an interesting question. It depends what hat you have on. If you are a business owner, the consumer keeps the business going, I have to be careful how I phrase this, they are the people who have the money right? Who can fund your next project, who can vote with their wallets; but as someone who has played games their entire life and as a games consumer, I'm in it for far more than the business thing. They are the people who share the vision you have created, they are the intended audience, so when I am designing [the game] I'm designing it with specific demographic in mind. So, for me the consumer is who I have been designing for in my mind. They are not just dollar signs, they are not just a means to an end, they are potential evangelists, and it is far more than seeing you through to the next project"
(Leon, Director/Writer – 13th September 2018)

Leon spoke here of consumers being potential evangelists, where a relation with the consumer goes beyond the need for money to come in. It is about being able to share a similar vision, as Leon's previous quote suggested, around video games is a culture that often goes beyond the product(s). Keogh (2019a) explains this as an ecosystem of gaming – one that subsumes production, consumption and the culture that emerges from the intermingling of both of these processes.

An interesting finding from the data was how a developer's social identity of role altered the perception of consumers. Table 5.1 summarises the subtle differences in viewing consumers:

Table 5.1: Role identity and perception of consumers relating to role

Role in production	Consumer as	Closeness to consumer	Developers
QA, Programming and Coding	'*The User'* A consumer is an entity who interacts with interface of the game.	Low	Nathan*, Adam, Markus, Zelda
Art, Design and Writing	*'The Player'* A consumer is an entity who will experience a vision that was created.	Medium	Joel, Leon, Alec, Connor, Jacob, Gabriel, Jason, Kurtis, John, Ethan, Ellie
Production and Directors	*'The Player'* A consumer is an entity that interacts with a product.	Medium	Isabelle, Lara, Sully, Ash, Gordon, Chloe
Marketing	*'The Player/The Consumer'* A consumer purchases the product and hopefully becomes a spokesperson for the game and studio.	High	Elena
Business Development and Founders	*'The Consumer'* A Consumer purchases the product and hopefully thinks positively about the studio.	Medium	Jack, Max, Miles

*Nathan at the start of the interviews was a Compliance Tester before achieving the role of Cinematic production assistant shortly before interview 3. His background is mainly in QA.

Table 5.1 shows is that the 'consumer' is not a singular entity; at each stage of production, the consumer means something slightly different. Therefore, when

developers reflect on their relationships with consumers using their role identity lens, they can illicit different sentiments. For those who are ideologically distant, the consumer is something that is factored into the application of the product and changes very little about their everyday job role and tasks. Compared to medium and high, who may need to engage more frequently with consumer sentiments with the potential for it to impact everyday tasks.

In addition to viewing via role lens, developers used other reflections to view consumers – putting on those 'different hats' to arrive at different conclusions. At times, they spoke outside of their role to reflect an industry notion – for example Chloe, an indie developer, while discussing how consumers could influence the processes of video game making, reflected upon AAA industry stories that had spread via social media and news sites:

> *"Recently, I have seen in the AAA scene, pressure put on big companies by organised groups of consumers railing against things they don't like. That tends to be seen, what I have seen, with the alt right, you know, I don't like 'Battlefield' putting women in. It isn't historically accurate. And honestly don't know because I don't have AAA experience I'm not in those rooms in those meetings. There are a lot of reasons why AAA studios do the stuff. They aren't stupid."*
>
> (Chloe, Co-Founder and Producer – 17th October 2018)

Chloe here reflects on wider issues with consumers, speaking from an AAA perspective when she has not had that experience herself. As with the reference group discussed in 5.3, the use of stories or industry tales are useful for developers to articulate their feelings towards consumers, speaking as a member of an occupation rather than solely from personal experiences. Jacob (Owner/Developer) likewise spoke of *'Rome II'*[21] and the backlash from a segment of the video game player community where the game embraced historical inaccuracies by daring to include female generals. Connor (Designer), Ellie (Lead Environmental Artist) and Kurtis (Writer/Narrative Director) brought up how the studio '*ArenaNet*' had created a PR disaster by firing two developers after a heated Twitter exchange with consumers of

[21] See: https://variety.com/2018/gaming/news/total-war-rome-ii-female-generals-1202956389/

ArenaNet's products in July 2018[22]. The news of which, circulated video game Twitter with fellow developers condemning the actions of the studio, while simultaneously a small, yet vocal consumer minority, cheered on the firing. The infamous *'Mass Effect 3'*[23] ending controversy was a popular example to speak beyond personal experiences with Ash (Managing Director), Jack (Freelance Programmer/Director) and Nathan (Cinematic Production Assistant) alluding to the backtracking by *'Bioware'* to reedit the ending of the game after online consumer pressure. Stories such as these connect developers to share grievances and speak about issues without needing to explain in lengthy detail. For example, by using '*Mass Effect'* or 'doing a '*Mass Effect''* as a catch all term for clashes of developer and consumer visions.

Therefore, while table 5.1 (page 219) provides an ideal initial view when considering the role of a consumer, it should not be read as a definitive way. Only one of the many 'hats' that a developer can wear to understand the consumer, with others including industry stories as shown above and as a dual-role consumer-developer. While the above centres the analysis on who a consumer is through the eyes of the participants of this study. It is important to note that as seen 5.2.2 when discussing social identity of a developer, the identity of video game consumers too is seen to be evolving and fragmenting:

"Everything is starting to be more progressive. The games are getting more diverse, teams are being more diverse, the projects are too. The mainstream AAA are incorporating these too, so what we're seeing are these young male kids, effectively, getting more and more riled up by it because it doesn't fit their image of what a video game should be."

(Leon, Director/Writer – 13th September 2018)

Leon here, discusses how the video game industry and its related occupational community is maturing, becoming more diverse and trying to move away from dated stereotypes. Yet, the industry and occupational community is experiencing a lag

[22] See: https://www.theverge.com/2018/7/6/17541318/guild-wars-arenanet-jessica-price-peter-fries-fired-reddit
[23] See: https://www.gameinformer.com/b/features/archive/2012/06/26/mass-effect-3-extended-cut-the-good-bad-and-ugly.aspx

between older attitudes and attitudes of those entering. This lag, is reflected in the video game player community, between those who see video games as just another pastime and those who ascribe to a 'gamer' culture – stemming from the 1990s and 2000s where video games were promoted in popular media as generally the hobby of white males (Shaw, 2012).

Gabriel (Designer) explained this again through examples of recent online multiplayer releases and how these attracted different segments of the video game player community:

"We saw 'PUBG' ['Player Unknown: Battle Grounds'] that is like, the people who are into that are very hardcore and very serious about it. But then we saw 'Overwatch', and that had a very different type of culture, with the celebration of the fan arts and cosplay, but people are still very hardcore about it. It is still capital 'G' 'Game culture'. And then we have seen "Fortnite' which is, still basically the same sorts of product, but is more bubble-gum, more throw away. But doesn't make such demands on the player to be in the culture. But the interesting thing is, the players are playing it more than ever, but in a way, it is less geeky because it doesn't expect you to care, it doesn't say, oh you need to read up on the backstory, or read the spin off stories."

(Gabriel, Designer – emphasis added – 12th October 2018)

Gabriel raises here the 'Gamer' culture, the type of consumer who tends to be the most invested, and therefore most vocal, in the video game player community. As Gabriel explained, the culture expands beyond the product for this demographic, it is part of their identity. The work of the occupational community of developers directly influence the hardcore 'Gamer' section of the video game player community. Blurring of these two community ideological boundaries occur and are played out on Twitter as a digital quasi-public space:

|Netnography| Isabelle and Elena liked a tweet from a popular British programmer [Mothy] on Twitter whose tweets regularly go viral involving topics about video games, popular culture and general humorous observations. In one of today's tweets, [Mothy] tweeted: "The issue with joking about video games on Twitter is that sooner

or later, gamers see them". Around 2 hours after posting there have been, 289 likes and 9 retweets. Six replies to the tweet were developers from USA, Europe and UK using nodding GIFs and generally in agreement with [Mothy]. The tone in the replies seemed to be a little sad or tired, in a way, wouldn't it be nice to have a space to talk about video games without people butting in. I was thinking about this in terms of Twitter, it is perhaps the online location for video game developers to socialise and connect beyond their firm/studio – talk about occupational issues. However, it is also a space that is shared by consumers of such products.
(27th February 2018 – Tweet paraphrased)

Twitter reduces the cognitive distance between creator and a consumer, fostering frequent clashes between communities. While blurs between the two communities may exist independent of the website, it is here where the battles are visible to observers and legacy issues relating to social identity of either group receive a platform. Each are evolving; however, they are not necessarily evolving at the same rate or with the same issues, creating the clashes. Yet, it is this symbiotic relationship between the consumer and developer which makes the occupational community of video game developers differ from other cultural industries. When discussing about the role of a consumer, Kurtis (Writer/Narrative Director) spoke of the following:

"I would like it to be where it simply ends when you purchase the game, or where they don't purchase the game. I'm painfully aware that it goes a lot further than that, the concept of a video game community. I think it is weird. Like every time I look at it, it just strikes me as bizarre. I think there is kind of a push back now against 'we are gamers', 'we are a gamer community', I think that has started to go. I think the role of the fanbase is perhaps to be kept happy, kept fed and kept engaged throughout. Through not only putting up content, but also updates. Engage with them social media, be that Twitter, fan forum, a discord. I'm saying this as someone with indie experience. I haven't seen this with any other media. I don't know why we bother. The fact that we have created this hell for ourselves. The role of the consumer sustains us, but not at a cost that I'm happy with."

(Kurtis, Writer/Narrative Director – 20th October 2018)

The above quote from Kurtis suggests that as developers, the way work has been conducted in the past has allowed consumers the opportunity to attach themselves to the work of developers. Therefore, developers feel as though consumers present certain expectations from developers, which are an additional emotional burden, impacting the perception of consumers.

From the data, the main grievance when discussing consumers was the sense of entitlement the developers felt they received, particularly fans of a specific work or studios. For some developers, they spoke in a rational way, acknowledging the transactional relationship and the right of consumer expectations. Yet, there was often a hint of sadness about it as developers battled between thinking as a creator and thinking as a consumer:

"[It] is a really interesting question actually. I get conflicted because on one side, if you pay money for something, there should be a certain entitlement. It should work, as a bare minimum. It should, like If I went to a cinema, and watched a film and the film was terrible. I would say it was a waste of time and feel bad for spending my money. Both as a developer and consumer, you want people to spend money and then come away thinking, I have had fun. It was a good way to spend so many hours. I would use the word 'entitlement', that I have seen more and more with consumers. And it is probably, I think there is a core minority, but also, I think there is like 'Valve's' refund policy[24], it has to exist, otherwise it is unfair to the consumer. But as a games maker, you see people abuse the system. And again, it isn't black and white"

(Gordon, Founder/Team Lead – 1st October 2018)

Nevertheless, during the interviews there were also a sense of tiredness and anger at the situation. Where entitlement has evolved into a directive over the labour of the video game developer(s) rather than of consumer rights:

[24] Valve's refund policy is a refund can be requested within 14 days of purchase and under 2-hours playtime. A particular issue for indie developers who specialise in short and/or experimental games.

"The entitlement in game communities is ridiculous. People think that developers owe them the world and they [developers] should be bending over backwards to include every little thing or change something they don't agree with because it doesn't fit their ideologies. Which is ridiculous. Talking about Twitter specifically, young men, teenage boys who are keyboard warriors. They don't want to see a female protagonist in the game or romance options to romance the same gender, whatever they that may be. These keyboard warriors are having a go at developers, and it is just fucked up. Entitlement is a real issue in the industry, and I hope it changes overtime."

(Leon, Director/Writer – 13th September 2018)

What Leon discusses here is a belief where developers work for the sole pleasure of a very vocal, 'core minority' or 'serious gamer' segment of consumers, where is feels as though consumers have an entitlement to influence creative decisions. Yet, the creative decisions taken tend to be driven either by individual/studio visions (often indie – AA) or market-led (often AAA). Games are rarely made for the ones who shout the loudest online with the market-led design aiming for the widest demographic. However, it is these vocal consumers who infiltrate the perception of work and the boundaries between developers and consumer.

Nathan (Cinematic Producer) provides an enlightening perspective on the relationship between consumer and developer when we were having a conversation about trust in the industry:

"There is a weird thing when it comes to the industry and the customers. I think game devs are expected to be more transparent than in other industries. I think gaming customers are more savvy. I feel like they can vote with their wallets a bit more. If they don't like it, you'll hear about it and developers will adapt to that and what not. You don't see that in a lot of other industries, you don't see people complaining about a film in the same way and they [creators] go back to the drawing board and change the end. But when you play 'Mass Effect', they changed the end! Like, I have never seen anything like that before. I'm not sure if it is a good thing or not. I think the customers have a huge say in the gaming industry and there is a lot of transparency; there is a level of trust between customer and developer in

that sense you kind of have to take into consideration when you make the game. You can't pull the wool over a gamer's eyes. If you can build trust with customers and be open. I think that is more important than a quality product in this industry I think."

(Nathan, Cinematic Production Assistant – 21st December 2017)

In Nathan's statement he uses occupational othering, a method of boundary making, to explain why he views video game consumers as different from those of other industries, suggesting how the contact between the consumer and developer is built on trust of the developer delivering on promises. This trust is shown through transparency, particularly on social media. It is not the same trust that is shown through friend-DA, which enables coping and knowledge sharing developer to developer. Instead, it is almost like keeping a door ajar, where the vision or the game is cognitively co-created. Fans and followers of the work build their expectations and they trust developers to feel and act similarly.

The level of transparency about video game development however does not necessarily mean that consumers understand the processes of making a game. As mentioned previously, game dev Twitter and video game player Twitter share an overlapping digital locale which can make it difficult to create occupational boundaries:

"With Twitter, you sometimes get gamers randomly getting into dev discussions. There is an increasing 'them and us' divide between gamers and devs because there is that small but very vocal and very toxic sector of the gaming market. Is unfortunately quite dominant and they don't know. They talk a lot about the industry, but the problematic ones are the ones who talk about the industry without really knowing what they're talking about because they have never worked for the industry"

(Ash, Managing Director – 7th June 2018)

Ash discusses here how occupational conversations can feel intruded on by consumers when discussed online. There are no physical structures to separate one community from the other and because there are so many developers talking about their work online, the consumer can pick up on knowledge that would normally stay within the

confines of a studio or higher education institution. The problem here is when a consumer believes they know how game development is conducted without being a part of the industry. Which presents an interesting lens on occupational knowledge and boundaries. Even though there is a great deal of openness to the industry, being granted access via employment, creates an authenticity. Critique is valid while being told how to do your job is irritating:

"You tend to get people on Twitter who think they know what game dev is like. Quote – 'I can add multiplayer into a game in 3 days', stuff like that. But at the same time, it is hard to talk about game development because the moment you open yourself up to that, it tends to go bad about devs. A lot of hostility."

(Jack, Programmer – 18th July 2018)

In the above quote from Jack, he presents a different vision of Twitter than what I tended to see via netnography. I saw my participants share tips and tricks and updates to an ecosystem of game dev Twitter where others were doing similarly. However, Jack suggests that he is sometimes reluctant to talk about his work online in fear of opening up in front of consumers.

In this sub-section, the consumer has been seen as generally negative, or at least the more vocal 'Gamer' segment. However, participants were also aware of their role in how consumers reacted towards them with Jason (Core Designer – Interview 2) suggesting that the relationship between a consumer and a developer as "two-way relationship". While consumers can be entitled and rude; developers and the studios they work for can be too:

"The reason why I left [large platform engine company] because their relationship with the consumer was moving away from the grassroots they were originally. It is more toxic in a way, and there is an issue that we as an industry are becoming more toxic to our consumers."

(Jacob, Owner/Developer – 25th September 2018)

With Jacob, he formed this opinion of the firm in less than three months as between interview 2 and interview 3 he had left his studio to work with the platform engine

company for approximately six weeks, before returning to his indie studio. The change in work environment was detailed on Twitter, however the reason why he left only emerged through interviews. I did not capture any hostility towards consumers from participants during netnographic data collection, only moments of sarcastic tweets such as Jacob (Owner/Developer) joking around with a developer from the USA about the magical 'make game button – found under CTL' (18th September 2018 – paraphrased tweet) when critiquing consumer entitlement. However, through the interviews I did capture annoyance, anger and frustration that was not shown through Twitter. Developers, therefore, acknowledge that certain performances of occupational identity occur in specific locations – Twitter generally involves covert criticism of consumers, whereas perceived 'private locations' encourages developers to air their grievances and speak their feelings more honestly. Sully (Creative Director) who has worked in the video game industry longer than any other participant, exposed a distinct dislike towards consumers and refused to personally interact with them on Twitter:

"I don't reply to anyone on social media now. Because people don't tend to like being called twats as much as I feel like saying it."
(Sully, Creative Director – 7th March 2018)

Sully stepped away from a digital location to distance himself from consumers, nevertheless, he recognised that, as a studio, he needed to have a positive relationship with consumers. Which led to him hiring a community manager and placing other developers as filters for the noise that came through Twitter.

5.6.2 History as a consumer

I will now consider a different, albeit a more positive, facet on a consumer role towards occupational community. However, instead of two communities butting up against one another, I will dive deeper into something that I picked up during data collection and something the participants often spoke of. How they consider themselves simultaneously both as a consumer and a developer. Embodying dual roles which blurs boundaries between the occupational community of developers and the video game

player community. I will first explore the concept of occupational exposure via consuming before moving on to considering the 'liminal creator' – a position where a developer straddles between being a consumer and being a fully adopted member of the occupational community. Finally, I will discuss how developers navigate each identity while part of the occupational community.

From the data, all my participants became exposed to video games during childhood as a consumer of the media. Often, what they enjoyed at childhood influenced their decision path towards a career in terms of role or style of game they wished to work on. For example, Max (Owner/Developer) was working on his first game when I interviewed him in 2018 and his exposure to titles he played during childhood and adolescence fuelled his passion to take a chance with his own creation:

"Being a gamer since I was 8 or so, I have played games all my life and I have admired the amount of work that went in some of the hits."

(Max, Owner/Developer – 12th February 2018)

Similarly, Leon (Director/Writer) suggested he knew from being a child that his career was in games, explaining:

"My earliest memories are entwined with games, and I used to play a lot, a lot, a lot and I just don't get the time I used to. But in an average week I used to complete a couple of games. I used to buy; all my wages went on eBay buying anything I could get my hands on and building my collection was my passion"

(Leon, Director/Writer – 20th May 2018)

The responses to the question 'did you enjoy playing games before entering the industry' in interview two all seemed to follow the pattern of reminiscing back to child and teenhood and allowed developers to find connections between what they enjoyed and their current careers. Gabriel (Designer) noted how they believe playing games is a:

"Typical track [towards game development]. I liked games a lot when I was younger, and most of the art and creative pursuits I did was to back up my interest in games and comics"

(Gabriel, Designer – 12th October 2018)

These connections to an earlier time appeared to be expressed as a story, which as this dissertation has established earlier, is a common method of developing a reference group and norms. For example, Miles (Producer) spoke of his American Aunt who started him on Nintendo games, Kurtis (Writer/Director) explained how he found refuge in games and like Miles, received a Nintendo system (N64) for Christmas, Sully (Creative Director) conveyed a story about an Atari being a gift for being brave during an operation, while Joel (Writer) described in detail birthdays and Christmases where he received Xbox and PS2 consoles and games. Lara (Technical Director) reflected on her childhood playing games with her bother and explained how she felt as a teenager she had to stop playing until she found the courage to pick up video games again and realise, she would like to do this for a career. All the women interviewed expressed an awkward stage during teenage years where they either felt pressured to drop the hobby or continued to play and learn about video games in secret. A sentiment I could emphaticise with, as I too went through the exact same perceived peer pressure as a teen in the 2000s, selling almost all my gaming equipment, only to buy back during my 20s. Nevertheless, associating childhood events to moving from consumer to creator flowed through the data, irrespective of age or gender.

Interestingly, these childhood connections often influenced the types of studio and games that developers wanted to work on John (Developer) reflected upon this:

"It's interesting to watch how certain people grew up on certain games, say Mario, and others who grew up on something like Megaman or Sonic – how they approach games differently."

(John, Developer – 24th July 2018)

Nintendo and Sega franchises featured heavily for aspirational careers, which I argue is due to the majority of participants being children and young adults from the late 1980s to mid-2000s. During this time, technological and market advancements from

both companies pushed video gaming into the mainstream, and set a precedent for video games as a serious creative pursuit (Stanton, 2015). However, none of the participants were working in their 'dream studio' or 'dream project'; Adam (Programmer), Zelda (Freelance Network Specialist) and Jacob (Owner/Developer) viewed development more as a job with specific roles, therefore there were no 'dreams' apart from staying in a job and achieving their version of success. For Joel (Writer) and Isabelle (Producer) they did not plan their career around entering the games industry, with Joel (Writer) pursuing a PhD in English Language and Isabelle (Producer) aiming to be an architect; however post-university both of these used their passion for video games as a method to tailor their skills for the industry and move away from a career they decided was not for them anymore. Therefore, both were grateful for opportunities, where moving into gaming already completed part of 'their dream'. University was a key location where dreams were considered critically, as student developers, Connor (Designer), Alec (Senior Game Designer), Gabriel (Designer/Artist), Elena (Marketing Manager) and Ellie (Lead Environmental Artist) became more aware of the realities of game development and instead focused on developing their skills for employment rather than aiming for a specific firm. Those who owned their own creations, Ash (Managing Director), Leon (Director/Writer), Max (Founder), Lara (Technical Director), Chloe (Co-founder) and Gordon (Founder/Team Lead), exhibited a stronger connection to their 'dream project', through increased control over their creative labour. Yet, as with those employed in a studio, the owners realised upon entering the industry that their dreams fostered through consuming video games did not always align with being a working member of the industry and altered them accordingly to fit current market demand or development of new technology. Jack (Programmer) described such a realisation:

"The last project itself was a bit of an eye opener because when I went to go and work on it, it was because it was my perfect kind of game, so it was a dream break thing. Because it was my favourite genre and their first game was my favourite game of all time, and then I pulled back the curtain and was like 'oh…okay…[laughs], it's not great."

(Jack, Programmer – 21st April 2018)

Between interview 1 and interview 2, Jack had moved from his 'dream project' to another studio where he found a much more agreeable working culture and project which he could gain confidence from which he felt he lost from previous employment, combined with stress from short-term contracts.

When explaining their consumer side, participants often used the term 'gamer' as a shorthand to refer to their own enjoyment of gaming content. However, as mentioned previously in this section, the title of 'gamer' is underwritten by decades of negative perceptions. Particularly among female participants, who rarely identified themselves as a 'gamer':

"I have never thought of myself as a gamer. I have never classified myself that way, but when I think back. I have played games for as long as I can remember."
(Ellie, Lead Environmental Artist – 10th July 2018)

Rather than a self-imposed identity as a 'gamer', what bonded the developers is the act of consuming video games as a process rather than labels. They start their journey as a consumer and as a member of the video game player community with memories of consumption feeding into how developers build social relations both on and offline:

|Netnography| A few of my participants (Elena, Chloe, Gabriel, Jacob and Leon) today used #GameStuck4 to share their 4 favourite video games. Many of these called back to MSDOS, PS1 and PS2 era games, however there were many others who were not part of the data collection who provided a wide variety of games. It was interesting to see how by sharing images of titles that stories came out, memories. Forgotten games, that by seeing a tweet had triggered in their mind how much they loved playing it as a teen. Although this wasn't a hashtag from Gamedev Twitter, I saw many developers adopt it and share on their feed with their own contribution. (20th April 2018)

Fig 5.1: #GameStuck4 example tweet from Elena [anonymised] – 20th April 2018

In the Van Maanen and Barley (1984) and Van Maanen (2010a) conceptualisation of occupational community, membership arrives with employment. What is seen here is how childhood and adolescent exposure to an occupational community influences the perception and expectations of an occupation during adulthood. In Van Maanen and Barley's (1984) seminal study, policework is analysed which has no products to technically consume. The nearest is role-playing and police themed toys and movies, yet these are not products directly from the occupational community. Video games exhibit a blur where a person is able to consume products produced by an occupational community before being a member - learning through consumption and then through practice and doing. The boundaries to the occupational community therefore become quite malleable when considering a person as a consumer and as someone who is treading into the occupation and moving from consumer to producer.

When moving between being a consumer to a developer, there is a stage whereby a developer can become an 'liminal creator' as they test these identity boundaries – often during teenage years. Participants spoke of stories of experimentation through modding, tiny experimental games to practice coding before being shared online or on app stores, drawing character designs or simply practicing on opensource industry tools. For example, Ethan (Senior Technical Artist) discusses how he used modding to improve his skills whilst at university:

"I would spend most of my time making models. I made like a self-portrait for 'Jedi Knight 2', so I would run around in my shorts and t-shirt and cut off my own legs. It is getting into the circle of doing things with a start and a finish."

(Ethan, Senior Technical Artist – 31st July 2018)

Ethan highlights here how through playing around with the game's mechanics, in a method that was not part of the intended gameplay, he was able to learn basic project development and recognise steps for 3D modelling. He arrived at this point through being a fan and enjoying the product, before taking the enjoyment a step further with a desire to construct a version of the game in his vision. Gabriel (Designer/Artist) learnt illustration through online tutorials whilst Kurtis (Writer) provided a storyline for a friend's game at university. There are many overlaps here with the 'hobby job' as explained in 5.4.2, however this liminal creator captures the time between learner (outside of the industry) and new recruit (inside of the industry); whereas the 'hobby job' is a side-line to regular employment.

What is interesting is that developers do not relinquish membership to the video game player community when moving to becoming a member of the occupational community. Although they may enjoy video games to a lesser extent once becoming a member of the occupational community. Nathan (Cinematic Production Assistant) provides an interesting analogy, he hates talking about video games, for him that is too much like work. When explaining his rationale he exclaimed:

"I can't imagine anyone who makes films in Hollywood not watching films anymore"

(Nathan, Cinematic Production Assistant – 28th May 2018)

There is assumption here that for a cultural occupation, a person should continue to consume as an act of learning and development. Being able to balance membership of the two communities results in the formation of a game worker. However, this can cause confliction when trying to comprehend professional identity and consumer identity:

"HJ: And for you, what is the role of the consumer?

GO: I am trying to think this through because I am someone who is both a consumer and someone who makes games. Yeah, that is a really interesting question actually, I get really conflicted because on one side, if you pay money for something, there is a certain entitlement. It should work, as a bare minimum. It should, like if I went the cinema, and watched a film and the film was terrible. I would say it was a waste of time and feel bad for spending my money. Both as a developer and as a consumer, you want people to spend their money and come away thinking, I had fun. It was a good way to spend so many hours. I would use the word entitlement, that I have seen more and more with consumers. And it is probably, I think there is a core minority, but I also think there is like Valve's' refund policy, it has to exist otherwise it is unfair on the consumer. But as a games maker you see people abuse that system"

(Gordon, Founder/Team Lead – 1st October 2018)

Gordon (Founder/Team Lead) speaks in the above passage both as a consumer and as a developer. There's an interesting comparison to the film industry, where refunds are less likely to occur if a consumer simply did not enjoy a product. Gordon here, speaks of consumer entitlement where systems, such as 'Valve's' refund policy has been implemented which could be detrimental to his studio, yet he understands why consumers may do certain actions, as he himself still views himself as a consumer of video games.

The final sub-section of the analysis explores a more positive element of consumer and developer interaction – the role of a consumer as a hidden developer.

5.6.3 Consumer as a 'hidden developer'

Previously, a consumer was seen as an 'outsider' to the developer community (5.5.1), which often resulted in consumers being seen as antagonistic to the game developer process and related developers. Section 5.5.2 explored conflictions of developers often viewing themselves as both a member of the consumer and developer community and highlighted how histories of being a consumer influenced their developer identity and career goals. In this final sub-section, the consumer is viewed as a 'hidden developer' where a consumer actively influences development processes through their interactions with developers. There are two connections to the previous sub-sections, firstly through interactions potentially being negative and secondly, a latent developer is related to the liminal creator mentioned previously. The difference is by using the term 'hidden developer', it indicates focus remaining on the participants of this study, with consumers influencing *their* development processes. 'liminal creator' indicates a focus on the personal process of moving from consumer to developer.

As previously shown in this sub-chapter, a consumer is constantly evolving with how they are seen by developers with the malleability of the term extending beyond purchasing a game, into influencing and assisting game development:

> *"[a consumer] is someone who either directly or indirectly helps with video games being made. And it can be for any reason – for artistic intent, for business intent or to have an emotional intent"*
>
> (Miles, Founder – 23rd October 2018)

Miles here highlights an important involvement a person invested in video games could have with products created by developers. He suggests that a consumer can be an active entity, whether they realise it or not and can infiltrate multiple development areas. This perspective is not universal, Ethan (Senior Technical Artist – Interview 3) suggested that a "consumer is an end product", a sentiment backed up by Ellie (Lead Environmental Artist) while Jack (Programmer/Director – Interview 3) alternatively suggests that "Selling the game isn't always the important motive of making a game. Like a musician releasing songs, they [a developer] can release a game because they want to make a game to show people".

The above quotes help in understanding how rationality towards game work can influence how consumers are viewed and potentially brought into production. For the rational, consumers are the end product and motive creation, compared to developers who appreciate that making a game can be a personal creative endeavour, so consumers do not factor into whether a game is able to sell. Both of these opinions reject the most common perception found in this study about consumers being active and influential through development. Active involvement found in the data, beyond purchasing, often had connection to QA processes with developers using consumer's labour as a method of QA. QA has a reputation as the entry level role to access the industry, has the lowest pay grades, is one of the most precarious roles in game development and is often outsourced (Kerr, 2006, Ozimek, 2019). Previously, when discussing social identity (5.2), QA was sometimes perceived as a tenuous link towards developing an identity as a developer, despite being a crucial element of the game making process. From this foundation, using consumer labour as part of the QA process depicts an interesting approach on how developers try to maintain occupational boundaries, through deciding which information is valuable and which is problematic. Nevertheless, there is a recognition of the developer's role for inviting consumers in:

"It is all about engaging and making people part of the process, which they are, if you want games people, you have to acknowledge that you have invited them into the process and their response, impossible or possible is valid."

(Jacob, Owner/Developer – 25th September 2018)

Jacob speaks here of taking responsibility to including consumers into the developmental process, similar to Du Gay et al. (2013) who suggested that creating and consuming are two interwoven entities, therefore the comments, whatever they may be, are valid because consumers are integral to the process. Leon (Director/Writer) explained how he uploaded his debut game on itch.io, a platform which specialises in experimental, indie and hobby games, to gather feedback as he could not afford to pay for QA testing. During netnography, I saw Leon tweet out this link to his 'beta version' and requested feedback either to his email or directly through

Twitter. During interview 3, I was able to ask how the outreach went and he responded:

"LE: It's not gone gangbusters yet, but I didn't want too many people downloading yet because I couldn't handle that much feedback. So, I have a few dedicated people sending me screenshots and videos and letting me know problems which is really handy to help fix things up.

HJ: So, in a way, is it is a bit of testing, a bit like QA?

LE: It is exactly that. That was the exact reason I put it out there. A little bit backwards in a way, people are paying me to QA instead of me paying them [laughs]. It is a bit backwards. But people love to be involved with projects before they are launched. It gives them a sense of involvement and I am making sure everyone who has been in correspondence with me is added to the credit of the game as well. Hopefully it is a meaningful experience for them as well as for me."
(Leon, Director/Writer – 13th September 2018)

In the quote above, Leon notes how consumers provided detailed feedback which assisted with the development of his debut game. In response, Leon treats these consumers as you would a member of the development team, he trusts their opinion and sees them as important knowledge sources, compensating their time and effort by including them in the credits. Credits in cultural industries act as proof of involvement and often are the foundations of a CV, therefore this is an extraordinary gesture which Leon provided, one he could provide without a financial input. As he suggested himself, those involved paid him to essentially test the game on his behalf, what the consumer received he argued is a sense of involvement and superiority of 'being the first'. Although this does raise questions about power dynamics between creator and consumer, as involvement can quickly become exploitation of the consumer. Leon maintains an occupational boundary through an absence of work structure as work structure appears to influence when someone moves from being 'someone involved in the process' to 'developer'. Consumers providing input for Leon were structuring their own time and process, whereas if Leon provided set hours and processes then they could be argued to be full members of development.

It is important to note here that indie development allows a closer relationship between creator and consumer because developers are more likely to use consumer labour to fill missing roles in the team because funding is smaller. Similarly, indie developers sometimes position themselves as ideologically closer to consumers than the more corporate AAA (Whitson et al., 2018). A few more examples of consumers providing a QA style role to indie projects is Adam (Programmer) who used *Gamescom* 2015 to learn how players approached VR headsets while Connor (Designer) used post-game social media post to gather reactions. Occupational boundaries were drawn by consumers being able to provide information but blocked from viewing documentation or deciding which information was documented. Both techniques are industry standard practices, however because of the closeness of the consumer to the developer through indie development, the information can be easily absorbed back into the project than at the AAA level. Nevertheless, Ellie (Lead Environmental Artist) provided an example when she worked in a AAA studio with a popular *PlayStation* title:

"When I worked on a project like [redacted] it was contacts with the community that lead to, for example, there was one, one day we were releasing some DLC and it was supposed to be a little cottage'y map and the community people messaged me about an hour after it went online and was like, that wasn't what you were meant to release. This is like an entire huge pack of like 15 stickers and costumes, it was massive. And so, that contact worked out really well because I could call the bosses and like retract quick! And if we hadn't had that line of communication, it wouldn't have worked. Also, the people who played that game often went on to become developers in their own right because they were so good at it"

(Ellie, Lead Environmental Artist – 8th October 2018)

Fans of a specific title are commonly referred to as a 'community', so much so that the role of 'community manager' is now a profession within the industry (Kerr and Kelleher, 2015). Ellie explains how closeness to the fan community allowed them monitor and assist the development team, with a gesture that was based upon honesty. Also, fan labour invested in the *PlayStation* game, which has a large fan modding element, assisted in gaining employment for those who used the game to practice their

skills. This is another example of being a liminal creator, as discussed in the previous sub-section, viewed through the eyes of an established developer in the occupational community.

The consumer as an important knowledge source is crucial to understanding the interwoven relationship between consumer and developer, and why it can sometimes feel overwhelming to developers. Orr (1996) found a similar relational closeness for knowledge sharing between technicians and customers while Grabher et al. (2008) notes co-development as a specific relation between consumer and creator. Chloe (Co-Founder), embraced narrowing the cognitive and organisational distance between consumer and developer through adopting open development:

"We are constantly putting our games in the hands of people other than ourselves to play a see how it makes them feel and how they enjoyed it. Sometimes we get responses back that we listen to – that is most of the time – because if someone says your game isn't fun, then I think you should listen to them. However, you need a clear vision of what you want to achieve because other people may have different ideas…For us, [a consumer] isn't someone who just gives us money, <u>they are almost like a developer, but in a weird separate way</u>"

(Chloe, Co-Founder – emphasis added – 17th October 2018)

Chloe actively places consumers as part of the development process with a similar argument to Leon (Director/Writer) whereby those who are invested gain a sense of satisfaction from being involved. An occupational boundary was drawn by Chloe and her team ultimately deciding which pieces of information was deemed worthy. Chloe notes how they are like a developer, but also not, and I would argue it is again the absence of work structures which demarcate consumer labour from developer.
Consumer knowledge is also appreciated to have a tendency of holding biases. Connor's (Designer) reflected on listening to consumers beyond the voice of a fan:

"It is good to get honest feedback. Because often you'll get fans to test the game and they would be like, oh yeah it was really good! And it isn't a particularly honest opinion because they have come in and had a free lunch. Then when it is released, and you go on forums, when people are on their PCs, they are not afraid of who

reads what they are writing. They are more honest, it can be both a blessing and a curse; a blessing because you get some good raw feedback, and a curse because some people take it too far"

(Connor, Designer – 24th July 2018)

The above quote shows multiple spaces converging which influences the development process. The studio, where fan testing was carried out compared with online platforms where general consumers comment on the game, each creating different knowledge. Twitter assists with this through narrowing a cognitive distance between developer and consumer, making information about game development and the people behind the titles generally more accessible. During netnography I observed participants, particularly those in indie development such as Leon (Director/Writer) and John (Developer), actively encourage potential consumers to comment on their work, using hashtags such as #screenshotsaturday and #indiedevwednesday which fosters ephemeral relational spaces through the coming together of multiple developers and consumers.

However, the creation of these spaces is not without issue, Jack (Programmer/Director) for example had to pause and sounded despondent when I asked him if he had stepped back from social media because of consumers:

"I follow a lot of people, so my feed is like quite intense sometimes if there is something going on in the industry. Sometimes I have to step away because it is getting too much…I've not had many bad conversations, it is just one or two people, you block them and then move on. I can imagine if that was a lot stronger and a lot more people came, that would definitely drive me away because I couldn't handle that"

(Jack, Programmer/Director – 18th July 2018)

The overall sentiment of engaging with consumers on Twitter reflected Jack's perspective, that Twitter was a necessary evil and dealing with consumers/gamers was part of being a video game developer. From the data, Twitter was heavily integrated into everyday developer life – from asking advice, to finding jobs, socialising and connecting during industry events. Being absent from Twitter (Nathan, Sully, Adam)

was in itself a statement through distancing from expected community social processes. Nathan (Cinematic Producer) suggested it is difficult to know where to draw a line between what is said on Twitter and what a developer can be held accountable for, especially when developers are fired because of a backlash online. Again, this highlights how game development spans online and offline locales and it is particularly difficult to separate the two. An individual developer could remove themselves from the platform, but as an occupational community, it is interwoven within industry gossip and social processes enacted in online and offline locales.

The final analysis of this chapter summarises perceptions on the influence of consumers, as hidden developers, to game development. I have previously suggested that consumers can influence developer's creative processes through their relational closeness on Twitter both positively through open development and engaging with elements of QA and negatively through the ability for consumers to push for a developer to be fired from a studio. However, there was also a sentiment which came through the data where developers suggested that consumers did not have as much influence as they believe they do:

"I don't believe there is as big an impact on people making games as the community thinks"

(Alec, Senior Designer – 31st July 2018)

Although including consumers' knowledge was seen as potentially useful, the developers in this study acknowledged there was a limit where someone in the occupational community a line needed to be drawn, as an occupational boundary, otherwise a game would be unable to be produced.

There is additionally a question about who do creative products belong to. Even if methods such as open development is not enacted, sentiment from consumers form part of market research, post-mortems, potential funding applications and community management. Gordon (Founder/Team Lead) explained:

"Sometimes players understand your game better than you do. So, there has been a couple of things that players have suggested that I thought were great ideas. That

being said, I think it is always important to be aware of the market if you want to make something a success"

(Gordon, Founder/Team Lead – 1st October 2018)

Gordon here suggests that knowledge from consumers can go beyond what the development team could envision. As they are the ones playing the game in its entirety, rather than seeing it through stages of production, consumers may see something a game that those working on it fail to recognise. However, Gordon also notes about market influence, what may be suitable for their connected fan community, may not be suitable as a commercial product. Ash (Managing Director) reflects this by suggesting:

"I don't subscribe to the theory you have to give consumers everything they want, because sometimes, what they think they want is not really what they want"

(Ash, Managing Director – 14th September 2018)

Consumer knowledge, therefore, could be argued to be guidance knowledge and when that guidance starts to turn into an unrequested directive, for example through Tweets to developers stating art or character design needs to change because of consumer opinion, that is when the occupational boundary is crossed because the consumer is acting like an occupational member. *Mass Effect 3* was used as an example here by the participants to explain this notion, because consumer pressure influenced the remaking of the game's ending.

The dissertation will now move to discussing the data presented above to develop a theoretical understanding of occupational communality and mediated spaces.

Level 6: Discussion

6.1 Introduction

In the previous chapter I presented analysis and findings from the data collected for this study, with the aim of the analysis chapter to present stories and experiences from the participants. In this chapter, the analysis transforms into a higher-level discussion, bringing together multiple threads found throughout the thesis to develop a theoretical understanding of those experiences found in Chapter 5. I will develop this chapter by emphasising similarities and differences when considering existing academic knowledge in relation to the findings of this study. Firstly, by presenting an empirical case discussion through answering the research questions. Secondly, I will discuss how empirical data offered here adds to a broader occupational community literature, with a particular focus on the role of an associated community and how the occupational community theory could adopt a mediated position of being neither based wholly online nor offline. Thirdly, I will consider learnings from the data in relation to studies of buzz and the role of a community in a cluster. From this position I will introduce a developing concept of 'occupational space', which I argue is a complimentary method to discuss processes of relational space making, in the context of work, without a need to rely on an offline location or the production of a specific product. To conclude, an updated version of the conceptual framework will be presented.

6.2 Case Discussion

The purpose of this section is to present a discussion related to the research questions of the thesis. At the beginning of this study, I started from a place of empirical curiosity with a desire to understand why video game developers had an ability to bond together, despite sometimes having no shared working history, were not always colleagues and often technically competitors. From this I developed the overarching question – "how do UK video game developers experience communality and what space(s) emerge from this communality which was broken down into two research questions:

> *RQ1*: How is communality established and maintained through Twitter?
> *RQ2*: How do digital relations assist in developing space(s) with offline communality processes?

I will first answer the research questions individually (6.2.1 & 6.2.2), the learnings of which will be brought back to answer the overarching main question (6.2.3).

6.2.1 Communality via Twitter

"You're not reducing face to face time…you don't choose to stay in and do Twitter" (Evan Williams, Co-Founder of Twitter cited in Murthy, 2018: vi)

The above quote from Twitter founder Evan Williams summarises how a digital locale or platform can be viewed not as somewhere in a faraway land, floating above society where someone purposefully goes but something which weaves in-between everyday working lives. Twitter is not a place *per se,* but a site which holds a bundling of social relations, a focal point of digital buzz and social noise transformed into binary code and accessed by those who seek the similar and the familiar. The use of Twitter could be argued to be a companion to meeting in-person, slipping into everyday life, neither purposeful nor accidental, with the site's appearance adapting in relation to who is engaging with what. This is why Twitter was a crucial site to study video game developers in their everyday lives, as it assisted with understanding how communality could occur around a concept of work when organisational and project ties are placed secondary. Twitter, by its nature clusters individuals who appear to be similar, these

people then go on to build social interaction through tweets, hashtags, retweets and comments which in turn builds a Twitter sub-group along with a reference group of relatable in-jokes, key figures and accepted practices. I studied what is known as 'Gamedev Twitter' – a sub-group of Twitter which includes those who are involved in the creation of video games.

Communality is found through generating closeness to others through replicating observed action. Examples of these are using shared hashtags, using similar language and terms, creating profile standards and unique to an online experience – through using shared memes and images to represent ideas. Taking the hashtag example, frequently used occupation focused hashtags such as #indiedevwednesday and #unitytipstuesday create a micro event on the platform where engagement is simply tweeting something of a developer's work to share with others. The hashtag can then be mined for information, which is asynchronous from when it was published, and conversations can be developed through visiting other developer's profiles. Memes rely on a shared understanding of context in order to access the commentary or joke, as seen in the previous chapter with Joel sharing the butterfly meme to his timeline, combined with shared occupational standards create a unified appearance to enable fellow developers to know who another developer is before a conversation is started.

Conversations are the currency of Gamedev Twitter and enable developers to connect to others beyond organisational boundaries, with elements such as hobbies and side projects often becoming key discussion points. I would argue this is due to NDAs restricting sharing of specific work knowledge, therefore, to enable a connection via a digital platform a method other than talking about work often needs to be utilised. Twitter is a space of neither work nor leisure, which aligns with an understanding of a cultural industry always in flux between work and pleasure (Hesmondhalgh and Baker, 2013). Although those involved in indie development are more likely to discuss knowledge related to work because they are in control, for the most part, over their creations compared to those engaged in AAA or AA development. Leon is a good example of this, as a Brand Manager by day, he is often unable to divulge information relating to his work. However, his own game from his two-developer indie studio has been documented online from its conception – including failures, successes and moments of requiring help with art assets and music scoring.

Twitter therefore cannot be argued to be a homogenous entity, even when discussing a unified Gamedev Twitter, because certain identities of developers are able to engage more freely compared to others. This relates to the idea of social identity (Van Maanen and Barley, 1984, Weststar, 2015) and internal boundary making, or nestedness (Weststar, 2015). Certain characteristics of a developer means they can engage with Twitter in different ways and certain developers need to build more obvious networks rather than relying on lurking around and observing. Indie developers again come to mind as do students, as outreach which relates to practical work is much more important to them than developers who are employed at a studio. Schwartz (2018) in his study of freelance indie developers found that online relations created meaning for developers' work, formed a career trajectory when a firm is absent and structured collaborations via the community. Findings from this study agree with all of these when discussing indie developers, however I would also include students in this conceptualisation. At the AA and AAA level of development, being on Twitter relies more on a documentation of *being* a member of an occupational community and discussing topics which are industry wide or part of a hobby. As both of these avoid project and firm-based knowledge held behind NDAs. To discuss practical knowledge, the developer would need to generally need to conduct a side project, although this may be restricted by the employer.

Nevertheless, there is a creed of good practice which spans throughout the community which assists in bonding developers through a shared communality even if their work situations differ. From the data, I found that developers are expected to help one another through difficult times, such as during periods of unemployment. As work is often precarious, a developer cannot always rely on an employer for support, therefore the community presents itself as a dependable entity which is easily accessed via Twitter. There is also an expectation that a developer enjoys video games on a personal level, which assists as conversational openers through asking "what was the last game you played" or "what did you think of the new release" for example, providing an occupational focal point, which goes beyond work, yet is also strangely connected because they are enjoying products of the industry during leisure time. A blurring which was not highlighted in any of the video game occupational community studies to date (Weststar, 2015, Schwartz, 2018, Dubois and Weststar, 2021).

Returning back rationalising community members replicating each other, a developer, through copying others, can show they know how social actions should be performed and that they too are part of a community. Deviances away from expected behaviour creates 'red flags' to the observing community and is approached in two ways. Either the behaviour is sanctioned, and they become a negative occupational figure – often this for is reprehensible behaviour such as misogyny or racism. Or the community reads it as a cry for help, because their current behaviour does not align with the previously acknowledged community perception of a specific developer as a 'good person'. Situations such as this tend to include times of mental health crises which play out on Twitter or a moment of misguided tweeting. Community members question their thinking by responding to a tweet and as comments build, the developer in question is almost judged in front of a jury of peers, especially if their tweets go viral.

Communality here is found through fitting in with occupational norms and exhibiting shared values. Currently, I would say that the UK video game developer occupational community is pushing for greater equality in the occupation and a reduction in crunch conditions, to agree with these principles means a developer can use Twitter and converse with few barriers. To reject these, or to have an alternative stance than the accepted industry norm means a developer stands out negatively from the rest of the occupational community. If they are also well known and produce good or critically acclaimed work, then they become known as an 'arsehole genius' because their ability to contribute products to the industry is unquestionable and they will continue to be powerful; however, as a developer they are seen by many as a negative figurehead for the community. Similarly, to perform accepted occupational norms turns a developer into a 'guru' figure because they are perceived to represent the ideal community figure. Such finding relates to Van Maanen and Barley (1984) who also discussed the guru figure, however the arsehole genius is a development through appreciating negative elements of the community who similarly are able to wield influence over community norms, sanctions and practices.

Through the conceptualisation of these figureheads, the findings suggest that maintaining communality is not a democratic process. There are hierarchies which

emerge through being visible on Twitter which raises questions about power relationships and who controls the narrative of *being* a video game developer. There is not enough evidence within this study to provide an answer to that, however I would tentatively argue that the video game industry started as a predominantly white male domain and therefore, this has extended itself onto Twitter via relational social processes. If a developer deviates from this origin, they are constantly trying to carve out and add their own experiences to this space, which disrupts a status quo. Being visible or not visible on Twitter is also a privilege as arguably, the earlier a developer is in their career, the more they are expected to be seen online. Those who are more experienced, have already built their networks and perhaps do not care so much about the concern of a community, therefore they are freer to remove themselves from the platform. Aligning with Grabher (2018) and Gong and Xin (2019) who argued that removing oneself from buzzy locations assisted in developing individual creativity and prevented creatives from becoming overwhelmed. Although these two studies were referring to physical locations, there are similarities found with removing oneself from a digital platform to focus on individual creative work.

The final discussion point here relates to Twitter and closeness to consumers/video game players. I previously suggested that communality is found through feeling closeness to other developers which Twitter mediates. However, the structure of Twitter as a platform also means that closeness is also achieved to consumers. In previous conceptualisations of occupational community and clusters, the consumers were either physically barriered or had their own space. While members of the community may interact with them and enter their space, for example Orr (1996) or Sandiford and Seymour (2007), there were methods of distancing themselves. On Twitter, both creator and consumer share the same space and conversations and ideas which previously may have been private are now broadcast to others. In the case of this study, I found this has led developers to actively othering consumers by creating boundaries of 'them' and 'us'. Rather than only the external boundary between occupations as explained by Van Maanen and Barley (1984), there is an additional external boundary created between community members and consumers. However, this becomes quite blurred and confusing for a developer when they too identify as a consumer and interact as a consumer on Twitter. Further adding to the argument that

Twitter is a heterogeneous platform which holds multiple forms of occupational communality simultaneously.

6.2.2 Weaving social relations

In the previous section, I focused on how developers of this study fostered communality through Twitter. Yet, despite discussing an online platform, it is easy to notice how what happens online does not necessarily stay within the confines of digital realms. Influences of what occurs offline, working in a studio or attending an event for example, is part of a wider social spectrum where sociality is not online nor offline, but weaves in and out creating spaces between (Massey, 2005).

Gamedev Twitter is indicative of the coming together, bumping up, clashes and dispersal of social activity from people engaged within game work. Therefore, Gamedev Twitter is not built from logical coding and interfaces, rather it is a presentation of the everyday shone through a digital window, whereby the everyday is neither online nor offline as it is influenced through engagement of both, creating mediated spatalities (Leszczynski, 2015), affected by wider occupational influences found in bars, studios and convention centres for example. Issues involving identity, community boundaries and belonging do not necessarily belong in online or offline locales, because their formation in a contemporary cultural occupational community relies on the intermingling of both.

A useful way to conceptualise this blurring is as an extension of the middleground from city anatomy theory (Cohendet et al., 2010, Lange and Schüßler, 2018). What happens ‘on-the-ground’ has connected social processes occurring on Twitter and other corners of the internet. They are not separate, as this section and further discussion will elaborate, but a space that is created by social interactions of an occupation. The middleground is a locale of serendipity, of casual encounters and coming togethers away from firms where developers are employed – therefore thinking how digital relations are continuations of what is observed offline, and vice versa, makes sense with how social media is used. Social media is used by developers as part of their whole socialisation process, mobile phones are used while stood in

queues, taking time out for lunch, and browsing Twitter is a stereotypical procrastination technique. Unlike the typical city anatomy theory however, I would argue that the extension of the middleground also extends beyond cities, assisting with connecting developers to key hubs which they may not be able to access or feel intimidated or lost entering. The key figures and their thoughts and connections can be brought closer and found more easily, when if a developer goes to Manchester, London, or Brighton for example, they may not be able to gain admittance to the spaces these key figures situate themselves.

The replication of community action, as discussed in section 6.2.1, was also observed in this mediated space when industry events were taking place. During times of industry events developers who were attending appeared to create a ritual of announcing they were going followed by another tweet saying, 'I'm here' and details of where to find them on the show floor, or indeed the nearest bar, they would then update followers about their whereabouts during the day or week and what they were doing before a final tweet saying, 'going home [plane emoji]' and thanking all the people they had met. I was particularly fascinated by this repetition of tweets that multiple developers did because it shows how the developer occupational community is not a virtual community and is situated within mediated space. Within the example above, a digital platform was used to locate an individual and inform other who follow them, when others respond saying 'thank you for meeting up' they are moving an experience of face-to-face interaction to Twitter which is then observable to other digital followers who can then join in the conversation despite not being physically present. Therefore, social relations weave in and around the show floor, Twitter, bars and the host city becoming an occupational norm to be so visible online during face-to-face events. What has been explained above goes against findings from buzz studies which study temporary clusters (Maskell et al., 2004, Bathelt and Schuldt, 2008a, Schuldt and Bathelt, 2011, Henn and Bathelt, 2015) which view digital relations to be separate from face-to-face. This study found that during an industry event, or temporary cluster of game workers, then mediation occurred to contribute towards a shared understanding of space and collective belonging.

Similarly, developers use mediation of socio-spaces to show behind the scenes and possibly, the messy reality of video game development, as described previously with

Miles who released video footage of development processes in their studio. Such actions assist with breaking down barriers to learning about an occupation and supplements a democratisation of development education via open software and advice. These learning experiences were not conducted on Twitter, they were by a developer who was sat in their studio, the learning was then transformed and published so that others who were not present could gain valuable insight. Again, there is a weaving between what might be considered online and what may be considered offline - to take one of these elements away would result in the aforementioned learning process unable to be shared.

Admittedly, being a mediated space also means that developers cannot be separated from their respective studios, if they are not freelance or independent, as studios remain part of the developer's working life. The studio therefore remains influential to individual activity through codes of practices and NDAs and going to an assumed 'digital space' does mean that a person is free from consequences offline. Developers are not entering a secret world where no one knows their identity, Twitter tends to be used with real names, declaring roles and companies – therefore it is part of their identity shown to others throughout their sociality. If misdemeanours occur online and is reported then they are under threat of sanctions by both the community and any connected firms. Studio control can also control personal projects, which when thinking about creativity results in a developer feeling as though they may struggle to express themselves in a space that they deem should be away from firm control. However, the developer cannot be separated from the respective studio whilst remaining visible online.

Sadly, mediation also shows itself through the systemic issues which situate themselves online and offline in similar fashions – in particular for women and ethnic minorities. What I believe this shows is that what occurs online is not a reflection of offline, instead processes are just one flowing entity that envelopes all known socio-spaces, therefore perceived negative elements of life appear where sociality occurs.

6.2.3 Experiencing mediated communality

I went into this study with a desire to understand how video game developers experience communality in-between digital and physical spaces and outside of organisational and project boundaries. I found a connection to an occupational understanding was evident within the data, and it is this occupational tie which assists in video game developers finding communality away from organisations and projects. This finding supports Weststar (2015) where she suggests how video game developers have a greater connection to an occupation rather than a specific studio/firm. I would also suggest that the line between individual goals and occupational belonging is more complicated than Kerr (2011) and Lysova and Khapova (2019) originally suggest. In their studies, they found personal identity and goals to be the primary motivator of a game developer. Yet, I would argue that pursuing personal achievements and investing into the occupational community is not an either/or situation and can exist simultaneously. Developers often wanted a reference point to understand who they are and what their work should mean, particularly if they were indie developers or early in their career. Likewise, through community relations they were able to develop their personal passion projects, some of which were to feed helpful advice back to the community.

Although throughout this dissertation I wanted to consider how developers build communality away from firm and organisational ties, it was during the research I realised that occupational ties do not exist by themselves and are heavily influenced by studio/firm practices. A good example I found of this was surrounding the practice of crunch working. Crunch involves extreme time and mental investment from a developer to push a product onto the market and has become infamous as a facet of the industry. Crunch has been argued to have arrived through project mismanagement (O'Donnell, 2014), yet as an occupation the community has taken it upon themselves to create coping mechanisms and reluctantly accept that crunch remains a part of 'being' a developer. Even those who technically could manage their own time, fall back to embracing crunch either as something inevitable or explained as a method of 'good crunch' (Cote and Harris, 2021). This practice fosters communality through a method of investing in a 'community of coping' (Korczynski, 2003, Stroebaek, 2013) where community members provide a support structure to cope with daily life. From

the data, not only was this community of coping evident, but also there was a further occupational expectation of developers to invest emotional labour to help others. I found this particularly with developers who were not white males – although I do not have enough evidence to present this as a definitive finding of this study, though it is certainly something to investigate in the future.

McRobbie (2016a) highlights how emotional labour, through supporting fellow creatives, is quintessential for cultural industry workers due to job precarity, a tendency for long working hours and a perceived expectation for creatives to struggle – such is the stereotypical image of the 'starving artist'. Yet, emotional labour is often undervalued by employers, if they are present. I argue this is why a cultural industry occupational community and a related community of coping may occur, because a creative's employment is not always under the directive of an organisation/firm and their time spent on projects are for a set period of time.

To feel belonging, a creative would need something which appears more stable, such as an occupation, because if belonging is attributed to an organisation or project, what happens to these creatives in the in-between states of unemployment, moving project or adapting to upcoming industry changes for example. They do not stop being creative workers because they are not contributing to a commercial product, an issue I personally found with the cluster literature because the production of tacit and codified knowledge through clustered networks was for the benefit of the firm and of production (see Porter, 1998, Malmberg and Maskell, 2002, Bathelt et al., 2004, Scott, 2006, Campbell-Kelly et al., 2010, Speldekamp et al., 2020). Despite sometimes talking about communities, a community in the video game cluster literature often fell theoretically closer to communities of practice with an emphasis on the practice element. As practice resulted in products, these studies tell us little about the messy everyday life of being a developer. These experiences are important however because they provide a foundation for work, workspaces and practices.

This study found that occupational ties form an important bond for UK video game developers, however this is not without its contestations. From the data, this study suggests that there is no singular video game developer identity, an issue which was also debated by Keogh (2019c) who suggested that because the industry is comprised

of varying sizes and styles of development – developers also reflect this diversity. Weststar (2015), likewise briefly introduced the idea of 'nestedness' in game development, where job roles are used to create internal boundaries of who is more or less of a developer. This study found evidence to support this idea of nestedness, what I saw as a method of internal othering through developers cognitively drawing internal boundaries. Boundary making in an occupational community involves forming a perceived distinction between us (those who are included in an occupation) and them (those who are excluded from an occupation) - communality can then be formed through perceived shared similarities.

From the data, I found a significant fracturing of a unified 'video game developer' identity from multiple perceptions. The most influential being between role, with those involved in business focussed roles – production, marketing, and HR for example – tending to be viewed as more distant from a developer identity than those who actively create a game such as those involved in programming, art and design. Fractures were also found between indie and AAA developers, as indie developers often had to be more flexible with the work they did and take on multiple roles, while those involved in AAA development could focus on a specific element of game design. Those in AA development did struggle to build their identity as being neither able to adopt a romanticised indie identity nor able to adopt a broadly recognised company name. A final fracture, which was not acknowledged by previous literature, was identifying a stage when a video game player or consumer becomes a developer. I reported how methods of open development and integrating consumer opinion was increasingly becoming part of developmental processes, however developers actively created boundaries to delineate consumer from developer. Although this can be a tricky exercise and is only made more difficult through possession of a dual identity that all participants had of being both a consumer and a developer and the emotional labour it took to balance and switch between the two.

In relation to the above is the concept of a 'hobby job'. In this study, I found that a hobby job, where individuals have a side project which replicates elements found in paid employment, assisted with remaining connected to the wider occupational community when a person was in liminal employment, for example during periods of unemployment or between projects. Again, communality arrives through still being

connected to an occupation even if firm ties are discarded. Periods redundancy I believe beneficially portrays this example, as through a general assumption that developers should help one another, when a community member becomes redundant (especially if the whole studio closes) the occupational community moves in to offer new employment or raises awareness of the situation through retweeting.

The final, and I believe most crucial element of showing how communality is experienced throughout multiple locations and community led is through the concept of friendship. Friendships allowed competitors to come together, find common ground and meet not as members of a firm, but as fellow video game developers. The term 'friend' was also much more commonly used that 'colleague' or 'someone I know', which I would argue portrayed a level of occupational respect towards each other – rather like how chefs may continue to refer to each other as 'chef' in professional environments away from designated workplaces (cf: Cooper et al., 2017). Additionally, the findings on friendship here relate to McRobbie (2016a) and Lebuda and Csikszentmihalyi (2020) who suggests that without a collection of close personal ties, a creative individual often struggles. Such thinking raises a question about the notion of individual creativity, while many suggest that creativity is a solo endeavour with emphasis on the individual to take charge of their career and talents (Howkins, 2013); I believe this is filtered through a particularly neoliberal perspective of creativity with networks used for the purpose of gaining rather than sharing and supporting. Placing a focus on the occupation brings forth these discussions on supporting and identity because the production of a marketable product is placed secondary. What I would argue here is that creativity is part of a wider web of feeling secure to take chances and risks. In the case of this study friendship groups provide that support structure, but as do family and partners - especially if they too are part of the industry as developers can communicate without needing to provide foundational information.

In relation to the discussion above, this study also captured a process called 'Friend-DA' or FDA, which acted as a relational trust system between known and trusted individuals. This allowed them to share knowledge that belonged to a studio, but in a method, which allowed them to air grievances and create learning moments for them personally. FDA would not be found on Twitter, yet the continuous connecting and

observing which Twitter allows results in developers potentially reaching out to a trusted other and finding a private locale, away from prying eyes, to conduct support and learning. In this instant the social process is neither an online nor offline processes as if the social action is traced, it moves in-between. I would assume that processes such as the FDA occur in other contexts just under a different name, indeed the term FDA was adopted here because a few participants used it and I do not argue that it is an industry recognised term.

I will now broaden my discussion to consider the findings in line with a general understanding of occupational community.

6.3 Implications for occupational community

In the previous section, I discussed how video game developers in my study found communality through utilising Twitter as an important focal point and coming together for socio-space relations. There are additional learnings for the theory of occupational community, in particular for those studying cultural work, which going beyond the empirical case, as with the findings I will structure this through the determinants to continue with a typical method of discussing concepts of occupational community.

6.3.1 Boundaries

The role of boundaries for an occupation is to form a cognitive distance between those they see as 'one of them' and those who are 'others'. From the data, I found boundary making as external - separating one occupation from another and internal – separating who is perceived to represent the occupation more than others. Internal boundary making, or internal othering I found related closer to a development of social identity; therefore, I will present an extended discussion of internal boundary making in the next subsection.

From the data I found that the participants participated in active boundary making through an assumption of 'special knowledge', tacit knowledge which is held within the confines of an occupation. To access this knowledge, a person needs to be a part of an occupationally accepted activity or role and receive peer recognition which facilitates a crossing of the boundary. A demonstration of passion to specific products or ideas contributed heavily to those who may not have the required skills or experience, as is shows an effort to understand an occupational community and their products although they are technically outsiders. I would argue, this is probably more effective within cultural industries which has an established route of cultivating passion into employment (McRobbie, 2016a), although this passion from new creatives can be manipulated and exploited by those within the occupational community through unpaid internships and poor working conditions. Here, internal othering comes in to separate those who have successfully crossed an occupational

boundary yet are restricted to full membership because they are not seen as enough of a member.

I also found that an occupational community is not a homogenous entity which spans globally. While certain traits may appear common, the way they are implemented and understood may change. This is a novel contribution to occupational community theory which has not been noted previously, and may have a connection to Anderson (2006) and the idea of an imagined community. Occupational community does inhabit an element of imagination, what members believe they should be and what they believe they should do. Therefore, it is not unreasonable to suggest that an element of national imagination could contribute to the ideological construction of an occupational worker or what is meant by 'good work' (Schwartz, 2018). Therefore, it is difficult to discuss an occupational community without mentioning the countries in which members are situated because contextually these may appear differently when the theory, and therefore boundaries are moved.

The purpose of boundary making is to protect members and show to those outside of the occupation that what they do is worthy and unique. What has been presented above aligns with established occupational community theory (Van Maanen and Barley, 1984), although the darker element of exploitation by members connects to a later revision of negative processes being equally part of an occupational community as positive inclusionary social actions (Van Maanen, 2010a). What I found most interesting from this study however was not the boundaries themselves, but the process of boundary making when the occupation is essentially on show to outsiders via a online platform. In most occupational community studies, members and their social processes are held within physical spaces, often behind physical walled boundaries. Van Maanen and Barley (1984) had the police station and recreational spaces such as tennis courts, Sandiford and Seymour (2007) had pubs and Bolton (2005) had the gynaecological department within a hospital. Even Orr (1996), who explained how technicians entered workplaces of customers, still remained an occupational boundary with a clear distinction between who was the customer and who was the technician, with knowledge sharing occurring away from customers in canteens and offices.

However, from this study the presence of Twitter blurred this occupational boundary making because developers were enacting part of their everyday life on Twitter and in view of those who buy their products and have opinions on the way their work is conducted. Golan and Babis (2019) did not find this clash because their study involved Facebook private groups where accepted members were surrounded by those already similar to themselves. Therefore, it was easier to draw an ideological line where occupation specific knowledge was situated. On Twitter, occupational knowledge is partially situated through platform algorithms clustering social interaction into distinguishable variants of Twitter. Although this is not perfect, from naming to contents, this is a socially constructed process with algorithms learning from social action to form what might be classed as different corners of the platform.

However, these online locales on Twitter are not isolated entities, they bleed out into other corners of Twitter and can be accessed by other Twitter users. Additionally, although they may seem distinct - Gamedev Twitter, Fiat 500 Twitter or Far Right Twitter for example – are not necessarily digital places although they are often referred to as such (Blanch, 2016). Rather, they are a bundle of common beliefs which connect to a specific identity or purpose and a user navigates towards them using hashtags, key figures and search terms. For an occupational community which includes Twitter as an influential part of their social interactions, this can present additional challenges to core communality because of the intrusion of 'others' which is not as obvious as knocking on a door, peering through a window or sending an email. Twitter clearly exposes those who are othered to the occupational community, and while I start this discussion here under boundaries, it is an issue which flows throughout the determinants.

Nevertheless, despite the openness, I believe that an occupational boundary remains through a distinction of knowing vs viewing. In Van Maanen and Barley (1984) and Orr (1996) a level of assumed knowledge and recognition from peers provides a foundation to build an occupational identity and social relations, by being 'in the know' one was assumed to belong. Twitter, therefore, acts like a repository which can be read but not necessarily understood or a person can understand but not be recognised. Power remains in the hands of an occupational community to ignore those of which it has othered, and while the othered may be socially closer, cognitively the

community is still distancing itself. While this may be ideal to ignore trollish comments and bond community members together, there is a concern of who makes these decisions on behalf of the community as it filters across by becoming assumed knowledge. Likewise, many marginal community members can feel excluded through these practices, such as students and hobbyists, who could be involved with occupational activity yet not be recognised as members.

6.3.2 Social Identity

The role of social identity is to portray an identity and associated esoteric knowledge which is accepted by fellow occupational peers. As with boundaries, peer recognition forms the basis of social identity through a social construction of building occupational understanding.

From the data, this study found multiple fractions within the occupational community – from role, to nationality and work style. Contextually, this is how it appeared and was expressed by members of the UK video game industry and the findings aligned to those by Weststar (2015) who described this process as 'nestedness' and Van Maanen and Barley (1984) who expressed the presence of a 'heterogenous community'. However, I believe an ideal way to express this fracturing is through the term 'internal othering' as it closely related to boundary making which separates one occupation from another. Here, peer recognition and internal boundary making is used to organise members in the community along multiple identity lines – so others in the community know how they fit into the occupational whole. Although, saying occupational whole can be misleading as I argue that there is no singular occupational community, rather a collection of smaller communities who find a handful of shared communalities to link themselves together to present a unified front. Depending on the occupation under examination, these internal boundaries and methods of internal othering will probably change, although job role is probably a consistent contribution to a fracturing of social identity.

In relation, trying to discuss a unified social identity, I argue, does little to understand an occupational community. Fractions can be good, particularly in industries which

are evolving and growing as they can challenge occupational assumptions. Cooper et al. (2017) discusses how chefs use cruel banter as a method of developing a shared identity through rites of passage. I found in the data similar rites of passage such as going through crunch practice to emerge as a 'proper developer'. However, by tying social identity to perceived risk only makes internal othering more prevalent, despite the completion of projects often relying on multiple sets of knowledge. Those with perceived riskier roles are assumed to invest more into the occupation, while those on the outskirts appear to be risking less. Orr (1996) provided an excellent example of this with technicians actively avoiding promotion because they saw higher management positions as separate from their identity as technicians. In the data, I had those who were more business focused – HR, producers, marketing – as separated from the 'core creatives' – the programmers, artists and designers.

Finally, there needs to be a greater recognition that an occupational community is a collective of individuals, and this is especially relevant when studying creatives and their work. Social identity can turn into a negative stereotype if taken literally, likewise what someone does for their creative work is not always a reflection of how they identify themselves as. Entering an industry is often the first hurdle to cross before a creative begins to forge their identity and brand, therefore they are often working in a related role with a view to pivoting within the industry (Hesmondhalgh, 2019). This was evident in the data of this study, particularly as projects worked on often had little personal interest and the developer's identity came through stronger on side projects.

Twitter plays a particular role in this through providing a space where, in the case of this study, developers could form a social identity away from organisational and project ties. Using 'VAMO', or 'views are my own' in profile bios highlighted this distinction away from any related studio/firm, what others saw on Twitter came from them as a creative person, not the directive of a studio. Peer recognition therefore came through a performance of a developer identity on Twitter, with Twitter acting as the front stage (Goffman, 1978). If the digital element was excluded, it would be harder for multiple creatives to cross conversational paths and perhaps more difficult to separate from organisational ties as an individual would be geographically tethered to where they work. Twitter allows an individual identity to be separated from a general employment identity through engaging with community members in a different way

than during working practises. While identity can be borne from work, the unilateral approach generally adopted by occupational community theorists (Van Maanen and Barley, 1984, Orr, 1996, Sandiford and Seymour, 2007); the use of Twitter by creatives highlights the 'glass slipper' analogy (Lee Ashcraft, 2013) whereby the type of people involved also contributes to social identity, creating a bi-lateral approach. Twitter assists social identity construction away from firm govern roles and organisational structures, therefore certain types of creatives are attracted to become members of an occupational community through what they see online, and they start to develop their personal identity through social media. With enough traits to gain peer recognition, but enough distinction to avoid becoming part of a homogenous mass.

6.3.3 Reference Group

The reference group is a collection of shared norms, values, beliefs and sanctions which is constructed and maintained by an occupational community.

Storytelling was clearly evident in the data as a method of constructing the reference group, with stories used to inform, warn and advise other community members using contextual examples and industry common vocabulary. Stories were an important element to theorising occupational community through the lens of Orr (1996) and Bechky (2003) and this study affirms those earlier findings. However, as Twitter was part of the research design, I found stories were adapted for this mediated space. I argue that through an analysis of story making presents one of the strongest evidence of mediated spaces (Leszczynski, 2015). Mediated spaces occur through the contingent coming togethers of technology, people, place and space which "capture, enrol and put information into circulation in new and unprecedented ways that are generative of emerging forms of sociality and spatiality" (Leszczynski, 2019: 19). Stories provide a method to capture occupational information and circulate through multiple social interactions which are simultaneously offline and online as moments are experienced through the body and expressed through varying communication methods. It is incorrect to assume that written stories are digital artefacts and verbal stories are offline experiences, as a story can flow in-between these states as it develops and is shared. What is important is that stories contain tacit information,

whose wisdom is unlocked through understanding occupational norms, being placed on a quasi-public platform such as Twitter does not mean this information is accessible to all. It is only accessible to those who know how to 'read' the story, understand shared experiences and specific nuances.

On Twitter, a story is not only words, but images, video links, memes, GIFs and hyperlinks, and one would need to navigate to specific corners of Twitter to find these occupational stories. Through this method, Twitter acts like an industry noticeboard in the village green, a space where people of an occupation come together to gossip, peer at each other, catch up on the daily news and place 'wanted and found' notifications. As using Twitter is a parallel social action, not something that is often done on purpose, rather something which fits around life as it occurs (Murthy, 2018) interactions in this village green are ephemeral and is reliant on what happens 'on the ground' to filter through, and vice versa. Taking one of these elements away would result in half-told stories as experiences could only be broadcast to those who are geographically local, and an occupational corner of Twitter would be devoid of contextual nutrients to absorb back into a creation of a reference group and identity creation.

A final discussion point relating to stories on Twitter is the occurrence of a specific term to tell digital stories – the 'Storytime'. Storytime is a method enacted by a person figuratively sitting down to tell a story with a learning element, reminiscent of oral history telling. Storytimes are popular on other social media sites, particularly YouTube, TikTok and Instagram, however they are also found on Twitter and are often comprised of multiple linked Tweets. Through these storytimes, a community member can add their experiences and understandings around a specific topic, to a wider shared 'community memory' (Orr, 1996: 117). However, what is important here is through Twitter, the community memory is not directly controlled by a related organisation, therefore community memory and reference group is fostered to the needs and desires of a generalised occupational community as understood by its members and their experiences in multiple organisations. Nevertheless, related organisations are not irrelevant, and depending on the type of work, an individual community member may still be restricted to a degree through NDAs and contracts.

The reference group relies upon its community members to construct and maintain its usability and merit. Through perceived assumptions, community members absorb information on how to act and how to *be* someone with an occupational identity through emulating others who are similar. The data showed that maintaining a reference group places an immense emotional labour on community members; labour which is additional to their paid employment. A discussion around emotional labour is generally absent in the occupational community literature, with the exception of customer interaction or 'articulation work' (Orr, 1996, Riley et al., 1998, Hampson and Junor, 2005, Sandiford and Seymour, 2007). Yet, recognising the daily emotional labour to support a reference group is crucial to understanding how an occupational community develops away from organisational ties as members need to be self-supporting to sustain their shared community rather than relying on pre-determined organisational structures.

From the data, this study found a distinct assumption that community members should help each other, for example when Joel tweeted out that developers should pay forward the help and advice they may have previously received. As previously mentioned, the absence of an organisational structure, or at least a weak tie, means that community members cannot always rely on their employer for occupational assistance, therefore they turn to their occupational community. It is important to note here the difference between an epistemic and occupational community when seeking assistance. An epistemic community, theoretically speaking, would aid via purposeful networks and the knowledge gained would trickle through to assist product development and organisational/firm aims. An occupational community meanwhile may use purposeful networks, but especially when considering online locales, there is more a sense of 'shouting into the void' to find help – infiltrating known corners of Twitter, using specific hashtags to direct people to your plight or to search among others documented experiences. Additionally, the knowledge gained is not necessarily for the benefit for an occupation, rather the personal development of an occupational member to better understand themselves and those who surround them.

Helping through a mediated space also appears differently, in previous occupational community studies, help was often sought through periods of downtime in places such as in bars, pubs, canteens and recreational areas (Van Maanen and Barley, 1984, Orr,

1996, Yanow, 2006, Sandiford and Seymour, 2007, Weststar, 2015); involving a process of sitting together, listening and providing advice and comfort based upon personal experience. Such process also links to the concept of developing a 'community of coping' (Korczynski, 2003, Stroebaek, 2013), which tend to be smaller splinter collectives, who enacted emotional labour to assist each other through the working day. However, through a mediated concept of space, these face-to-face support structures are not always available, or they are temporary as community members meet up at events, conventions or flexible working for example, and wish to remain connected from a distance. As purposeful, ego-centric networks are not always the aim, providing help assumes a different, albeit indirect form, through community members Tweeting 'useful' links to digital artifacts external to Twitter (articles, videos, job listings etcetera), sharing storytimes and referring to others through '@'ing' them to bring them into conversations they were previously peripheral to. Hashtags are used to organise this assistance by acting as a knowledge compass, the initial tweeter does not know who will read their post, however by including a community acknowledged hashtag (examples in this study include #screenshotsaturday, #Gamedev and #indiedevwednesday) the information is sent to a certain target audience. The community members therefore use hashtags to provide help to people they perceive as similar to themselves.

It is additional emotional labour to contribute community memory and a reference group and may be more effort individually than to maintain an ego-centric network; as there could be no tangible feedback, or at least deferred feedback, if the labour invested into sharing advice and sustaining the reference group is merely viewed by those lurking around Twitter without interacting. I would also argue that from the data, there is emerging evidence that women and people of an ethnic minority are expected to contribute more emotional labour through not only providing occupational assistance, but also ethnicity or gender specific occupational assistance. For example, Miles was becoming increasing tired of being chosen as a representative of Black game developers by leading UK organisations including BAFTA and UKIE, and Isabelle, Chloe and Elena all started their own initiatives to support women in games. All the white male developers tended to focus on their job (with the exception of Joel who developed a newsletter for writers) and was not as interested in developing initiatives based upon protected characteristics, although they may support others that

do. For example, Jacob actively helping with *Special Effect*, which is a charity that assists with technology and hardware to enable disabled people to play video games.

The finding above contradicts Salaman (1974) who suggested that occupational identity overwritten ethnicity, gender and sexuality, essentially to make those who share an occupation equal in the eyes of others. As Salaman (1974) forms the foundation for later occupational community studies, including Van Maanen and Barley (1984), this idea of occupational override on identity has unconsciously been fed through and generally been unchallenged. Notable exceptions relating to a women's role in an occupation include Davis (1986) who studied the labour of wives in relation to a male-dominated village fishing industry, Bolton (2005) who studied how the female dominated gynaecological profession is 'othered' within healthcare, Sandiford and Seymour (2007) who briefly noted female pub workers were expected to 'perform' femineity to create a welcoming atmosphere and Sharpe (2010) who provided a historical account of a lacemakers' occupational community through the lens of female workers. Nevertheless, there are no studies known to this author which discusses ethnicity, sexuality or intersectionality in regard to membership to an occupational community, despite multiple companion studies which provide an account of emotional labour connected to protected characteristics and occupation (for example Taylor and Tyler, 2000, Adib and Guerrier, 2003, Bryson, 2007, Huang and Yeoh, 2007, Nixon, 2009, Veldstra, 2020). Therefore, I tentatively present this finding as I too followed the occupation-first focus of Van Maanen and Barley (1984), however from the data emerged multiple examples of protected characteristics altering perception of occupational community membership and it is certainly an element of this study which deserves its own comprehensive investigation at a later date.

A discussion about specific social actions being adopted as accepted traits of a reference group, also brings forth a dialogue about who controls the messaging of the occupational community as a perceived generalised unit. From the data, this study found that key industry members acted as emblematic figureheads for the community. They became 'key industry members' generally through experience, these were often older community members or had achieved great success through the previous projects. Although, the inclusion of Twitter did distort this slightly with a key industry member potentially being someone who had the ability to seemingly speak for a

segment of the community, who could raise concerns about industry practices or perhaps simply had controversial (spicy – in the vernacular of Twitter) opinions which made them infamous among peers.

Such findings align with those from Van Maanen and Barley (1984) with the role of the 'guru' figure who were often high ranking occupation members who had proved their social proof to peers. Orr (1996) also includes a guru figure, however his conceptualisation I argue is at times overly positive and optimistic, whereby the guru is almost the wise, elder figure passing knowledge down to new recruits. Van Maanen and Barley (1984) and Van Maanen (2010a) meanwhile were more forthcoming in emphasising the guru role as sometimes opportunistic, taking from and using the occupational community to meet selfish desires. As social proof was already gained, then these emblematic guru figures were less likely to be questioned about their motives with their actions automatically deemed acceptable or community members felt powerless to stand up to them – perhaps because of perceived 'rank' or lack of social proof.

I found this distinction arrive through the data, especially on Twitter. While many community members only wanted to support each other, there was an undercurrent of 'bad eggs' (Twitter term) nestled within the occupation. Developers often knew of them, and warned me during interviews, which I argue is representative of how knowledge about negative guru figures is filtered throughout the occupational community. On Twitter, seen as a mediated space, it can be difficult to escape these people as they are part of the ecosystem, thus it is again emotional labour by other community members to validate or warn others about the loudest voices in the occupation.

What underpins the reference group it seems is a method of reputation and trust management expressed as social proof. Although it is not hieratically structured, individuals appear to fall into certain levels of an occupation and move upwards in shared community perception as they become more trustworthy. When viewed through a digital platform such as Twitter, knowing when and how to trust can be difficult because infamy can be as influential as demonstrable talent. Therefore, the reference group is not only maintained but is constantly questioned by those who may

see themselves as less influential members. As with the previous discussion about emotional labour, those at the top may not be reflective of an industry with a diverse workforce and diverse thinking. This is inherently context specific and needs to be unpicked through a detailed analysis of a specific industry and its related occupational community, nevertheless I argue that an important element when trying to understand a reference group is to question power relations and who 'speaks' for the community at large. By doing this, it is easier to see potential fractures in the refence group (there may be potentially multiple conflicting reference groups) which bleed out to influence social identity, boundaries, and social relations.

6.3.4 Social Relations

Social relations of an occupational community relate to a concept of work and life not being separate entities but blurring between each other to form a 'whole' person who is a member of an occupation.

From the data, I found that social relations manifested themselves through a notion of 'friends' and 'friendship', rarely were colleagues, network acquaintances and potential competitors titled in such a neutral manner, they were 'friends', 'friend of friends' or at their most distanced – 'someone I know'. I argue the use of the 'friend' terminology is part a rejection of purposeful networking spawn from work of Granovetter (1973) which is ingrained into popular management and entrepreneur consciousness. The purpose of these networks is to collect potential assets, and while friendship may occur, it is not the primary reason for connecting. What I found is that a concept of friendship provided a foundation for community members to connect through shared experiences and, because mobility around firms and projects is high, these friendship ties kept the occupational community together as members moved around. Although, I would argue friendships and its relation to networks is context specific and some industries may exhibit more friendship ties than others and this may change depending on the socio-cultural context (cf: Neal and Vincent, 2013, Bell and Coleman, 2020). Twitter, and the use of social media in general, also problematises a concept of friendship as the term 'friend' is used more casually to describe a connection without necessarily an emotional investment (Boyd and Ellison, 2007, Blanch, 2016). There

is the action of 'lurking' upon those who you know and observing their social relations at a distance. Friending, in this context is more akin to purposeful networking with additional benefit of platform structures delivering an increased amount of data (who someone has connected with, who has looked at a profile, who has been retweeted etcetera) than one could achieve in purely face-to-face networking. Nevertheless, at least in this study, community members seemed to use Twitter as an organiser of friendships through keeping track of who they met at events or previously worked with, or people they would like to meet in the future. At a minimum, people they followed were fellow industry members who they admired and were emblematic figures of the industry.

Friendship was present in previous occupational community texts, Orr (1996) noted how groups of occupational friends were able to share information more efficiently, a finding that also came through in this study and links with the previous discussion about an expectation to help fellow community members. Gerstl (1961), Salaman (1974), Van Maanen and Barley (1984) and Sandiford and Seymour (2007) noted how friendships developed as a matter of convenience due to eccentric working hours, time away from home and a shared understanding of risk and responsibility in occupations such as dentistry, railroad work and police work. This study agrees with previous works, especially when considering cultural industries, as precarious work, abnormal working hours and a conception of work as a specific vocation are common with the cultural industries (Hesmondhalgh, 2019). Therefore, it is easier to make friends with people like oneself because working hours are more likely to align and there is less cognitive distance between industry peers. Assumptions can be made during conversations and context does not need to be explained, making it easier for the individual to relate. Friendships then act as a way to access occupational structures, knowledge and support with the lowest possible emotional and social effort – a concept which also relates to proximity and distance (Boschma, 2005, Mattes, 2012). Through this socialisation, members of an occupation who build friendships assist each other by moving beyond firm and project boundaries through sharing information and support specific to the group and nourish connections through various mediating social actions.

Likewise, in relation to a discussion on proximity, such closeness can also lead to over socialisation and lock-in (Boschma, 2005) quickly becoming insular – especially when conversations rely on work topics to sustain friendships. In this study, I found because a hobby was also related to work (in this case, being a video game worker and playing video games) conversations can quickly become subsumed by one topic and community members are expected to converse on multiple levels. For example, a conversation could be about work and then move on to a consumption of an example product of that work. To be able to contribute as a recognisable community member, an individual would need to invest their leisure time in consuming products of their industry's labours, further blurring leisure and work time and increasing an isolated, albeit occupational, view of the world.

This is a novel finding from this study because previously studied occupations do not have this closeness between work and hobbies. A notable exception is Sandiford and Seymour (2007) where pub workers socialise in the same pubic houses in which they are employed, however the socialisation was not based upon drinking as a hobby, rather the pub was a convenient place to meet with friends and discuss multiple topics. In this study, playing a video game and then talking about it, is much closer to work conversations and it is considerably harder to know where leisure time ends, and work begins. I would argue this is probably present in many cultural industries including fashion design, content creation, film making and music to name a few examples, as McRobbie (2016a) argues, creatives' lives tend to be constructed around their work and their identity comes from what they are seen to be doing. Indeed, many of the 'new' cultural occupations - content creation, cosplay and podcasting for example - stem from monetising a hobby (Warnick, 2018). These are both interesting developments to social relations of an occupational community and certainly deserves an in-depth analysis with other industries like the video game industry.

6.3.5 Associated Community

An associated community is a term developed by this study to enable the inclusion of complimentary communities which influence the development and maintenance of an occupational community. Unlike the original four determinants outlined by Van Maanen and Barley (1984), the associated community is not controlled by community members, yet without their presence an occupational community would not be able to function. In this final sub-section, I argue for 'associated community' to become a fifth determinant in future studies with an aim to recognise that an occupational community is not an isolated entity.

From the data, I found that it is difficult to present an account of an occupational community without acknowledging who else interacts with it. As this dissertation studies video game developers, the associated community here is video game players/consumers. Acknowledging a consumer covers a broad range of occupational communities and associated community interactions – including other cultural industries - music, film, fashion for example, and more generally – incorporating shopkeeping, sport, transport and hospitality. I suspect, the influence of an occupational community is more pronounced when studying cultural industries, because of multiple leisure and work blurs as previously mentioned. However, this is again something for future research to build upon the initial findings presented here.

This study found that consumers are viewed by an occupational community as a source of additional knowledge which is different than what can be obtained through interactions within the occupation. Knowledge is seen as guidance, rather than a directive, often assisting with production of products. At times, a consumer can become a 'hidden' member of the occupation through providing their labour for free or for non-financial benefits. Here is where active othering and boundary making occurs to keep an occupational community separate from their associated community; although instead of the traditional boundary between one occupation and another as explained by Van Maanen and Barley (1984) and continued with Sandiford and Seymour (2007) and Weststar (2015), the boundary making is between an occupational community and who they perceive as *not quite them*. Knowledge has a specific purpose and is often sought by an occupational community member(s), it is

rarely used to influence the foundation of an occupation. By foundation, I mean knowledge requested is not used by the community to provide an insight on their identity as occupational members or their work practices. When such knowledge is provided, often it is unsolicited advice from the associated community and triggers boundary making, returning the consumer back behind the figurative walls of an occupation. Although the consumer may be providing useful assistance and may be generally a pleasant presence, their membership is temporary and can be revoked by community member(s).

Twitter makes negotiating such boundaries particularly difficult, as Twitter reduces the cognitive and social distance between the occupational community and associated community/consumer. Especially for occupational communities who are expected or have normalised having a digital presence, community members are constantly 'on show' for whomever would wish to lurk and observe. Twitter, by default, allows anyone from the site to view and tweet other members. As a recipient, it can be distressing to receive unwanted advice from someone who is a member of the associated community - because while it can be disregarded as inconsequential knowledge, the source of the knowledge still influences the sales and reception of a creator's products. Likewise, on Twitter if a discussion point becomes viral, then community members are brought to the forefront via hashtags, '@'ing', subtweets[25] and naming, whether they wish to or not.

In the analysis, I described this as clashes between communities, the worldview of game developers vs the worldview of the video game players, because the associated community does not hold the same understanding of an occupation that the occupational community does; yet there may be an assumption by the associated community that they do and have a right to tell the occupational community how they should behave. Before digital technology, structures such as buildings and event centres created physical barriers to this consumer noise, while people could phone or mail in, it was much easier to filter and harder to identify specific occupational members. With Twitter, as an example of a digital platform, these physical barriers

[25] Subtweeting is a method of publishing a tweet which heavily references an individual without directly naming them.

are no more as increased availability of information leaves digital footprints about the occupational community and its related members scattered throughout the internet.

In relation to the literature, there is very little written about people outside of the occupational community. The best example is probably found in Sandiford and Seymour (2007) who found customers influenced how work was perceived by pub staff, abusive customers were accepted to be part of the occupation, additionally pub workers often needed to reaffirm boundaries to avoid being taken advantage of by customers. Orr (1996) also provides a small example as the technicians tended to conduct their work in the space of customers, therefore they often felt the presence of someone watching over their work or providing unsolicited advice. Rather like Twitter, the technicians often could not say how they felt about the intrusion as both party members occupied a shared relational space. Any negative opinions would severely impact the occupational member as they are viewed by the customers as the 'professional'. Therefore, while an occupational community has its own social identity, there is simultaneously a separate identity constructed by the customer/associated community placed upon the occupational community and its members. This leads to an idea of performing an occupation or profession in front of customers (Goffman, 1978) and why members need spaces where they feel they do not need to act in a certain manner - Van Maanen and Barley (1984) detailed the offices in the police station, Orr (1996) referred to the canteen and Golan and Babis (2019) interestingly had private Facebook groups. On Twitter however, a private space is increasingly difficult especially if work life and non-work life are blurred through using the platform.

The final discussion of this section relates to questioning when does someone become a member of an occupational community? This question emerged through the data analysis; however, I did not find a definitive answer in either the data or the literature. In previous studies, occupational community members appeared quite static, as readers we are not privy to their origin stories or know when they crossed into being accepted into an occupation. A particular element which came through the data of this study was the role of childhood and adolescent experiences as a member of the associated community/as a consumer acted as a primer for entering the industry. As this was a study of a cultural industry, roles such as video game developer, dancer,

musician etcetera, are often aspirational from a young age (Hesmondhalgh, 2019) most importantly, cultural industries create products which children can engage with. Using police work (Van Maanen and Barley, 1984) or cabin crew (Williams, 1986) as alternative examples, there are no products *per se* to capture imaginations, only toys which replicate the experience. The video game industry meanwhile has the games themselves, alongside the ability to mod the source code and use opensource software to develop games as a hobbyist. Likewise, the music industry has ownership of music through CDs, vinyl and curated playlists in addition to accessible software such as '*Garageband'* to create songs and '*Soundcloud* 'to release them independently.

This important element of occupational identity creation, by first being part of an associated community is overall generally absent from previous studies, including those relating to cultural industries (cf: Cornfield, 2015, Weststar, 2015, Schwartz, 2018, Skaggs, 2019). Minor references arrive through Becker (2008 [1963]) who describes how jazz musicians are first attracted to the occupation through consuming jazz music and Orr (2006) who explains how technicians were natural tinkerers, many of whom had been since childhood.

In relation to this discussion, it must be acknowledged that an occupational community membership and associated community membership can exist simultaneously. A person does not often stop becoming a consumer of an industry product because it is now part of their work life, indeed the blend of the two is often what forms the foundation of social identity and social relations. From the data, people still enjoyed playing games and appreciated the art of video games even if they could not invest much time as they would like in them. They started from childhood, so it would seem strange to stop when that was part of the motivation, indeed fuelled a passion, to enter the industry in the first place. Becker (2008 [1963]) again provides an example of jazz musicians spending their leisure time visiting bars to listen to others music and continued to collect records as a hobby.

I will now move on to the final discussion section which introduces the concept of occupational space.

6.4 Developing a concept of occupational space

The purpose of this final discussion section is to bring forth a spatial discussion about an occupation and their related community. From the literature, I identified that clusters spoke to this curiosity, as a method to investigate how members of an occupation create spaces. However, there is a tendency in the cluster literature to remain focused on the creation of a product, despite that product's creation being situated within broader geographical and socio-cultural processes. Later studies which explain a theory of 'buzz' – where individuals and firms are drawn to specific areas because of perceived potential – begins to view knowledge as ephemeral and can arrive through times of work or leisure and through networks external to a firm. Nevertheless, knowledge gained is organisational/firm focused, the occupation or profession is used as a shorthand explanation of bounding similar individuals together with an assumption that their proximity will result in the production of something; it is rarely about occupation members simply being or existing.

Through this discussion, I will first provide findings which relate to the body of cluster research (6.4.1). These are not as extensive as the previous occupational community discussion; however, I believe this study provides a useful contribution in enabling a narrative of mediated space when writing about the presence of a community in a cluster. I will then introduce a developing concept called 'occupational space' (6.4.2) which takes learnings from the buzz literature, occupational community and findings from this study and refocuses knowledge and connectiveness as emerging from, and for the benefit of, an occupation, its members and the spaces they create. This is a theoretical contribution which materialised from this thesis and it is developing because further research is needed to understand its traits, nevertheless I wish to present it here as a unique contribution which can be taken forth into future studies.

6.4.1 Buzz, occupations, and mediated space

Buzz relies on a notion of many social processes simultaneously occurring through space, creating an ecology of information and communication (Bathelt et al., 2004). As with occupational community, shared culture, habits, technology and relationships assist in developing 'buzzy' locales which attracts specific actors and potentially develops their occupational knowledge alongside fostering connections.

The data reflects findings from Vallance (2014) and Darchen (2016), in that UK video game developers do not always gravitate towards existing cultural clusters. Choices about where to live, work or set up a business is directed more extensively by pragmatic financial influences, and where possible, developers would choose to locate close to friend and family support. Nevertheless, the thrill of being around other people like themselves was a source of creativity, inspiration and assisted in confirming social identity, with places such as London, Brighton, Leamington Spa and Manchester seen as desired places to 'be' a developer. However, connection to these places did not need to be permanent, in the context of video game development, temporary clusters via conferences, trade events and conventions created the ideal amount of proximity where a creative could dip in, enjoy the buzz, connect with community members and reaffirm their status as a developer; before returning back to the sanctuary of their studio. Thus reflecting Grabher et al. (2018) and Gong and Xin (2019) where co-presence is used tactically to remind others of their presence and to briefly achieve geographical proximity. Being 'aware' was often, much more important than 'there', except when being 'there' included digital locales.

From the data, a developer's presence on a digital platform, specifically Twitter, tended to be viewed as an occupational necessity, especially for those early in their careers. There are links here to how buzzy locations attract younger and perhaps less experienced workers because they are required to learn through observing others and experience living among similar people (Grandadam et al., 2013, Florida, 2014). Yet, predominately throughout the buzz literature, digital relations are viewed as merely facilitators or poorer versions of meeting in-person, adopting learnings from the data leads this study to reject the approach taken by the multiple papers published by Harald Bathelt and his co-authors and instead works with an approach developed by d'Ovidio

and Gandini (2019) where online and offline social relations are viewed to intertwine, creating a wider space of relations.

Taking this approach additionally leads to questioning variations of buzz detailed in the literature. Primarily, the term 'virtual buzz' is problematic because the term 'virtual' automatically creates an imagining of otherworldly, extra-spatial relations which are not part of grounded reality and are part of an alternate and immaterial realm, relating to terms such as 'cyberspace' and 'virtual reality' (cf: Kinsley, 2014). Digital as a term, meanwhile is more inclusive of the use of technology and software as integrated into everyday life, hence why this study uses digital to explore the thesis rather than virtual. However, this does not mean that virtual buzz should be changed into digital buzz, because such demarcations results in the same endpoint – that offline and online relations are inherently separated and are conducted in different spatial realms. The 'local', on the ground, buzz remains, while virtual or digital buzz continues to be othered. While d'Ovidio and Gandini (2019) begin to break down these figurative online/offline walls by recognising how social relations of a cluster occurs in both locations, they too present a hybrid approach rather than a mediated one because they speak of 'online relations' influencing 'offline relations', rather than conceptualising them as one singular form of social relations which flows in and out and in-between. Nevertheless, their recognition of wider spaces of relations is certainly more reflective of what is found in this study.

The data suggests evidence of mediated spatiality (Leszczynski, 2015) through developer's lives being entwined with being on Twitter whilst simultaneously being enacted in studios, in cities, in bars and in convention centres for example. There were not two versions of a developer, even if a performance of the self was shown on Twitter as the developer behind the performance remains grounded into geographical locales. In the same way an actor puts on a costume, the person behind the costume still exists, but their appearance allows others to read their identity differently. Likewise, using Twitter was not always a deliberate act with a purpose, rather the use of Twitter was to remain present and to keep others aware of ones' existence. This can be likened to attending popular social sites, key bars and communal areas, a common feature in the conceptualisation of the 'middleground' in cities (Cohendet et al., 2010, Grandadam et al., 2013).

Using the lens of mediated spatialities, digital platforms such as Twitter become extensions of the middleground as it allows a bundling of casual and happenstance social collisions. Additionally, it is also a space in which individual knowledge can be debated alongside policy intervention and wider industry processes, highlighting that communities are active entities who develop their spaces through any form of relations which allow them to connect most efficiently. Twitter also allows competitors to mingle away from organisational/firm structures, socialising instead as community members and friends. Rejecting in part Pratt's (2013) proposition that video game developers actively distance themselves from local competitors. Key here is that Pratt (2013) takes his analysis at the level of the firm, therefore protecting procedures such as NDAs and searching for affordable locations is more important than absorbing knowledge spillovers. Yet, at the level of the individual and community, closeness to competitors is not as unwanted, indeed if competitors are viewed as friends from previous projects or known through past shared experiences, then closeness is desired, and Twitter assists in bonding the community together when they are dispersed.

However, as detailed throughout the findings, this mediated spatiality can bring creators closer to consumers. In the cluster literature, customers or consumers tended to be seen as something which comes at the end of a development process. Closeness to consumers was often considered positive for industrial labour as workers could learn how their products were used by the populace. In buzz and pipeline specific literature, the customer appeared to be an afterthought as networks connected knowing actors in multiple locations and customers were kept at the periphery. Or, in cities the consumer formed part of the urban buzz by being both a population to sell to and inspiration for creatives. In the data presented here creatives had high proximity to consumers because Twitter is a location for both to exist. Therefore, while Twitter may be an extension of the middleground, at the same time the extension begins to break down structures which keeps consumers separate from creators. For example, in a typical city, office blocks and studio spaces present a literal barrier between the two. In cafés, bars and on public transport, a consumer may overhear information or directly approach someone because they are both within a shared public space which neither have claim over. However, when Twitter is included both consumer and creator is part of a shared quasi-public space, one may not want interference, but the

platform is designed for members to interact with each other, hence the distance between consumer and creator is narrowed. I would argue that Twitter again is not isolated because if for example information is leaked to Twitter, the source is often from someone who overheard confidential information and it is turned into industry gossip for consumers and fans alike.

Summarising the discussion above, when thinking about buzz, this dissertation argues that 'virtual' or indeed 'digital' buzz should not be thought of as separate from 'local' buzz. By doing this, emphasis is placed upon separating life into two hybrid realms of living experiences rather than considering them as entwining manifestations of buzz more generally. I argue, this is why prominent scholars such as Harald Bathelt and Patrick Cohendet continue to prioritise examining local buzz and face-to-face meetings because both are perceived as the most efficient way to connect and data from this study testifies that face-to-face communication is often desired and valued, particularly for those early in their careers. However, digital relations do not disappear because face-to-face connections occur, the purpose of examining a community and related buzz should not be on which procedure of connecting is better than the other. Rather, it should be inclusive and follow the social relations and the spaces they foster, through this method a researcher would be able to view buzz as a whole entity rather than fragmented into what happens 'on the ground' and what happens online.

Finally, considering buzz through a mediated space lens is not an unthinkable theoretical jump from where the theory is currently positioned. Buzz, by its nature, is grounded upon relational economic geography thinking whereby the creation of space is seen as a process between actors and context (Boggs and Rantisi, 2003, Bathelt and Glückler, 2003, Yeung, 2005, Ibert et al., 2015). Mediated spaces concern the "multiple, yet contingent coming togethers of technology, people, place and space" (Leszczynski, 2019: 18). Linking both of these is an adoption of space as detailed by Massey (1999, 2005), where spaces exists through collective actions of humans who gather and interact, creating spaces between. What is required to alter is not necessarily a foundational theory of space, but the way in which 'the digital' is understood – not as another version of sociality but as integrated and integral to contemporary socio-spaces. It may ebb and flow, and at times it may feel as though the digital is not there. However, this is quintessential beauty of mediated space, it

does not need to be obvious for actors to know that it is there, as social processes carry on regardless as static noise around everyday life – building communities, maintaining relationships and constructing spaces.

In the next section I will take the concept of mediated space and learnings from analysis further through the development of 'occupational space'.

6.4.2 Occupational Space

Occupational space is a developing concept which has emerged from learnings about clusters, occupational community, and the findings of this study. In the previous sub-section, I discussed how studies of socio-spaces should become increasingly mediated, in that the digital is not considered as something other to life experienced on the earth. Rather, that online and offline relations are part of the same social process, and it is more important to follow the flow than to demarcate where sociality happens. In this final discussion sub-section, I will discuss the essentials of occupational space and how it links to existing theory, towards to end, I will introduce an updated conceptual framework considering the discussion presented in this chapter.

Occupational space is the active space making and maintenance of a specific occupational group through social relations. While a connection through work underpins an occupational space, life outside of work is equally important, especially when an occupation is viewed as a vocation or extension of oneself (Salaman, 1974). Of which, the blur between work and life holds relevance for those engaged in the cultural industries (cf: Banks and Hesmondhalgh, 2009, Brook, 2015, McRobbie, 2016a). An alternative way to view occupational space is by considering it as the spaces an occupational community form for themselves, therefore discussions on boundaries, social identity, reference group, social relations, and associated community all feed into the narrative of occupational space. Occupational space is neither digitally nor physically focussed as the occupation is tracked through their social relations and this is contextually sensitive. In the case of this study, Twitter was identified as a key site to study video game developers who were spread out across the UK; however, this may not be the case for fashion designers, for example, who may

be more likely to use Instagram and base themselves in London, Paris, and New York. Similarly, although this study used one digital platform, I would argue that a full study of occupational space would follow occupation members as they moved through different platforms, through different locations and how online and offline relationships were co-constructed. I argue that the concept of occupational space aligns to recent debates brought forth in economic geography, about the need to rethink knowledge and creativity from clusters to a more process-based approach (Ibert et al., 2015), in part by providing a method to explain what happens to workers in liminal states – unemployment, between projects, gig workers, freelancers, at temporary events, co-working, at leisure enjoying related hobbies or taking sabbaticals for example. By including occupation as the analytical focus, an actor remains tied to an understanding of an occupation whilst being mobile and potentially evolving to respond to an ever-developing work situation. Studying occupational space(s) therefore allows a consideration of these fluxes at a multi-scalar level.

The use of occupational space also alleviates a bias towards urban and city environments which previous studies have tended to rely upon when explaining buzz and the blending of work and leisure spaces. For example, with the city anatomy theory (Cohendet et al., 2010, Grandadam et al., 2013, Lange and Schüßler, 2018) where the ability of knowledge to spread is through a typical city structure. In the city anatomy, there is the presence of at least one large multi-national corporation to anchor an identification of a location, individuals are attracted to an area because of the reputation and known presence of firms, alongside multiple social spaces such as pubs, bars, cafés, and museums for these individuals to gather. Florida (2005, 2014) likewise, relies upon a city structure to explain why similar people gather together. As occupation in occupational space is the primary focus, not geographical location as seen in city anatomy and creative city theory; both buzz and social relations are untethered and are free to move in and out of urban environments and is increasingly mindful of simultaneous social activity potentially occurring online. McRobbie (2016a) explains how many cultural workers do not live where they work, and the rise of homeworking means individuals are more likely to be dispersed in a variety of environments including suburbs, rural locations or perhaps engaged in nomadic lifestyles. If these same people also are engaged in precarious work, where they move jobs frequently, are freelancers or work on a project-to-project basis, then the only

element of their lives which remains somewhat consistent is an attachment to an occupation. To study a firm, organisation or project would only capture these people moving through a structure created for production, to study a geographic location would only capture those who are situated, to study individual networks would show little of collective identity and knowledge production. Studying an occupation, its community and its relational mediated spaces assists in filling in the gaps that occur when individuals move, yet remain connected.

The purpose of proposing occupational space is not to discredit influential theories detailed in, and external to this thesis. A general theory of clustering is still relevant as associated firms still desire co-location to for mutual benefits, project ecologies (Grabher, 2002b, Grabher, 2004a) is a useful way to understand how actors and their knowledge move between projects, and actor-network theory (Latour, 1987) is useful to unpick complex networks and related semantics. However, with the previous examples, when work is the focus, knowledge and identity created tends to be for the benefit of a firm and the production of products. In occupational space - through adopting learnings from the occupational community - shared knowledge and identity is understood to be primarily absorbed by the person as a member of an occupation and the community as a whole. Individual action is fed back into nourishing the occupational community and occupational space. This does not mean that firms and organisations are irrelevant, far from it, they are as influential as ever and their influence affects the occupational space. For example, in this study I detailed NDAs and how their hold on individual developers could restrict movement of knowledge at the occupational-practitioner level. As a community, the response to this is the development of a social process called 'Friend-DA' where protected information is shared amongst peers in trusted situations, reliable places and helps community members by providing a learning example and shared experience. Similarly, at least in cultural industries, workers often have individual passion projects, and the occupational space remains present for them to experiment and connect away from a firm – not as an employee but as an individual creator or entrepreneur.

Bringing back the determinates of Van Maanen and Barley (1984) assists in understanding the creation of occupational space. Firstly, boundary making influences access about who and what is included in the occupational space. Cluster studies

frequently equate an actor being present within an area of knowledge spillovers as being able to arbitrarily absorb relevant knowledge (Malmberg and Maskell, 2002, Bathelt et al., 2004, Vorley, 2008). Yet, boundaries developed by an occupational community, both externally (between other occupations) and internally (within the occupation) affects access to actors with certain occupational traits and this changes the information they are able to access. For example, a video game developer, new to the industry, could be hanging around all the well-known bars around a cluster of game studios, but not realising that most of social plans made are on a shared Discord or on Twitter. As their initial access is reduced, so too are their chances to privy knowledge and connections until they find out how to the cross the boundary. The subgroups of Twitter are an excellent example of external boundary making and occupational space through the clustering of specific hashtags, key figures and industry norms and lore which carve out an occupational understanding of the Twitter platform, which if someone from outside the community came across through retweets or browsing, they may not understand what is going on.

The above links to social identity, if a person has the 'correct' social identity as perceived by the occupational community then access to contribute to the occupational space becomes easier. The opinion with occupational space is not that similar work is done, but that similar people come together to hopefully feel belonging and find support if they need it. The gathering of weak and strong ties forms a social check through a surface level conception of friendship (although it is possible to build and maintain a deep level of friendships). Using occupational space can, in this case, assist in understanding why someone may feel confident in their abilities yet still feel isolated, technically part of a cluster and/or firm but does not feel part of one despite achieving geographical proximity.

When referring to the reference group - norms, industry lore, sanctions and stories provide the nourishment for occupational space and influences all the other determinants spatially. Stories, in particular, are an important method to quickly share information and bring others into a shared fold. These stories can flow through multiple locales and evolve as they are passed around the occupational community. Temporary clusters and digital platforms are crucial for the reference group as it broadens the occupational space and provides sanctuary and advice for those who may

be part of the liminal positioning discussed previously. If one cannot learn about an occupation from a firm, then these manifestations of occupational space away from firms provide an alternative source of knowledge.

When considering the social relations, it is important to remember that occupational space is relational as it is built and maintained through the relations of those who share an occupation. If the relationships ceased to be then the occupational space would collapse. The difference here is again where knowledge and understanding gained is directed to. In cluster studies, including buzz and pipelines - which is also relational in nature, developing enduring social relations often arrive through purposeful networks. These networks assist in filtering knowledge from an epistemic community, via workers, into contributing to a firm's goals, whether that be the production of a product, gathering contacts or more generally to broaden their global reach. For an occupational community, knowledge can be useful for the individual and/or the community and does not always align with firm goals. Hence, for occupational space, social relations contribute to the upkeep of community knowledge which individuals can contribute to or extract from for their own personal benefit. Social relations can sometimes appear frivolous, because shared hobbies and leisure time are a significant part of how members bond, but when the occupation is prioritised rather than a firm the focus is appreciating the worker as a whole entity rather than someone who is only viewed through the lens of a firm's ambitions. I would argue however, as with clusters, there is a possibility of lock-in emerging (Boschma, 2005) when occupational members become too close and too insular in their outlook, leading to boundaries being tightened, social identities being restricted, the reference group used nefariously and social relations becoming cliquey.

The inclusion of an associated community is an important, yet disruptive element of the occupational space. Previously, I argued that associated community should be included with the four original determinates as it assists with understanding how an occupational community creates boundaries with a related community which it owes its exitance to. Fundamentally, to be aware that an occupational community is not an isolated entity and does not only construct boundaries in relation to other occupations. Here, occupational space is useful to visualise how two or more communities may clash depending on perceived ownership over space. Twitter is an example I used

formerly to explain this, how it is neither a place specifically for video game developers nor video game players/consumers. Yet, both have staked their niche on the platform with communities developing on and beyond the platform. The occupational space, and the occupational community, needs a degree of closeness to associated communities to prevent parochial tendencies, nevertheless the intrusion of a consumer into an occupational space is what makes occupational members react negatively. Both parties view the space as their 'own' through observed relational practices, and each view the other as being rude and unwanted when a perceived lined is crossed. An example of this is a consumer adding a comment to a conversation which is clearly between occupation members on Twitter. Alternatively, in the case of this study, if a video game player who was helping to playtest a game and was generally helpful and polite, however they requested to come into the studio after a few weeks – this would be seen as challenging the occupational space. Despite providing a developer-like role, they are not perceived by occupation members as 'one of them', such example also has links with social identity and boundaries.

The final part of the discussion is to highlight how an occupational space may be perceived. Firstly, the occupational space is heavily influenced by context, as is buzz and similar theories of relational space making. The primary influence is the industry at question; therefore, I would not expect an occupational space of video game developers to look identical to fashion, cryptocurrency, cabin crew etcetera. The secondary influence is the socio-cultural context, and the third is protected characteristics of community members. As discussed previously, I argued that certain occupational members seemed to invest more emotional labour to invest in the occupational community. Therefore, the occupational space may appear intimidating, daunting or even 'not for them' and occupational members may feel a disconnect from the occupational community. Additionally, negative experiences of the occupational community can make a shared occupational space appear distrustful or toxic. Therefore, an occupational space is multifaceted and embraces learnings from communities of coping (Korczynski, 2003). A person may relate to the occupational space, love their craft or occupation, but also may not necessarily have a positive approach and wish for spaces of the occupation to be better than what they currently experience.

The conceptual framework found previously in figure 3.4, has now been modified below in figure 6.1 to reflect the findings of this study:

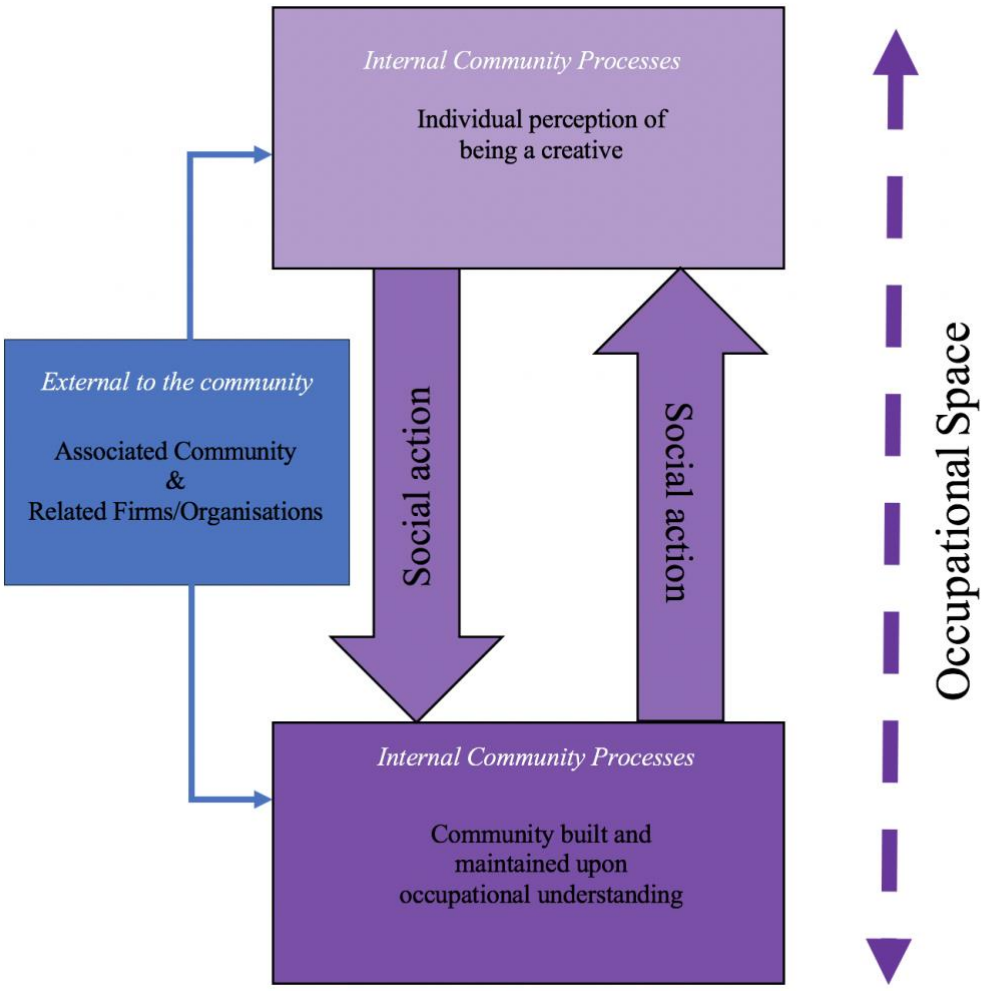


Figure 6.1: Occupational Space

Figure 6.1 explains how occupational space occurs through social relations which transpire at multiple scales. Despite internal community processes contributing the majority of identity and shared knowledge work, the community does not exist as an isolated entity, hence influences from related firms/organisations and an associated community contribute to how an occupational community emerges and conducts daily life. The interweaving relations between firms, occupational community and associated community creates the occupational space, a relational space which has its primary analytical focus on the space making abilities of a specific occupation.

To conclude this section, I would like to remind the reader that this is a developing concept which has arrived through abductively moving between the literature of clusters (in particular, buzz and pipelines), occupational community and the findings of this study. What is presented here is an initial idea with an intention that future research could refine the concept of occupational space and further develop identified nuances and determinants. The purpose of such a concept is to refocus on an occupation and a concept of work which moves beyond the boundaries of a firm and (re)focuses on the worker and their communal experience. However, as this study has shown the presence and influence of related firm(s) and organisation(s) has a distinct effect on community social processes and therefore cannot necessarily be wholly excluded from discussions about an occupational community nor occupational space. Similarly, customers who form an associated community provide an additional external influence which shapes and morphs spaces of an occupation.

The study will now move on to the conclusion chapter of this dissertation, where all key findings and contributions are presented and summarised.

Level 7: Conclusion

7.1 Introduction

The aim of this chapter is to summarise and be reflective on the entirety of this dissertation and my journey as a PhD researcher. I will first summarise key findings in relation to the research questions (7.2, 7.3 & 7.4), then highlight contributions (7.5) to occupational community literature (7.5.1), cluster literature (7.5.2), general studies of video game development and related workers (7.5.3), methodological contribution (7.5.4) and practical insights (7.5.5). A general summary (7.6) will then focus on the journey of this thesis and what changes I would make if I were to redo the study before moving on to limitations (7.7) and suggestions for future research (7.8).

7.2 Key findings in relation to the main research question

The main research question of this thesis is, "how do UK video game developers experience communality and what space(s) emerge from this communality"? This study observed how a connection to a shared occupational understanding was used by video game developers as a method of building communality through the development of occupational norms and practices in an effort to overcome a perceived lack of support or reliability from a connected firm(s). Therefore, it is this occupational tie which assists in video game developers finding communality away from organisations and projects, forming relationships between competitors and encouraging the development of knowledge which benefits a general occupation of game workers rather than firm goals. Twitter was key to providing a platform in which a game developer could build their individual identity and furthermore, using that identity to connect with the broader community. However, social relations of game developers are neither wholly online or offline, rather they mediate, in co-constructions of sociality, technology and spatiality, to form an occupational space where developers can potentially find belonging and support. The word 'potentially' is used here because spaces of an occupation can also be ones of intimidation, fear, isolation, and hostility, recognising that community space(s) can also present negative experiences.

Communality can also be explained as a conversation between individual passion and community ideals, and both can exist simultaneously with membership to an occupational community assisting the development, and providing meaning to, individual projects outside of employment. In the context of video game development, a communal experience emerges from interactions at the level of the individual, such as childhood memories of playing certain titles, developing a side project, or honing new skills which then act as bonding moments to find similarities with others. Again, while some of the benefits of these interactions may filter back to a firm, their primary purpose is at the level of an occupational community connection. As employment is often unstable and precarious (Peticca-Harris et al., 2015) it is more important to nurture the status of the individual developers via community support and the occupation as a whole.

Nevertheless, this investigation found that it is impossible to consider an occupational community or communality built around an occupation, without also including firm and project ties because they shape how a community operates and socialise. An example of this is crunch practices, where developers undertake gruelling hours and stressful working conditions to compete a project. Crunch is a product of employment; however, the concept of crunch has been adopted as being typically part of a developer's identity and inherent to gamework. The community is split between uncritically accepting it and purposefully taking action to reduce its presence. Yet, its familiarity results in independent developers sometimes practicing 'self-crunch' as it is heavily ingrained into occupational understanding. What is more important however, is in this study the occupation is considered the primary analytical focus rather than the firm when considering occupational ties and influences – this is distinct difference from complimentary theories including city anatomy (Cohendet and Simon, 2007, Grandadam et al., 2013, Cohendet et al., 2020) and project ecology (Grabher, 2002b, Grabher, 2004a, Johns, 2010).

Perhaps the most important element with communality which spans a mediated space is that it provides an anchor when other variables such as employment or location for example may fluctuate. It is not about coming together to create a product but belonging to a shared purpose and uncovering the messy, sometimes contradictory, everyday realities which are ideologically situated outside of a studio. Features of

being a developer captured in this study – hobby jobs, playing video games as a hobby and being present on Twitter all assist these stages of liminality where firm ties are weak or non-existent and a connection to feeling belonging can be found in an occupation.

What underwrites communality based upon an occupation is a concept of friendship. It is often common to call one another as a 'friend' when a common connection can be found, and this study showed that the term 'friend' was used extensively and configured differently in the occupational community compared to a conventional community. Several aspects of friendship arose during the study, however the main conclusion developed here is that being called a friend by a fellow developer is sign of respect and assists a crossing of competitive market lines - appreciating the other as a member of the same community. As the relationship develops, the shared trusting relationship sometimes transcends related firm control through engaging in a process described here as 'Friend-DA' – which is where developers who are frequently socialising in similar circles engage in information exchange with knowledge which is theoretically tied to an NDA protected project. The spaces which emerge from these relations are ones of trust, comfort, and solidarity – wherever they emerge up from the bundling of multiple social actions through a mediated space.

7.3 Key findings in relation to RQ1

Research question 1 is, "how is communality established and maintained through Twitter". This study observed that communality is found through generating closeness to others through replicating observed action online. Examples of these are using shared hashtags, using similar language and terms, creating profile standards and through using shared memes and images to represent ideas. However, Twitter is neither specifically a space of either work nor leisure and is heterogeneous in providing communality, divided via role, experience and working style. It is also arguably not a democratic process with apparent hierarchies formed and opinions from appointed leaders or key figures setting the tone of the general video game occupational community.

Nevertheless, there is a creed of good practice which spans throughout the community which assists in bonding developers through a shared communality even if their work situations differ, these include an assumption of helping and of video games being a hobby. Communality is nourished through conversations and stories which provide learning experiences and provides entertainment, where work cannot be discussed (for example because of NDAs), topics related to the general industry, the communal experience of being a game developer, personal side projects and hobbies assisting in developers from multiple studios forming communality. However, if there are deviances from the accepted norms generated through social interaction, the community sanctions the individual via calling out, cancelling, and raising awareness to others.

Finally, Twitter creates closeness to consumers/video game player community through providing a platform where the sociality of two interrelated communities can be brought together. This study describes this as the inclusion of an associated community; recognising that an occupational community is not an isolated entity with the development of a community's norms, practices and boundaries being actively challenged by others who have a vested interest in the spaces and related products which emerge from the occupational community. In the context of game development, the associated community of gamers and game players has existed from the beginning of the industry in the 1970s, however until social media became widely utilised in the late 2000s, it was easier for the social relations of developers to stay behind physical structures, or at least obscure forums. Now, these social relations mediate into a wider space of interactions as they flow through and in-between the spaces of gamework. Hence, players are closer than they have ever been to the developers of the products of which they consume. While this may be beneficial to gather sentiment and engage in open development, it can also be negative because of harassment, a sense of perceived superiority from consumers and implications to future game development. This study used the example of *Mass Effect* to illustrate this point as the game's title has been turned into a verb by the community to indicate a change of design because of consumer pressure.

Due to the above, data from this study suggests that developers are actively othering consumers by creating ideological boundaries to protect themselves from individuals

who they see as not fully understanding the world of game development. A consumer or player, or in this case most likely a 'fan', can be 'close', but still excluded by the occupational community. Additionally, this study showed how a member of an occupational community can also be a member of an associated community – a game player and simultaneously a game maker – leading a developer needing to balance multiple, sometimes conflicting, identities and allegiances. On Twitter this emerges as a dance between individual interest and community membership, where one cannot become too controversial, whilst wearing the 'player identity', because it reflects poorly on the community as a whole.

7.4 Key findings in relation to RQ2

Research question 2 is, "how do digital relations assist in developing space(s) with offline communality processes?". This study found how social relations studied in this investigation showed evidence of aligning with a concept of mediated space. Everyday life of video game developers consists of a wider social spectrum where sociality is neither online nor offline, but weaves in and out creating spaces between whereby Gamedev Twitter is indicative of the coming together, bumping up, clashes and blurring of social activity from people engaged within game work. A useful way to conceptualise this blurring is as an extension of the middleground from city anatomy theory, unlike the typical city anatomy theory however, the extension of the middleground also extends beyond cities, in particular it assists with connecting developers to key hubs which they may not be able to access or feel intimidated or lost entering.

The replication of community action was observed in this mediated space when industry events were taking place, fostered through accepted occupational norms and rituals. Mediation was also found to be used by developers to show behind the scenes of video game development, which assist in democratising occupational learning and broadens the reach of tacit knowledge.

Nevertheless, being mediated also means that studio/firms cannot rationally be excluded as they still exhibit control over an individual developer, with the 'digital

space' of Twitter unable to been seen as a locale free from consequences. Mediation also shows itself through the systemic issues which situate themselves online and offline in similar fashions.

7.5 Contributions

7.5.1 Contribution to literature

Generally, this study presents an empirical contribution to studies of video game occupational communities. Weststar (2015) pioneered this area after revisiting the work of Van Maanen and Barley (1984) to consider if video game development held traits of an occupational community, which she found it did using secondary data from Canadian game development studios. This study is the first to present an empirical documentation of a video game developer community from a UK context, additionally it follows other studies in adopting a qualitative primary data collection (Schwartz, 2018, Dubois and Weststar, 2021) – although these were published after data collection was designed and collected for this study. Nevertheless, it is reassuring to see scholars adopting similar methods, including netnography (Schwartz, 2018) in their approach to studying an occupational community. More broadly, the study is also an empirical contribution to understanding cultural work through an occupational lens, which organisational scholars are currently keen to develop (Anteby et al., 2016, Baylon, 2018).

An important literature contribution is also found as an example of interdisciplinary work between cultural-economic geography and organisational studies. Both of these disciplines share a common foundation to understand the world of work, work structures and the workers involved. Parker (2018) explains how the concept of organising occurs throughout social sciences, albeit it may emerge with different terminology and rationale, and organisational studies would only become richer through engaging with interdisciplinary work. Therefore, this study is important to show how such crossovers can be productive and produce novel findings and contributions to multiple disciplines. For example, the discussion on occupational space would be of interest to both an economic geographer and an organisational scholar studying space. Findings related to occupational community may be more

relevant to those researching relationships between organisations and community theories, particularly as an alternative to communities of practice. Nevertheless, occupational community has not been adopted by economic geographers, and this study may provide a way to introduce the work of Van Maanen and Barley (1984) to a new academic audience.

I will now detail specific contributions to the bodies of literature used in this study, in addition to methodological and practical contributions.

7.5.1.1 Occupational community

Contributions of this study to the theory of occupational community is initially as an empirical example of a cultural industry occupational community; in particular it adds to the growing body of research using occupational community to understand video game development and related workers (Weststar, 2015, Schwartz, 2018, Dubois and Weststar, 2021). By studying a cultural industry, it allows an examination of multiple working environments and contexts to consider whether the theory remains relevant for contemporary life, including elements of the gig economy, contract work and high job mobility – all of which cultural industries tend to be an exemplar. This study found that the theory of occupational community remains useful in a modern-day context and can be adapted for different working conditions.

Due to the theory's heavy emphasis on non-work life in addition to work, occupational community is perhaps more useful than other commonly used methods, such as community of practice, project ecology or epistemic community, when a scholar wishes to study the creative 'whole' rather than focus on the production of a product or how creative knowledge is funnelled into organisational aims. In this respect, occupational community theory acts as a complimentary and foundational understanding of a community where analysis can be moved beyond the figurative walls of a firm, yet it is still able to recognise a firm's influence on everyday community actions.

The above leads on to the second contribution of this study which is providing a re-examination of the work of Van Maanen and Barley (1984). In the literature review, I highlighted how as a theory, occupational community lost favour amongst organisational scholars because of the popularity of communities of practice which was not only popular within academia, but also crossed into management training (see Wenger et al., 2002). In the mid-2000s, Sandiford and Seymour (2007) revisited and updated the theory through including a broader discussion about customers and suggested that occupational community was still a worthwhile concept to write about. Weststar (2015) tested the core determinates to see if video game developers could be described as an occupational community, which she found they could be. From her study came a greater recognition of fragmented identities via job role which she described as 'nestedness' and was further analysed through her most recent paper which applied occupational community theory to 'games as a service' style development (Dubois and Weststar, 2021).

This study found evidence to support all levels of theory development – acknowledging that the original determinants were still able to identify an occupational community (Van Maanen and Barley, 1984), that customers played an important role to an occupational community of video game developers, therefore recognising how a community is not an isolated entity (Sandiford and Seymour, 2007) and that social identity is fragmented due to job role, creating nested identities (Weststar, 2015, Dubois and Weststar, 2021). However, there are three developments from this study which may be useful to future occupational community studies. Firstly, is the presence of multiple boundary crossings and conflicts. While Van Maanen and Barley (1984) included boundaries, their definition was restricted to one occupation creating boundaries to differentiate themselves from another occupation. This study would argue there are multiple boundary intersections, in particular internal boundaries, created both intentionally and unintentionally by occupational members and fragmenting the social identity of a video game developer. Nevertheless, research beyond this study would be needed to understand and differentiate these boundaries to a greater extent.

The second development is acknowledging the role of emotional labour within the occupational community. Previous studies appeared to downplay how occupational

determinants are sustained through emotional labour of their members, and some members, for example women, ethnic minorities, and those of the LGBT community, may be expected to contribute more because they are divergent to an occupation that may have been built from a white, heteronormative, and masculine ideal, for example. This is a small contribution, because more data is needed to fully flesh out the nuances of this topic, nevertheless this study presents this as a proposition that was found in the data and influenced the development of this thesis.

The final development is presenting an occupational community as part of a mediated space which includes social media. Previous studies viewed online and offline spaces as hybrid – they were distinct and separate spaces with studies of an online occupational community reflecting those of virtual communities (Rinallo et al., 2008, Vaast and Levina, 2015, Schwartz, 2018, Golan and Babis, 2019). This study argues that a contemporary understanding of professional work, particularly work of cultural industries, consists of multiple and mediating social actions flowing and bundling as they co-create between technology, sociality, and spatiality. An occupational community is neither wholly digital nor wholly offline, it exists as liminal and of relational socio-spatial processes. I will now move on to the contribution this study makes to cluster theory and develop the spatial discussion further.

7.5.1.2 Clusters

Two contributions of this study to cluster theory relates to the body of work which studies a theory of buzz and pipelines – intangible elements about a location which attracts actors to a location to share knowledge and funnel gained knowledge locally and globally. The first contribution is viewing buzz through the lens of mediated space to increase discussions on the role of digital social relations. While previous studies have detailed ‘local’ buzz and ‘virtual buzz’ (Bathelt and Turi, 2011, Henn and Bathelt, 2015), their conceptualisation leads to digital relations being othered in comparison to what happens ‘on the ground’. I do not argue against face-to-face meetings often being preferable, desired, or sometimes more fruitful; however, by studying buzz as either ‘local’ or ‘virtual’ leads scholars to consider what happens online as being a lesser version or facilitator of relations that occur offline. Rather, this

study argues that buzz should be studied in its totality – following socialisation as it flows online, offline, and in-between. Digital relations do not disappear because face-to-face is assumed to be the preferred form of contact, they exist simultaneously and are part of the whole knowledge development process. Therefore, to only focus on local, face-to-face meetings because it is assumed to be 'superior' presents a biased approach to how modern workers conduct their lives. It should not be about which method it superior, instead it should be about capturing socio-spaces of work, creativity, and knowledge through all their nuances.

The thinking above leads to the second contribution – development of a concept I have titled 'occupational space'. Occupational space has emerged through learnings found through studying occupational community, clusters, and the data, it follows the flow of an occupation and related members rather than focusing on a specific locale, firm, or networks, with emphasis on the communal experience instead of a production of a product. Occupational space is described here as process of active space making and maintenance of a specific occupational group through its social relations of both work and leisure. It is multi-scalar and adopts a mediated approach where online and offline social relations are not perceived to be conducted in sperate spatial realms, rather sociality creates the spaces which are observed. Occupational space provides a method to talk about how an actor can inhabit transferrable variables, such as location, employer, or project for example, yet still feel as though they remain connected to *something* – I argue this something is the occupation which is more likely to stay consistent while other variables change. The use of occupational space also alleviates a bias towards urban and city environments as the occupation is the focus rather than the region.

Additionally, through a concept of occupational space, knowledge and identity created is regarded to be primarily absorbed by actors who are members of an occupation and the community as a whole. Individual action, therefore, is fed back into nourishing the occupational community and occupational space rather than firm-based goals. This is a departure from existing theories including buzz and pipelines (Bathelt et al., 2004, Moodysson, 2008, Bathelt and Turi, 2011), project ecology (Grabher, 2002b, Grabher, 2004a) and communities of practice (Brown and Duguid, 1991, Lave and Wenger, 1991, Wenger, 1999, Wenger et al., 2002) whereby knowledge developed and shared

is considered to be for the benefit of the firm and related processes. However, it is important to note that firms do not become irrelevant, they remain influential and exhort their influence on how an occupational space and its members develop connections and the type of knowledge shared.

The occupational space is a heterogenous entity and changes depending on contextual factors – the occupation in question, the socio-cultural context, and the protected characteristics of community members. Indeed, as occupational space is relational in nature, there can be multiple variations of an occupational space conditional to the contextual factors outlined above.

Finally, occupational space is a developing concept which has arrived through abductively moving between the literature and the findings of this study. More research needs to be done to further develop identified nuances, determinants, and applications to other contexts. Nevertheless, I believe occupational space is a useful contribution to enable studies to refocus on occupations and the concept of work and workers beyond the boundaries of a firm and see practitioner knowledge as something more than adding to organisational aims.

7.5.1.3 General studies of video game developers

Empirically, this study contributes to a wider corpus of research which studies video game developers as cultural workers. This study situates analytical focus on the worker and their related community, rather than studio/firm or project. Through this method, the study was able to capture an account of the everyday, sometimes messy, experience of being a game worker which did not rely on the production of a product as the justification for research. By taking this approach, it assisted a comprehension of liminal identity and belonging if a developer was between projects, out of work or did not assign their creative identity to their paid employment. Additionally, mobility is high among developers, and I argue that to understand how developers approach their work as a creative pursuit, more studies need to break away from the studio structure to unravel motivations and constructions of game work as developers move and exist *in-between* roles and *in-between* projects.

This study also adds to an empirical understanding of social media practise, specifically Twitter, by video game workers - which despite prevalence in usage by industry members - Twitter is frequently downplayed by academics of gamework (notable exceptions - Tomkinson and Harper, 2015, Komorowski et al., 2018). I argue this oversight is due to a focus on studios and projects, rather than workers, as game development is surrounded by NDAs which restricts where knowledge, relating to products, can be shared, making Twitter the antithesis of organisational practise-based knowledge. When focus is placed upon the worker, then Twitter becomes a key site for knowledge relevant to *being* a video game developer and as a member of the industry.

7.5.2 Methodological contribution

There is a small methodological contribution through questioning a perceived bias of face-to-face method design for studies which also include a discussion of digital relations. I did not aim to study an online community, rather how something digital – here Twitter – was part of something else which moved between online and offline locales. I started this study before Covid-19, in 2017 where employing a wholly digital method design could still be met with suspicion and doubt. As a scholar in training, I wanted to consider the implications of a digital methodology and overcome, what I saw, as a perceived bias towards face-to-face data collection methods. Additionally, a digital methodology reflected the lives of my participants to a greater extent than meeting them in-person. In a way, the method design fits the world in 2020/2021, and how scholars had to take their data collection online. Although I had no disability issues myself, the method design would work well for those who would struggle to access research sites – helping to democratise the research process, in addition to potentially broadening the sample population. However, I learnt through this method design that using a personal social media account to collect data can affect how a researcher distances themselves from the research site once data collection is over. For almost 12-month post data collection, I felt anxious going on Twitter because that platform now reminded me of my work. For some people, they may be able to separate such feelings, nevertheless it is an important consideration for anyone embarking on

digital qualitative work to consider how close they want to be to the data collection and how they can exit the research site.

A method design of netnography and synchronous online interviews has shown to provide a rich set of data, particularly if it is part of multiple interactions with the participants. Although I was only inspired by qualitative longitudinal analysis (QLA), the method design here would work well structured as a piece of QLA over multiple years to follow creatives and their everyday lives. Following them as they potentially move in and out of jobs and projects, engage with cultural events and develop an identity for themselves.

7.5.3 Practical insights and contribution

A practical insight can be found in advising video game developers on how to navigate themselves online. In particular, for those new to the industry and worried about fitting in or missing out on opportunities. Rather than a blanket approach, as has been commonly seen in industry publications, guidance could be provided dependant on their occupational role.

This study would also be of particular interest to the growing movement to unionise the UK and North American video game industry[26]. Specifically, how internal tensions may arise with membership eligibility, for example I discuss how the identity of a developer is fragmented and has multiple boundary tensions. For a union, information on who and what practices can be included under an occupation title assists in forming a foundation of future aid and campaigns for game workers. In relation, trade bodies such as UKIE and TIGA may find this study useful for creating resources for developers through the lens of developers as a member of an occupation, rather than a developer tied to a specific studio.

Finally, there is scope to inform human resource practices in both those studios that have dedicated teams and those that attempt to build HR practices into their agile teams with individual vs professional creative identity. Firstly, this study suggests it

[26] See: https://www.wired.com/story/first-video-game-workers-unions/

is important to allow individuals across an organisation an opportunity to contribute in a creative manner. Secondly, I believe it is important for studios to embrace side projects and to avoid an assumption of a project being a threat to the studio brand, especially if that creator works under a pseudonym. Thirdly, developers should be encouraged to find learning opportunities away from the studio and connect with others on an occupational level, the learnings of which have the potential to be brought back into the organisational fold.

7.6 Summary

My curiosity during this research was overall satisfied as I manged to achieve the overall aim of this thesis which was to investigate how video game developers find commonality, even if they do not work together or are technically competitors. I started thinking about this study whilst I was sat amongst my peers and watched them interact between themselves in the studio, in bars, at industry events and on Twitter; in 2015 I felt as though I could not academically verbalise what I was observing and was curious to investigate if what I was seeing expanded beyond personal social relations and immediate location. I started the PhD in 2016 to begin a journey of finding that academic voice, to put into words a sense of something that I did not fully understand yet. The journey of this study is paved with failures, dead ends, discarded ideas and late-night revelations, however I believe going down these dark paths led to this thesis as it currently stands, which evolved in a manner I did not envision at the start of my PhD.

Discovering occupational community mid-way through the PhD was a key turning point in my learning. At the time, I knew a concept of a community was important, but neither communities of practice nor epistemic community literature spoke in the same manner as my participants' experiences. Therefore, I kept investigating various community approaches which spanned organisational studies, geography, sociology and anthropology until one day, I was sat in the library reading a paper called *Organisations in the Shadow of Communities* (O'Mahony and Lakhani, 2011), whose title instantly piqued my curiosity and I discovered the concept of occupational

community. From there, I spent time diving deeper into the theory, going back into 20th Century works and retracing its adoption by academics from sociology to organisational studies. Finally, I had found the tool to help me express what I could see but, until that point, could not academically speak about. Additionally, through this study of community concepts I could begin to appreciate how theory and concepts splinter, with certain elements falling out of fashion and how they move and change between disciplines.

Being an interdisciplinary researcher certainly influenced this study, as I have mentioned previously, I am constantly aware of space, spatiality and space making, so once I figured out what I was observing was linked to occupational community, I then started to consider what are the spaces of an occupational community. Thinking about the data and the research in this way instantly moved me to my next conundrum of why digital relations were often described in ways which 'othered' them compared to 'on-the-ground' social relations. Throughout the PhD, I often thought back to a quote from the co-founder of Twitter who stated that nobody 'does' Twitter, Twitter just fits in around everyday life as someone scrolls the timeline whilst in a queue, sat at their work desk or sat on the toilet providing a spicy takedown or political commentary. In both occupational community and cluster studies, the digital (or in many cases here, the virtual) and the physical (offline) were considered as two separate realms of existence. I was not studying a virtual community, because Twitter was just another element of socio-space relations, and neither was what occurred online was completely different to what occurred offline. Therefore, I again went searching to find something which fitted the communal experience of my participants, which was the concept of mediated spatialities from the sub-discipline of digital geographies. At this point, the thesis could finally 'speak' and express what was occurring in the data. It was a long journey, but I believe I have grown as a researcher through conducting many failed attempts at finding the words to express my empirical curiosity from 2015.

In regard to the methodology, I am still confident that the choice of undertaking a wholly digital methodology was the correct method design and has only become more relevant since 2020. I designed a digital methodology for two reasons, firstly, it was reactionary against the face-to-face bias that I observed in published studies about communities and clusters which included an element of digital yet decided to continue

with in-person interviews. I am guilty of this too in my postgraduate dissertation as I followed typically accepted research practices of meeting in-person to the discuss online activity. I wanted to challenge this notion and reverse it, so I conducted all data collection online, yet also asked questions about offline experiences. The second reason was to challenge myself as a researcher, to consider if I would be able to do a wholly digital method design and what would I learn from it that I could take into future projects. In summary, the data collected was useful in broadening the geographic reach of the study, I was able to gather rich and plentiful data and when I experienced personal issues which would have hindered travel – I was still able to gather data. However, as a researcher I often felt distant and sometimes disconnected from the research, although this may be more about myself and how I approach research rather than a critique on a digital method design *per se*. In hindsight, I am a little remorseful that I did not get to meet in person, the participants of this study, and I wonder if I were to experience their studio or home location what additional insights and conversations could have been included into this study.

The choices I made in developing a digital method had generally satisfied my curiosity for the topic. The wave approach with interviews worked well to capture changes and requestion or cross-examine participants on what had been told previously, spoken about by others or discussion points captured on Twitter via netnography. Therefore, my reading of a situation could be checked with the participants, which assists in providing academic rigour. I was perhaps over cautious with the netnography by generally only capturing data which related to participants in addition to not publishing screenshots of tweets – which can be found in other studies that use netnography. By being overcautious, I know I missed out on a rich source of additional data, and wider community activity through not including those who I was not also interviewing. I did this because it was my first attempt at netnography and I was concerned about the ethics of capturing so much data covertly, because it would be impossible to gather consent from hundreds, if not thousands of video game developers who may have crossed my path on Twitter. Unlike other studies such as Grabher and Ibert (2014) and Brinks and Ibert (2015), who studied forums, I did not have the option to contact a 'leader' or 'webmaster' and gain universal consent for all content on the platform. Therefore, I believed the most ethical way to progress was to primarily capture Twitter activity of the participants, who had provided their consent to not only an interview

but also to their social media output (see appendix A). While not strictly necessary for netnography (cf: Kozinets, 2019) I believe it is better to err on the side of caution when undertaking a method like netnography for the first time, on reflection it probably would have been beneficial to run a pilot study first. Nevertheless, I am now more aware of the method, how it works and what kind of data may come through using netnography and would probably increase the data range in future studies.

If I were to repeat this dissertation there are two changes I would consider. Firstly, in regard to the methodology, I would embrace a hybrid approach of netnography, face-to-face interviews, online interviews and ethnography at industries events/temporary clusters. I believe temporary clusters (conventions, industry events, game jams) possibly did not get as much attention as they deserved because of the method design; it was fascinating to see how Twitter was used while the participants were attending events, however I was unable to gather data about meet-ups etcetera which occurred on the show floor or out of view from Twitter. By integrating the multiple methods suggested above, I would be able to follow social relations as they occurred through space. I would keep the wave format of interviewing and use online interviewing for the initial interview, as I found participants perceived this to be less intimidating and easier to fit into their routine. Once they know who I am and are familiar with the study, then I would request a face-to-face interview in an environment of their choosing or provide the option to continue with online interviewing if it is easier for them. Ideally, at least the final interview would be conducted face-to-face in conjunction with meeting in-person at a temporary cluster.

The second change relates to theoretical foundations, in the data there was evidence of a potential discussion between trust and the occupational community. As this realisation only occurred late into the analysis, I was unable to go back into the field and study trust as a specific topic; indeed, studying the relationship between trust and an occupational community is arguably a project in and of itself. Therefore, if I were to repeat this study, I would probably align it with literature on trust alongside occupational community.

In summary, this thesis is a tale of two interlinked stories – developing a theory of occupational community and presenting its relevance for studying a cultural industry

community in contemporary times; and then considering how these occupational communities can be studied spatially. I believe what has been presented here achieves the aims set out in the introduction.

7.7 Limitations

As with all research that focuses on a community, a study can only present a singular view which emerged through interacting with a sample of community members. A community is a living entity; therefore, the research can only show a snapshot of a particular time and is not representative of the whole community in its processual becoming. Although arguably this is a limitation to all qualitative research. I recognise that the findings presented here represent a Eurocentric view and is a case study of the British experience in game development. Nevertheless, this study adds another case to the growing corpus of video game developer studies, which when potentially taken together by future scholars assists in developing enhanced knowledge from a variety of perspectives (Flyvbjerg, 2006).

The findings from this study are from 25 UK developers. While it was beneficial to follow them throughout 2017-18, as this allowed collection of data relating to changes in role and industry perspectives, it is nonetheless on the medium end of a desired qualitative dataset and does not capture a full range of job roles available in video game development, including for example, community managers, voice actors, concept artists, physics programmers, AI programmers and composers.

It must also be acknowledged that the research scope was pragmatically influenced by the structure of PhD research, personal issues and available funding thus preventing extensive travel to meet participants multiple times across the UK. Although, the idea of undertaking a digital-led methodology emerged in part through recognising pragmatic elements of the planned research, it was not the sole reason to be wholly digital. I had been ruminating about how digital methods are included in research and recognised where I had failed in previous projects to reflect digital topics in my research design. Hence, the method design was both research-led and pragmatic.

A final limitation relates to my knowledgebase as a self-identified human geographer. I came into the PhD knowing very little about organisational and management theory, although there were many crossovers with economic geography. I tend to view the world and research it through concepts of space and place - the fundamentals of geographic work - and I am mindful how sometimes I can struggle with alternative theories because they do not align with how a geographer may understand the world. Thus, I am aware there may be other readings and theory foundations of which I could have utilised, although I argue this perceived limitation also positively assisted in developing new knowledge for this thesis through being able to read organisational texts in a slightly different way and develop a piece of interdisciplinary research.

7.8 Future research

Potential future research from this study can be split into three categories – future case studies which focuses on video game development and video game developers, future occupational community studies and future occupational space studies.

7.8.1 Studying video game developers and video game development

One of the key benefits of this study was the chance to study the everyday lived realities of video game developers which was not tied to a project or production of a product. Future research could go further with this by focusing on specific roles within video game development which are typically excluded from academic conversations, such as writers/narrative director and QA/testers, by including these overlooked roles, scholars can develop a deeper understanding about the nuances of a video game development occupational community. Additionally, this study included only those who were involved in video game development, arguably the creative element of the industry. The other half of the industry, the publishing side which focuses more on business production and financing was not included. Therefore, there is great scope for a follow-up study to include publishers and consider if they are a part of the occupational community discussed here or form their own occupational community. Likewise, there are auxiliary roles such as video game journalists, recruiters, streamers, esport players and content creators whose inclusion may further muddle

what, or indeed who, can be included in an occupational community of video game developers and potential associated communities. I believe as research continues and the industry develops, additional roles will emerge who clash against established occupational structures. Fruitful research about community managers, a relatively new role in game development, is starting in this area for example (Kerr and Kelleher, 2015) and by doing this studies can understand more of the nuances of a video game development occupational communities.

Exploring video game developer occupational communities in other countries and conducting a comparative analysis would also be an interesting approach to consider the extent in which a location affects the development of an occupational community. With the completion of this study there is a UK example and a Canadian example (Weststar, 2015, Dubois and Weststar, 2021); however there is an opportunity to take the occupational community framework and consider it in the context of Japanese and North American development – two locations with the longest histories for video game development; or China which is now the largest contributor per capita of the global video game industry (Jiang and Fung, 2019); or take the framework to locations that are developing their video game industries such as Chile (see Baeza-González, 2021) and Iran (see Malekifar and Omidi, 2017). Away from focusing on a specific nation-state, it would be interesting to consider if the occupational community of video game developers were an international community, connected via social media, or if developers continue to socialise with members of their respective national community.

7.8.2 Studying occupational community

The possibilities for future studies presented in this section are more generalised and fit to the broader theory of occupational community than those discussed above; nevertheless, there are directions here which could also be taken for studies of video game developer occupational communities.

Firstly, is investigating a potential link between emotional labour and occupational community. Through this study, I found that elements of emotional labour came through the data and affected how members interacted with the broader occupational

community, although more research needs to be conducted to understand this initial finding in more depth. There is a particular research gap to understand how protected characteristics – ethnicity, gender, sexuality, and disability for example – are understood through the lens of occupational community and how this may connect to expected contributions of emotional labour to the community. An additional scope is to reintroduce class as an influencing element to the development of cultural occupational communities - taking inspiration from Turnbull (1992) and McRobbie (2016a). Such a discussion would shed a light on actualising an occupational community as a heterogenous entity where an occupational identity may not overwrite other identity markers.

Additionally, by integrating the companion theory of communities of coping (Korczynski, 2003, Stroebaek, 2013) a contribution could be made to understanding coping and survival within an occupational community – which may also have a connection to emotional labour. In relation, there are no accounts in the literature, and I did not have evidence in the data, about how or when community members may exit an occupational community, for what reasons and what then happens to their occupational identity and social relations. Discussions such as these I believe develop a conversation on the negative elements of an occupational community, which is just as important to understand as the positive.

More generally, the additional determinant of 'associated community' and/or a greater focus on consumers/customers could be a prosperous development to test in alternative contexts away from cultural industries. I ran a quick thought experiment with other occupations that I have access to and heard occupational stories from – taxi driving and British football. With both of these, there are similar clashes, boundary negotiations and blurs between the associated community, fans for football and customers for taxis. In relation to football the recent outcry over the European Super League I found particularly interesting through using occupational community to consider how different stakeholders believed they had the power to dictate their clubs' business. With taxiing, I found it interesting how occupational members shared stories about negative customers and used a community Facebook page to share practical knowledge and find support. As previously stated, these were quick thought

experiments and nothing can be read into these, however it was pleasing to see elements of this study emerge through other contexts.

7.8.3 Studying occupational space

In the discussion, this study introduced occupational space as a developing conceptual contribution and presented a framework which could be taking into future studies. Further research I believe needs to be conducted to question or problematise this conceptual contribution, through either another occupational context or through returning to the field with a specific focus on collecting data using the new framework as guidance. Both of these options are beyond the scope of the PhD, and indeed, need more time and thought to develop further. This, in particular, is an area I see myself exploring over the next years.

7.9 Reflections

Belonging
/bɪˈlɒŋɪŋ/

[Noun]

"intransitive. Of a person: to be rightfully or fittingly situated in, or have an affinity for, a specified place or situation."
(Oxford English Dictionary, 2021)

Throughout this thesis runs a thread of belonging. Belonging to an occupation, belonging or affinity to a geographic location, belonging to a discipline, belonging to an institution, and belonging to a cohort. The former is obvious as it is the literature and findings presented here, the latter is more personal as I found engaging with my participants and going through the years of doctoral life; I started to see a parallel story with my own experiences emerge. As a doctoral students, we are liminal beings (Keefer, 2015) – neither a 'proper student' nor staff. We are in a state of becoming researchers, where our occupational community is increasingly hazy, as we do not technically belong to the research community of the university, yet we often contribute to it. Neither are we part of the student community because we don't go through the motions of lectures, seminars, short deadlines and free summers. As a broader conception, our closet tie is perhaps through our immediate cohort and social media

to a general PhD community, but the experiences of a British doctoral student are different than the overwhelmingly American perception seen online.

In the past, I craved a return to university to find 'belonging', however returning for the PhD arrived with a realisation that it wasn't the infrastructure which created automatic belonging - sat in the campus, wishing I could be anywhere else, but here. How could somewhere that used to bring me so much joy, now feel like somewhere I did not belong? My liminality also spanned through disciplines as the geographer in the management school, the student who is welcomed, but not quite 'one of us'. Cunliffe (2018a), explains how she felt loneliness as a 'corner status' scholar with an internal battle between who she believed she was, and the identity traits placed upon her by others in academic departments and journal editors. Quoting Ricoeur (1992), she suggests that 'who' and 'what' we are two different things – 'what' is collectively experienced and objectivised, one could argue 'what' we are assists with community belonging as a collection of traits which hold the power to bond. 'Who' however, is "ipseity, recognizing our and others' uniqueness, our personal history, our intentionality, and our accountability for ourselves and others" (Cunliffe, 2018a: 16). It was difficult to find belonging in the 'what', so I had to search deep into the 'who', to be consistent in moments of doubt, hold myself accountable and act with integrity.

By recognising this, late in the PhD I began to distance myself from believing the infrastructure of a university fostered belonging, and just like the participants of this study, I searched elsewhere. This led me to becoming closer to a few cohort members who between us developed a sense of collegiality that we felt the school was unable to provide. I also used Twitter and Instagram to develop connections with others in different disciplines and universities in the UK, finding belonging by sharing successes, problems, and woes. In the end, as I sit here writing this final section, I found belonging through embracing the 'who', and while that may not originate from the school of which I am a member of, that is okay because at least I am not alone.

Appendix A: Ethics Forms

Committee on Research Ethics

PARTICIPANT CONSENT FORM

PARTICIPANT CONSENT FORM

Title of Research Project: [Working Title] Placing Gaming: Blurring Boundaries, Agglomeration and the 'Geek Economy'

Researcher: Helen Johnson

Please initial

1. I confirm that I have read and have understood the information sheet for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my rights being affected. In addition, should I not wish to answer any particular question or questions, I am free to decline. ☐
3. I understand that, under the Data Protection Act, I can at any time ask for access to the information I provide, and I can also request the destruction of that information if I wish. ☐
4. I agree to take part in the above study.
5. I agree that my online presence and content created on the website 'Twitter' can be included in the study. I understand that all of the data will be anonymised. ☐

6. I agree for the data collected from me to be used in relevant future research.

Participant Name Date Signature

Name of Person taking consent Date Signature

Student Researcher: Helen Johnson University of Liverpool Management School, Liverpool L69 7ZH

h.l.johnson@liverpool.ac.uk

Version 1.2 November 2017

Additional Social Media Details

Thank you for agreeing to be a part of my research. A part of my research is understanding how game developers discuss their work online and how they use Twitter.

What will be included?

I understand that internet privacy and confidentiality is an important factor in our lives today. The method used is called 'Netnography' and simply involves me observing what is written in posts, what is retweeted and general activity on the platform. As such, I can only see and use what is publicly available.

Will I still be anonymous?

Yes. No usernames will be included in the write up of the thesis. In addition, no posts will be quoted verbatim.

How will this work?

You don't need to do anything different than what you normally do. Please continue using Twitter as you currently do.

How long is the duration of data collection?

The data collection will start within a week of your initial interview and will finish November 30th 2018. The research is not retrospective, so I will not analyse any engagement with the platform prior to the date of the interview.

Can I exclude any data?

If you would like to exclude any data, please contact me h.l.johnson@liverpool.ac.uk as soon as possible, however you can retract data at any time up to thesis submission.

But I don't use Twitter!

That is not a problem! I am interviewing multiple game developers and seeing how people don't use Twitter is as valuable as those that do. Please do not worry, your opinions are still very much valid.

I grant permission for you to follow me and analyse content on Twitter

Twitter username: ——————————————————————

Thank you in advance.

Researcher Details:

Helen Johnson
PhD Management School
University of Liverpool
h.l.johnson@liverpool.ac.uk

Appendix B: Interview Schedule

The interview is classed as 'semi structured'; therefore, where applicable new questions may be raised, and ideas explored while others may be omitted depending on what is expressed.

Interview 1 – Working and Relationships

a) Describe an average working day. [Note locations and methods of transport while they discuss and prompt conversation if it is not explicit].

b) Which other individuals or teams are crucial for the completion of projects? How do you remain in contact with them?

c) *[If they have suggested they use a combination of face to face/internet-based communication]* When you meet them face to face for a meeting, do you discuss similar issues if you would if you were Skyping for example? Also ask if they *first* met those individuals in person or online.

d) What role does trust have in the industry as a whole? *With other companies, at events, within the company etc.*

e) If I say to you a 'video game cluster' what do you envision this means?

f) Do you feel as though you are part of a local gaming cluster?

g) Do you meet any fellow game industry people outside of work in a casual setting? If so where?

Interview 2 - Industry and studios

a) What was your first job in gaming?

b) Did you experience any barriers getting into the industry?

c) Did you enjoy playing games before entering the industry and did that impact which roles/which company you aspired to work for?

d) Do you feel like you know what is going on in the company? Where is that information coming from?

e) Any other forms of employment (What pays the rent?).

f) Is any of your work outsourced or are you the one work is outsourced to?

g) [If in a company] <question junior/senior roles and development of a studio>

h) Could you describe your ideal studio/place of work to work in?

i) Do you feel as though you have experienced this in any roles you have had?

j) [If studio] Would you take an opportunity to work remotely? [If remote] Would you take an opportunity to work in a physical studio? What do you think you would gain by doing this?

k) What would impact your decision on future carer options more? Location, the company itself or the role itself? Why?

l) Do you feel an obligation to use a certain software or social media? Why?

m) Do you find satisfaction working in a project-based role? Why?

n) How do you overcome the cyclical nature of working on projects?

Interview 3: Involvement with video games

a) Could you explain what or who you believe a video game developer is?

b) What is the role of the consumer?

c) Do consumers have an influence in how you make games? (refer to social media? Do they have too much power or no real impact?)

d) Do you get involve with industry events? [Expand – What do you get from attending events and what stops you from attending more?]

e) How do you prep for events?

f) How do you decide which events to attend? Do you feel obliged to attend any events?

g) Who do you see at events? Do you plan beforehand or leave it to chance? (If plans, how are plans made and kept?)

h) How do you use Twitter during events? Are related hashtags obvious?

i) How do you feedback from/ how do you document events?

j) What impact does events have on your workload?

k) Are any for fun/social reasons, i.e., not necessarily related to work but go because they are interesting.

l) Have events made any impacts to your career?

m) Do you use any social media while at the event? What and why? Any after?

n) Do you run any personal or fan projects outside of your role? e.g., blog, twitch channel, YouTube channel etc.

Version 2.2 May 18

Appendix C: Examples of Evernote

Research Diary click to add tags Share ···

Created: 1 Feb 2018 Updated: 6 Feb 2018

31/01/18 01/02/18 #Girlsbehindthegames (notes on gender/ethnicity sampling too)

This hashtag became trending/viral between these two dates. Women (generally) used the hashtag to showcase what they have achieved within the gaming industry.

Used the hashtag to gather UK female devs who were currently absent from the study due to visibility/non response. WILL UPDATE ON PROGRESS. This hashtag, even without going into it, was retweeted by women (a few men) on my profile. They acted as social snowballers; increasing visibility.

Current aim to at least provide a representative sample of male/female as it currently stands in the UK. Estimated to be 19% of the uk workforce (Creative Skillset Employment Survey, 2015) For this study that is 4/20 to 5/25 FEMALES to nearest whole.

BAME has not been included. Should I? Or is this something for a later study?

Research Diary click to add tags Share ···

Created: 9 Jul 2018 Updated: 9 Jul 2018

What is a developer?

(JULY 9)
Very vocal debate on twitter within the industry about who actually counts as a game Dev. Some consider only programmers and similar technical roles, taking the term 'developer' literally. While others consider all those who aid a game from conception to shipping as devs. Appears to be a gender divide with women more likely to be inclusive. Also those in industry longer tend to favour a traditional approach

Due to significance of this debate, this q has been added to section 3 of interview schedule.

Appendix D: Thematic Analysis Table

Determinant	Inductive findings clustered into themes	Inductive categories titles	Example key quotes and diary entries
Boundaries	a-1) Perceived 'special' knowledge contributes to forming boundaries between video game developer OC and other cultural industries. a-2) The OC can sometimes be too closed in and inwards looking – focusing on the video game developer and their immediate concerns rather than as cultural workers. b-1) As the industry becomes increasingly professionalised, boundaries into the occupation become tighter and information more protected. University education is simultaneously becoming a necessity to assist crossing the boundary and reduced in value by some OC members. Therefore, developers need to do more than simply learn skills to 'prove' themselves. b-2) Mobilising passion to cross the boundary. c-1) Othering in regard to other cultural occupations. c-2) What it means to be a 'developer' can be gatekept via information shared using OC acknowledge hashtags. c-3) Boundaries are not universal – may change socio-politically.	a) Occupational boundaries b) Boundaries and entering the industry c) Gatekeeping	*"Unless you have been in a job or had a formal education, you can't just get at this stuff. You really need some base experience"* (Leon, Director/Writer – 20th May 2018) *"I think I didn't know enough about the industry and the roles honestly. I grew up playing games and knew that they were fun and that some people work there. But the industry itself was quite opaque and I couldn't really see in to see what was happening so the key thing was finding a way in through the door. So, I focused on indie studios when I was applying initially because I thought they were more likely in need of someone who was smart and resourceful in a way that bigger studios, would have a constant stream of professionals."* (Chloe, Co-owner/Producer – 19th July 2018)
Social Identity	a-1) Game worker vs cultural labourer. a-2) Unstable and blurry identity boundaries. a-3) Dissonance between what people think game development is, to what is experienced once inside the industry. b-1) No singular identity (Nestedness – split via roles, working style and studio structures) b-2) Internal othering which stems from (b-1) b-3) Flexible roles and horizontal movement – changing role not moving out of the occupational community. c-1) Conflict between a developer as part of a team and a developer as an individual creative. c-2) Identity is not wholly found via work, hobbies and side project can also influence developer social identity. However, there can be a restriction of identity by related firms. c-3) Divide between achieving a personal goal and just being an employed game developer. c-4) Twitter assists with individual creativity and developing the 'whole' developer.	a) General social identity of a video game developer b) Fragmentation of identity c) Personal brand (Brand 'You')	[Who is a video game developer Twitter debate – 9th July 2018] "I feel more integrated, more part of the company I work for. As a freelancer, I was always on the outside edges of a company." (Jack, Programmer – 18th July 2018) "Small industry. It is such a small industry, I know it is a big industry but somehow, everyone knows somebody. Like you can't do something bad without someone somewhere hearing about it, so I think getting clued up works in my favour. If you leave a bad taste in someone's mouth, it is going to reach somebody else's ears." (Nathan, Cinematic Production Assistant – 28th May 2018)
Reference Group	a-1) Storytelling assists with bonding, the joy of 'telling'.	a) Storytelling aids	[Red Dead Redemption release – Twitter reaction on crunch – 26th -29th October] "It's that weird thing where we are competitors, but still help others out"

	a-2) Stories are more than verbal exchanges – memes, Twitter threads, hashtags. b-1) Learning is constant and often community led – expectation that jobs and key learning moments arrive via peers rather than the firm. b-2) Developers use connections and platforms external from the studio to assisting with coping. b-3) Being helpful is about providing relatable moments – however there are limits to being helpful (minorities expected to 'help' those similar more often). b-4) Friends and 'Friend-DA' – divulging confidential information which goes against firm legislation. A known and accepted occurrence based upon trust in occupational relationships. c-1) The 'arsehole genius' vs the 'guru'. c-2) Being visible on Twitter = power and validity. c-3) High profile names are often portrayed as emblematic figures of the OC – names wield power. d-1) Embedded in the industry and has become a norm, although there are efforts to change, these are slow, and crunch is still expected in many roles – i.e., 'proving' you are a game developer/paying dues. d-2) Self-crunch – though there is a sense of guilt attached to the practice.	establishment of the reference group b) Expectation to help c) Development of hieratical power (c1) d) Crunch (c2)	(Gordon, Founder/Team Lead – 2nd May 2018) "My friend coined the term friend DA which was pretty cool. A lot of people in the industry do talk and I think it is natural and everyone understands you are not supposed to talk about this publicly" (Alec, Senior Game Designer – 15th December 2017) "But there is this sort of 'arsehole genius' figure. Really smart, tells everyone what to do." (Joel, Writer – 26th April 2018) "If you look somewhere and you don't see people like you, you feel like you don't belong. No-one has to say anything, it is just implied." (Miles, Founder – 22nd June 2018)
Social Relations	a-1) Main group of friends tend to be fellow developers or at least people who 'understand' game development. a-2) The term 'friend' holds a lot of meaning and is used in place of 'colleague' or 'someone I know'. a-3) Friendships can sometimes be negative and develop into cliques and group thought. b-1) Romantic relationships often with other developers – shared occupational understanding about 'bad times' and 'good times' – less cognitive distance. b-2) Can be difficult to combine family life and developer life – long hours, precarity and family members being interested in video games as a hobby – boundaries. c-1) Hobby jobs help to keep developers visible, particularly in liminal positions (unemployment, between projects, moving from student to employed for example). Better to be seen online doing 'something'. c-2) Provides an outlet for creativity away from firm-led projects with the practice of 'tinkering' encouraging creativity. c-3) A hobby job can help to access other sections of the community, opening up further social relations. d-1) Playing video games is still a hobby despite working in the industry.	a) Personal relationships (Friends) b) Personal relationships (Family) c) Hobby job (c1) d) Gamer or game maker? (c2)	[Leon and his documentation on Twitter of his debut title – Multiple entries] *"I was speaking to somebody, I think it was life insurance, and they asked when they thought I was going to retire, and I thought that was such a ridiculous question. Like how can I retire? How can I retire from my life?"* (Lara, Technical Director – 3rd May 2018) *"Video games is one of those industries that is quite difficult to talk to your friends who are not involved in it, or family. It is difficult to put across a difficulty they don't understand, just in the sense of any industry, people in the industry understand it be like 'oh I had that, and it was so annoying' or 'here's what I did' or 'Oh my God that sounds really amazing'."* (Isabelle, Producer – 28th March 2018) *"I'm lucky, my job is fairly creative, but it is a very different creativity. So, is great to come home, because you do pick up stuff on the day job that translates to the side project."* (Leon, Director/Writer – 6th February 2018). *"At the end of the day, even though we are outside work, we are still gamers, and we still enjoy talking about the mechanics of a game that we're working on. So, it is really hard not talk about work."* (Elena, Marketing Manager – 27th April 2018)

	d-2) Talking about work outside of work – work talk frequently comes up in leisure time and it is hard sometimes to distinguish the two. d-3) Talking about hobbies in work – acts a learning practice and also aids connections between developers without relying on work-based subjects.		
Associated Community (Consumers/Video game player community)	a-1) There is a mixed opinion when viewing consumers/video game players (VGP) – often role identity influences this. a-2) Sense of entitlement from consumers – Twitter provides a space for this entitlement to be seen more often. a-3) Expectation of game developers to be more transparent and accessible online that other cultural industries. a-4) Misunderstanding of game development by the VGP community can spark clashes. b-1) Exposure to the OC via consuming products as a child – blurs between childhood, adulthood, career, professional occupation member and dreams. b-2) Becoming a 'liminal' creator and challenging the boundaries of the occupational community – often during teen years. b-3) Navigating identities and belonging to both communities. c-1) The purpose of a consumer is evolving – not just to buy the product, emotional attachment. c-2) Consumers as part of the development team and OC as a 'hidden developer' via open development and as available QA testers. c-3) Consumers as disruptors of the community – influencing studio decisions, who does creativity belong to?	a) Clash of communities b) History as a consumer c) Consumer as a 'hidden' developer	*"A games consumer is a lot more complicated than it ever used to be. People are consumers when they don't think they are, and they are embroiled in the culture or subculture for the culture more than the actual product"* (Gabriel, Designer – 12th October 2018) *"The entitlement in game communities is ridiculous. People think that developers owe them the world."* (Leon, Director/Writer – 13th September 2018) *"With Twitter, you sometimes get gamers randomly getting into dev discussions. There is an increasing 'them and us' divide between gamers and devs because there is that small but very vocal and very toxic sector of the gaming market. Is unfortunately quite dominant and they don't know. They talk a lot about the industry, but the problematic ones are the ones who talk about the industry without really knowing what they're talking about because they have never worked for the industry"* (Ash, Managing Director – 7th June 2018) *"You tend to get people on Twitter who think they know what game dev is like. Quote – 'I can add multiplayer into a game in 3 days', stuff like that. But at the same time, it is hard to talk about game development because the moment you open yourself up to that, it tends to go bad about devs. A lot of hostility."* (Jack, Programmer – 18th July 2018) *"It's interest to watch how certain people grew up on certain games, say Mario, and others who grew up on something like Megaman or Sonic – how they approach games differently"* (John, Developer – 24th July 2018) *"I can't imagine anyone who makes films in Hollywood not watching films anymore"* (Nathan, Cinematic Production Assistant – 28th May 2018)

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Aha! – Lara Croft