

Entrepreneurial Communities of Practice: Community, Inclusion, and Gender in the UK High Technology Startup Industry

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ABSTRACT

Since 2005 there has been a very significant increase in the numbers of accelerators, incubators, and coworking sites in the UK. These are organizational forms that support entrepreneurial practice through co-locating entrepreneurs within social networks geared towards the production of entrepreneurial new ventures. In particular, accelerators seek to enable high technology entrepreneurship and technological innovation, by providing a structured entrepreneurial pedagogic programme, equity investment, and access to a co-located workplace community of peers.

However, despite this trend, to date little research has examined what is being learned within these sites. Drawing on a Communities of Practice perspective, this thesis explores entrepreneurship within these sites as a holistic phenomenon. Entrepreneurs learn not only the technical and administrative skills they need to run the business through everyday practices and interactions within these sites, but also tacit knowledge, such as norms and values, through participation in the community's practice.

Furthermore, literature on women and high technology entrepreneurship has identified the ways in which women are both structurally and individually marginalized from practice. These include the masculine norms of the startup founder prototype, and the gendered differences in access to networks of funding and knowledge. However, it is not clear how their inclusion and exclusion is negotiated at the communal level.

Within the context of an ethnographic study of an entrepreneurial coworking site and accelerator, this thesis provides a theoretical contribution to communities of practice theory through conceptualizing processes of inclusion and exclusion, which are determined by the modes of belonging available to an individual. Furthermore, through de-centring the entrepreneur and analyzing entrepreneurship as a communal practice, this thesis empirically contributes to the literature on gender and high technology entrepreneurship by demonstrating how the gendered relational and care-taking work of high technology entrepreneurship was performed primarily by women within the community.

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Declaration

I declare that this thesis is a presentation of original work and I am the sole author. This work has not previously been presented for an award at this, or any other, University. There are no prior publications of any of the work within this thesis. All sources are acknowledged as References.

Chapter 1: Introduction

*Stop me if you've heard this one before. Brilliant college kids sitting in a dorm are inventing the future. Heedless of boundaries, possessed of new technology and youthful enthusiasm, they build a new company from scratch. Their early success allows them to raise money and bring an amazing new product to market. They hire their friends, assemble a superstar team, and dare the world to stop them. (Eric Ries, *The Lean Startup*: p. 1)*

I mean, they expect the boy genius, is what they expect. You know. What they typically expect is the nerd from school, who everyone thought was bright as a button, but couldn't talk to anybody, has come up with his magic idea, and as if by magic, you know, boom! Wow! And before you know it, he's got his own charitable foundation, he's worth a billion dollars. That's the dream. But, that's... Yes, that's the stereotype, but it's a stereotype that's based on maybe ten success stories? How many startups are there? How many people are trying to tread that path? (Zack, Founder DMCo, Interview)

1.1 Overview

This thesis is about the (gendered) practice of high technology entrepreneurship within a workplace communal setting. There is an assumption, particularly within popular culture, that entrepreneurship is a heroic, individual pursuit undertaken by technically gifted young men working alone in garages or dormitories. This thesis seeks to unpick this assumption, and demonstrate that high technology entrepreneurship is in fact a communal practice, comprised of both technical work and relational work distributed across a community of practitioners, with access to the community (and therefore the practices within) determined by its members. In particular, this thesis will explore how high technology entrepreneurship was done within a coworking site, which was also the former host of an early-stage startup

accelerator programme. The aims are to explain the ways in which the practice of entrepreneurship was enacted through the community of the site; how the community mediated who was included and who was not; and how participants negotiated gender and gender (in)equality within their situated context. By de-centering the entrepreneur, I will show that high technology entrepreneurship consists of more than merely what entrepreneurs themselves do: it is in fact reliant on a great deal of relational work performed by members of an entrepreneurial community. Furthermore, the gendered nature of this relational and care-taking work means that it is typically rendered invisible, and not recognised as work in the way that technical work, for example, is. The purpose of this chapter is firstly to outline the research context, which operates at the intersection of high technology entrepreneurship, community, and gender. Secondly, this chapter will outline the aims of the thesis. Thirdly, I will discuss the contributions made to high technology entrepreneurship and gender literature, and to Communities of Practice theory. Finally, I will set out the structure of the thesis, and provide an overview of its contents.

1.2 The Research Context: High Technology Entrepreneurship, Community, and Gender

High technology entrepreneurship has seen a renaissance in recent years; by market valuation, the top five most valuable companies in the world in 2018 are all technology companies (Shen 2018). Three out of the five of them started life as startups: high-growth new technology ventures (Park 2005). In the UK, Deliveroo became the first startup to reach “unicorn” status – a market valuation of over \$1bn – during its Series E funding in 2016, and is now worth a little over \$2bn since its Series F funding in September 2017 (The Guardian 2017). Recognising the high-growth and high-value potential of technology startups, UK governmental policy is to encourage and support this form of high technology entrepreneurship. The Department for International Trade has officially endorsed a number of accelerators in order to encourage international entrepreneurs to set up in the UK (Gov.UK 2018), and has also launched a number of initiatives to support native entrepreneurs. These

included government investment in the “Silicon Roundabout” district of London, in order to support the development of a technological cluster akin to Silicon Valley (BBC 2010), and also creating and investing in the organisations that have now become the quasi-autonomous non-governmental organisation Tech Nation, whose purpose it is to support technology entrepreneurship across the UK (Tech Nation 2018). Governments see startups as key drivers of regional development (Qian et al. 2012), and there is significant focus on providing the support and resources necessary for these businesses to thrive.

Support for high technology entrepreneurship comes not only from the public sector, but from the private as well. This support comes not only in the form of venture capital firms whose business it is to invest in these companies, but also through the provision of services designed to support and nurture nascent entrepreneurs through the process of creating a startup and new product. Two increasingly popular forms of services include incubators, and accelerator programmes (Bone et al. 2017). Incubators are service organisations whose purpose it is to support new businesses, and provide entrepreneurs with networks of knowledge, skills, and contacts (Hughes et al. 2007; Hughes et al. 2011). Accelerator programmes are short-term, cohort-based programmes that provide entrepreneurs with a structured pedagogic programme focused on startup business administration, rapid product development methodologies, and investor relations (Cohen 2013; Seet et al. 2018). Finally, an increasingly popular option for entrepreneurs is to set up a startup within a coworking space (Van Wheele et al. 2018). Coworking spaces provide entrepreneurs affordable desk space and access to a community of peers, typically within a similar industry, from whom they can learn; share knowledge; and access resources, suppliers, and customers, and networks (Spinuzzi 2015). However, despite the growing trend for entrepreneurs to set up within coworking spaces, to date little research has investigated this (Bouncken & Reuschl 2018).

Table 1.1: Numbers of Coworking Spaces, Accelerators, and Incubators

in the UK 2005-2018¹

Facility Type	Total in 2005	Total in 2018
Coworking space	1	487
Accelerator	0	179
Incubator	60	205 ²

Table 1.1 provides an overview of the growth of these types of facilities in the UK over the past thirteen years. The first coworking space opened in the UK in 2005 (Deskmag 2018); numbers have since grown to nearly 500 in total. In 2005 there were no accelerators in the UK. Seedcamp opened in 2007 and is considered to be the first UK accelerator programme (Seedcamp 2018; Bone et al. 2017). Since 2007 the total number of accelerators has risen to 179 (Entrepreneur Handbook 2018); however, Bone et al. (2017) note that the growth in the number of accelerators has been most pronounced since 2011, with fewer than 20 in service at that time. Incubators have a slightly longer history with the first opening in the UK in 1987 (Bone et al. 2017); however, Bone et al. (2017) note that, again, the majority of the incubators they found were created from 2011 onwards, with 54% started since then.

Research on high technology entrepreneurship has primarily taken a structural approach in order to identify the conditions necessary to create a scalable business model (Cukier et al. 2016). Startups are understood to be engaged in a process of innovation (Park 2005), whereby through trial-and-error they adjust and pivot their strategy and product until they achieve a market fit (Terho et al. 2015). In order to accomplish this, high technology entrepreneurs need access to networks of knowledge, and resources, particularly financial investment. As a result, the analytical focus tends to be on the startup ecosystem itself (Cukier et al. 2016; Van Wheel et al. 2018). To date, research on workplace communities of startup founders is rare; studies in this area demonstrate the importance of peer-to-peer learning (Seet et al. 2018), and some work has begun to discuss the relevance of gender

¹ Sources: Deskmag (2018); CoWorker (2018); Bone et al. (2017); Entrepreneur Handbook (2018)

² Most up-to-date figure is from 2017

within these contexts (Ozkazanc-Pan & Clark Muntean 2018).

The growth in the numbers of services such as accelerators, incubators, and coworking sites suggests that, increasingly, the trend is for high technology entrepreneurship to be done in a communal setting. As Table 1.1 shows, within the UK there has been very significant growth in the number of accelerators and incubators over the past thirteen years, and the number of coworking sites has increased hugely, with entrepreneurs consisting of 20% of coworking space membership (Bouncken & Reuschl 2018). Despite this trend in entrepreneurial practice, there remains a mythos of the “heroic entrepreneur”. As the quotes at the start of this chapter demonstrate, driven by creation stories of startups by a young, gifted genius (exemplified by Mark Zuckerberg, whose creation of Facebook was dramatised in the film *The Social Network*), there is an enduring myth of the young and brilliant startup founder, going it alone, and creating a billion dollar business through nothing but grit and ingenuity. This ties into the popular image of the “heroic entrepreneur” figure more broadly (Ahl 2006), and is an enduring concept within high-technology entrepreneurship in particular (Ozkazanc-Pan 2014). However, as Zack, the founder of one of the startups within this study, argued in the quote earlier, this is the exception, rather than the norm. Startup founders are heterogeneous in nature, and rely on access to networks of knowledge and resources (Ozkazanc-Pan & Clark Muntean 2018). Whilst the heroic entrepreneurial figure is assumed to go it alone, in practice successful entrepreneurs are deeply embedded within social networks and relations that support their work.

This image of the heroic entrepreneur nevertheless remains an attractor for entrepreneurship literature, in that entrepreneurship literature remains focused on the entrepreneur, and what entrepreneurs do. The entrepreneur serves as the physical embodiment of the new venture (Swail & Marlow 2018), whilst the entrepreneur’s context, at the individual, organisational, and societal dimensions, determines what resources they have available, and how they are able to enact entrepreneurial practices (Sarasvathy 2003; Ozkazanc-Pan & Clark Muntean 2018). However, applying a communal lens to

entrepreneurship allows us to de-centre the entrepreneur, and examine how the work of entrepreneurship is distributed through an entrepreneur's communal context. Whilst the entrepreneur might serve as the physical embodiment of the new venture, the work that supports and enables this entrepreneur to engage in the day-to-day practices of entrepreneurship is done not only by the entrepreneur him or herself, but also by local participants within the entrepreneur's community.

Whilst the stereotypical image of the "lone heroic" entrepreneur may not be representative of practice, there is a further dimension that does hold up under scrutiny: the masculine normativity of the image. Critical research on entrepreneurship argues that, rather than a value-neutral phenomenon, it is predicated on masculine norms and assumptions (Ahl 2006; Hamilton 2014). The lone heroic entrepreneurial figure is understood to be a masculine figure (Ahl 2006), and social scripts of the entrepreneur rely on the production of a heroic image: the warrior; the superman; and the explorer (Nicholson & Anderson 2005). These representations are assumed to innately possess masculine characteristics such as daring, bravery, success, ambition, and self-sufficiency (Down & Warren 2008). This is particularly true for high technology entrepreneurs, "whose 'mythic' hero is based on the experiences of young (white) male engineers and computer scientists" (Ozkazanc-Pan 2014: p. 155). The masculine normativity of the heroic startup founder is supported by male structural dominance of the sector: data suggests that women only own roughly 15% of high technology businesses in the EU (Marlow & McAdam 2012), and when it comes to investment, Brush et al. (2018) found that less than 3% of venture-capital backed businesses had a female CEO.

This is further confounded by the symbolic intertwining in the west of technology, and masculinity (Faulkner 2000; Wajcman 2004). Far from being a value-neutral phenomenon, technology, and in particular the IT industry has been coded over time as a masculine domain (Misa 2010). The IT industry has become increasingly gender stratified (Koput & Gutek 2011), and the work done within increasingly divided into a binary of "hard" and "soft" skills,

with hard skills representing technical ability, and soft skills representing relational and non-technical work (Jubas & Butterwick 2008). As Jubas and Butterwick (2008) note, the categorisation of skills as “hard” and “soft” have become coded as masculine and feminine respectively, with “hard” skills assumed to be solidly entrenched and evident, but “soft” skills implies a lack of definition and reliability. Research on the gender stratification of science, technology, and engineering suggests that women end up clustered within “soft”, non-technical positions, whilst men are predominantly found in “hard”, technical roles (Truss et al. 2012). Technical skills enjoy a hegemonic position within the hierarchy of knowledge in the IT industry; as a result of the coding of technical skills as masculine, men enjoy a hegemonic position (Cockburn & Ormrod 1993), as gendered ascriptions pertaining to masculinity and femininity are mapped onto men and women (Bowden & Mummery 2014).

Research on female high technology entrepreneurs has addressed their deficit from two angles. The first has sought to identify barriers to female participation, largely identifying structural issues including the technical skills gap, less access to formal networks of investors and experienced entrepreneurs, and fewer funding opportunities (Kuschel & Lepeley 2016). The second has applied a critical lens to the practice of entrepreneurship itself, arguing that female high technology entrepreneurs are feminised “Others” in practice, and marginalised (Ozkazanc-Pan 2014). In line with critical literature on entrepreneurship in general, which argues that being male allows for a better fit with the entrepreneurial prototype within the masculinised domain of entrepreneurship as a whole (Swail & Marlow 2018), this literature is sceptical of the possibility of transcending gender within the entrepreneurial context. Given the gendering of both technology work and high technology entrepreneurship, this creates a “perfect storm” by which individual, organisational, and societal factors converge to produce ongoing and multiplicative dimensions of gender inequality (Ozkazanc-Pan & Clark Muntean 2018).

To date, little research has applied a gendered lens to the communal practice of high technology entrepreneurship. Accelerators and incubators designed to

support startup founders are increasing in number year-on-year (Hathaway 2016; Bone et al. 2017), but they remain somewhat neglected within academic study (Seet et al. 2018). As increasing numbers of entrepreneurs go through programmes designed to facilitate entrepreneurial learning, it is necessary to understand the extent to which gender norms, and gendered inequality, are being reproduced through these programmes, as entrepreneurs learn from one another what it means to be an entrepreneur, who fits into the practice, and who does not.

1.3 Thesis Aims

The purpose of this study is to better understand high technology entrepreneurship within the incubator/accelerator/coworking site context. Rather than assuming the entrepreneur to be an individual figure, here I understand the entrepreneur as engaging in a communal practice of entrepreneurship. The massive growth of accelerators, incubators, and coworking sites, coupled with the rise of methodologies such as the hugely popular Lean Startup methodology (Ries 2011), are predicated on the assumption that the skills necessary for high-technology entrepreneurship are transferrable and teachable (Seet et al. 2018). It is important to apply critical analysis to the locus of high technology entrepreneurship, taking place as it increasingly is within these communal settings. What are entrepreneurs learning from one another in these settings, and importantly, who gets access to them? To what extent are these sites reproducing masculine norms and values? Who is included in these practices, and whom do they exclude?

Figure 1.1: The Research Context

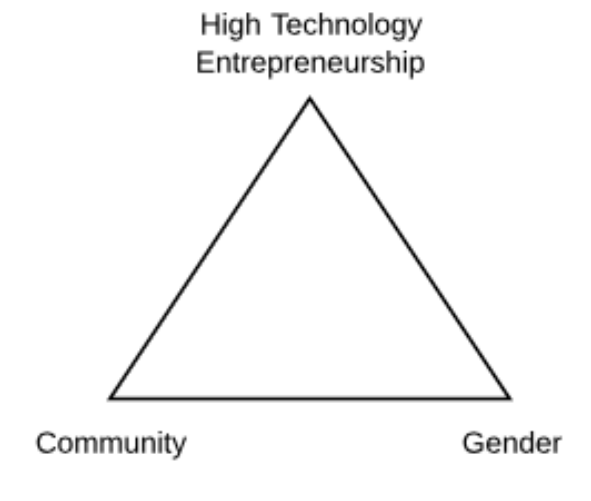


Figure 1.1 sets out the research context of this study. The aim is to apply a situated lens to the practice of high technology entrepreneurship: how is high technology entrepreneurship enacted through socially situated participative actions and interactions, and what is the salience of gender to the ways that high technology entrepreneurship is done within a workplace community?

For the context of this study, “community” is assumed to be more than simply a catch-all term for a group. Whilst in the vernacular, community is frequently used to refer to a group with one or more shared characteristics – for example, a community of startup founders – in this case, it refers more specifically to a social structure, with sets of relations between members of the group, organised around a particular practice, and mutually engaging in it. This study will apply Communities of Practice (CoP) theory (Lave & Wenger 1991; Wenger 1998) to understand the socially situated practices and learning that take place within an entrepreneurial community. Since the introduction of the concept in Lave and Wenger’s (1991) seminal study, it has gained enormous popularity as an analytical tool to understand how organisational learning and innovation happens (Bogenrieder & van Baalen 2007). Whilst application of the theory has tended towards broad-brush instrumentalist approaches in order to develop organisational learning capabilities (Amin & Roberts 2008), the concept offers powerful insight into how engagement in practice transforms participants. Learning is not simply a matter of gaining technical skills, nor is it an unproblematic transfer of knowledge from one

individual to another. Instead, from the perspective of CoP theory, learning is tacit, situational, and constantly ongoing: participants within a CoP are not only constantly learning how to perform the practice, but are also constantly learning from one another what it means to be a practitioner, and how practitioners should look, think, and act (Lave & Wenger 1991).

The findings for this thesis have been drawn from a 31-week long ethnographic study of a coworking site that hosted a number of startups, as well as IT and Digital SMES, and freelance IT, Digital, and Creative workers. Furthermore, this coworking site had previously served as the host of an accelerator programme for early-stage startups, and a number of the startups within this study were alumni of this programme. As will be described in later chapters, the coworking site had a stated mission to support high technology and digital entrepreneurship within the North of England; as such, this made it a highly suitable field site for this research project. As discussed in the previous section, despite the huge growth in the numbers of accelerators, incubators, and coworking sites offering services to high technology entrepreneurs, this has to date received little attention, particularly from a qualitative perspective. This thesis aims to provide both empirical contributions, through a rich, qualitative study of the practices of high technology entrepreneurship within a coworking and former accelerator site, as well as theoretical contributions, through developing CoP theory. As an ethnographic research project, the research design has focused explicitly on the process of becoming part of an entrepreneurial community. This has offered a unique perspective on how the practice is negotiated within the community, how practice is enacted, and processes of inclusion into – and exclusion from – an entrepreneurial CoP.

1.4 Thesis Contributions

In terms of empirical contributions, this thesis contributes to the literature on high technology entrepreneurship in two ways. Firstly, this thesis applies critical attention to the communal dimension of high technology

entrepreneurship. The structural and individual dimensions have been explored in far greater detail within the literature, whilst the meso/communal level has been somewhat neglected. This is important because the communal level is the ontological domain in which structure and agency meet, and are negotiated (Wenger 1998; Fuller & Warren 2006). This thesis demonstrates how entrepreneurial practice is negotiated and enacted through the community of the research site, as participants interact with one another, learn from one another, and continuously negotiate meaning within their situated context. A startup founder's sense of belonging is an outcome of the transformation of the self in relation to the entrepreneurial community.

Secondly, this thesis empirically contributes to our understanding of high technology entrepreneurship as a gendered practice. Through de-centering the entrepreneur, and instead taking the community as the level of analysis, this thesis demonstrates that the entrepreneurs within this study are not the only actors doing entrepreneurial work. Instead, as an entrepreneurial community of practice, heterogeneous participants contribute to this practice in different ways. In particular, the gendering of entrepreneurial practice is made explicit. Technological work, and the work done by entrepreneurs, is recognised and legitimated as entrepreneurial practice. However, relational work, and care-taking work, whilst essential to the on-going production of entrepreneurial practice, are not recognised as such. Women within this research site predominantly performed these forms of work; however, because of the gendered nature of the work, it was rendered invisible. The work necessary to maintain the community's functioning, in the form of nurturing relations within the community, and taking care of the needs of the participants, was not recognised as work. However, this work played a vital function in enabling high technology entrepreneurial practice.

In terms of theoretical contributions, this thesis develops our understanding of CoP theory through the development of a conceptual model to explain processes of inclusion and exclusion. Whilst there has been a prolific output of research using CoP theory, it has tended towards application of the theory (Pattinson et al. 2016), and as a result, development of the theory itself has

been secondary (Bolisani & Scarso 2014). Critiques of the concept have argued that there had been little theoretical development to explain processes of exclusion within a CoP (Jewson 2007). Development of the theory itself has focused on understanding the role of power in relation to both external organisational pressure on the CoP (Pattinson et al. 2016), and the interplay between knowledge, power, and identity (Contu 2014). Current trends investigate multi-memberships of different CoPs, and the ways in which practice takes place over a complex landscape of practice (Wenger-Treyner et al. 2015). To date, theoretical and conceptual development of the concept of exclusion remains neglected. The conceptual model this thesis proposes argues that both the CoP, and the individual, mutually negotiate inclusion and exclusion. I show that inclusion is a result of both being legitimated to participate, and the ways in which a participant feels that they belong. Exclusion as a process occurs not only through gatekeeping practices, where members of the CoP determine who is allowed to join, and who is not, but also through the ways in which a newcomer determines if the CoP appears accessible to them, or not.

Furthermore, this thesis theoretically contributes to CoP theory through the introduction of the “Gatekeeper” role. CoP theory to date has considered the roles of newcomers, old-timers, brokers, learners, and experts; the Gatekeeper is a novel contribution to this. There is a certain degree of similarity with brokers, in that in each case, both roles are engaged in the negotiation of transfer across the CoP’s boundaries. However, the difference is that a boundary agent is a peripheral figure whose role it is to transfer knowledge and information across different CoP boundaries (Wenger 1998). The gatekeeper is responsible for managing the entrance of newcomers to the CoP. The role explains how certain members of a CoP act, either in an official or unofficial capacity, to manage the induction of newcomers into the practice, by assessing their suitability along either explicit or tacit membership criteria.

1.5 Thesis Outline

This final section provides an overview of the remainder of the thesis. Chapter two provides a review of the relevant literature, and the theoretical framework for the research. This chapter examines the literature on high technology entrepreneurship, and in particular defines accelerators, incubators, and coworking sites, and the areas of overlap and difference between them, before discussing the rationale for conducting high technology entrepreneurship within these types of organisation. The chapter goes on to discuss the literature on women in entrepreneurship, and examines what we know to date about women and high technology entrepreneurship, in order to provide the gendered context for the research. Finally, the chapter discusses CoP theory. I provide an overview of the key concepts within the theory, its application to entrepreneurship, and areas for theoretical development. Finally, I provide my research questions arising from gaps within the literature for this project to address.

Chapter three outlines the methodology for the research project. By adopting an ethnographic research design, this provides both methodology and methods for the research. I begin by outlining my ontological and epistemological approach to the research; through an interpretivist approach, this project aims to understand the ways in which we interpret our relations with particular social groups in relation to our sense of self. I describe the methods of data collection and analysis used; and describe the iterative process of analysis through the application of a grounded approach.

Chapter four begins the empirical section of the thesis, and introduces the research site for this project: a coworking site and former accelerator located in a large Northern city in the UK. I provide an overview of the site along the three primary dimensions of a coworking site (Bouncken & Reuschl 2018); its provider, its space, and its membership, in order to introduce the context of the study. The chapter then goes on to discuss the “community” of the site, as the medium through which practice happens.

Chapter five develops the issue of community through addressing the ways in which participation happens at the site. Participation is addressed along a number of dimensions, including temporal, affective commitment, and practice. Members are expected to participate not only in the ways in which work is done on site, but also in the social interactions that are a feature of day-to-day life of the site. It is through sustained and ongoing participation that the community works together, learns together, and understands who belongs.

Chapter six addresses how gender was negotiated by participants, particularly in relation to the practice of high technology entrepreneurship. The hegemonic position of the “boy genius” in particular required negotiation by both the older male entrepreneurs within the community, who could not mobilise this position, and the ways in which the small number of female founders negotiated an entrepreneurial identity is explored. This chapter also examines the work that women within the community did; many of the women were in operations roles, or project or community management roles, and as such their work typically involved relational and care-taking work of their peers, and the community more broadly. The chapter also investigates the masculine norms of the space, and the ways in which the assumed neutrality of an industry that believes itself to be “meritocratic” in fact masks the extent to which masculine norms pervaded the space and community’s practice.

Chapter 7 analyses the empirical findings in relation to the literature. It draws upon CoP theory to develop a conceptual model to explain how inclusion and exclusion take place within the site, and in particular introduces the role of the “Gatekeeper” to CoP theory: a subject position within a CoP whereby they determine who is permitted to join the CoP, and who is not. This chapter also addresses the saliency of gender to high technology entrepreneurship literature; in particular it shows how the gendered relational and care-taking work done primarily by the female members of the community is an important aspect of high technology entrepreneurial practice, but is typically rendered invisible by the hegemonic position of masculine-coded technological work, and entrepreneurial subject.

Chapter 8 concludes the thesis by drawing together the key themes arising from the findings, and highlights both the empirical contributions made to the literature on high technology entrepreneurship and gender, and the theoretical contributions to Communities of Practice theory. It also considers the limitations of the research, and ways in which future research could account for these. Finally it offers a statement on the implications of the research for organisations: as entrepreneurs are increasingly turning to accelerators, incubators, and coworking sites, these organisations need to consider who they are including, and who they are not; the ways in which work within them is gendered; and the extent to which biases come into play during recruitment processes.

Chapter 2: Literature Review

2.1 Introduction

This chapter explores the existing literature surrounding high technology entrepreneurship, and the roles of accelerators, incubators, and coworking sites within this practice. Following this, I explore literature surrounding women, entrepreneurship, and technology, and trace the ways in which both entrepreneurship and technology work have become masculine-coded. The chapter will then go on to discuss Communities of Practice (CoP) theory; the theoretical framework being used to develop our understanding of the communal level of high technology entrepreneurship, and outline the conceptual tools that will be drawn on in the data collection and analysis process.

Each section will also discuss avenues for further inquiry within the extant literature. Research on high technology entrepreneurship has, with few exceptions, neglected the communal domain, at which structure and agency are negotiated. Furthermore, despite the growth in the numbers of accelerators, incubators, and coworking sites catering to entrepreneurs within the last few years, as Table 1.1 in section 1.2 shows, our understanding of what entrepreneurs are learning at these sites is still limited.

Whilst the literature on high technology entrepreneurship and gender has developed our understanding of how entrepreneurship, gender, and technology intersect, and the ways in which women are marginalised by the masculinity of these domains, nevertheless the analytical focus remains on the entrepreneur as the physical embodiment of the new venture. I suggest a community-approach can de-centre the entrepreneur, and allow us to understand how the work of entrepreneurship is distributed across a localised entrepreneurial community.

Finally, I show that despite the academic interest in CoPs, the focus has been primarily instrumentalist application of the theory, rather than conceptual or

theoretical development. I suggest that, following Jewson's (2007) call for better understanding of how exclusion happens within a CoP, critical attention to processes of inclusion and exclusion can develop the theory.

2.2 High-Technology Entrepreneurship

2.2.1 Entrepreneurial Theory

Research on entrepreneurship understands it as activity undertaken by motivated individuals, to bring a new business into creation, in order to exploit an assumed opportunity. Shane (2000) proposed the Individual-Opportunity Nexus as a general theory of entrepreneurship. He defines an entrepreneurial opportunity as a situation in which a person can create a new framework to recombine resources in such a way that he or she believes it may yield a profit. The production of novelty is an important aspect of entrepreneurial opportunity: "an opportunity requires the creation of a new means-end framework rather than just optimising within an old framework" (Shane 2000: p. 18). Building on this, Dutta and Crossan (2005: p. 426) define entrepreneurial opportunities as

a set of environmental conditions that lead to the introduction of one or more new products or services in the marketplace by an entrepreneur or by an entrepreneurial team through either an existing venture or a newly created one.

Entrepreneurship covers a broad range of activities. Whilst the norm has been to examine it in the context of setting up new businesses, a new business is not a necessary prerequisite for entrepreneurship, which can take place in the context of an established organisation (Shane & Venkataraman 2000). Furthermore there is a question over *when* entrepreneurship happens. Katz and Gartner (1988) argue that the study of new organisations had a bias towards the study of *old* new organisations, and tends to ignore organisations in their gestational state (Whetton 1987). McKelvey (2004), applies complexity

theory to entrepreneurship and highlights that before entrepreneurial action takes place, an instigating effect needs to occur: entrepreneurs need to overcome their inertia from merely thinking about entrepreneurship, to doing something. As such entrepreneurship begins before any entrepreneurial action takes place, and a large number of entrepreneurial ventures may stop before they have even begun.

For the purposes of this thesis I am interested in entrepreneurship in *emerged* new organisations. Katz and Gartner (1988) offer a four part framework to identify when a new organisation has come into existence: intentionality, the cognitive intent of the entrepreneur to start a new business; resource acquisition, such as financial and human capital; boundary establishment, which are barrier conditions that define an organisational space, such as incorporation; and exchange, which are intra- and extra-organisational processes by which resources move within, and across, boundaries – for example, sales. New organisations rarely have the resources they need within the organisation's boundaries to commercialise a product and as such need to engage in processes of exchange across boundaries to acquire resources (Aldrich & Martinez 2001). Intent and exchange are both useful mechanisms for identifying the creation of new organisations (Marion et al. 2015).

Entrepreneurial literature has also discussed a diverse range of nations, industries, and types of economy. For the purposes of this thesis, I am interested in a particular form of entrepreneurship: high-technology startups; young business ventures that develop and offer high technology solutions (Kuschel & Lepeley 2016). These are often known both in literature and in entrepreneurial practice as startups, and so the next section will define what is meant by a startup.

2.2.2 High Technology Entrepreneurship in Practice: Defining “Startup”

The term “startup” is one of the terms used within the literature to refer to the

point in an organisation's lifecycle when it is coming into being – other common terms for this phase found within the literature by Carter et al. (1996) are: organisational emergence; preorganisation; organisation-in-vitro; prelaunch; and gestation. Whilst all new businesses could be said to go through a startup phase, the term has come to represent a particular type of business within the IT industry. The use of the term “startup” within the IT industry to refer to this particular form of entrepreneurship is linked to Silicon Valley, and the history of the semiconductor industry. Silicon Valley's semiconductor industry can be traced back to one company in the 1950s, Fairchild Semiconductor (Klepper 2001). Research and development practices within Fairchild, combined with recruitment of scientists with specialised knowledge; investment from universities, military, and private equity; the promise of new technological solutions; and the spinning off of numerous new ventures (Moore & Davis 2004), led to the development of a hub of high-technology ventures in the region (Saxenian 1994). Computing startups co-located alongside the semiconductor firms whose products they relied on, leading to a massive recruitment drive of programmers (Ensmenger 2010), solidifying the Valley as a hub for the both the hardware and software development industries. The development of the internet led to a huge growth of what are now known as “dot-com bubble” startups, in the late-90s (Wheale & Amin 2003). Yahoo is one of the surviving members of the “dot com” startups. Whilst that bubble burst, Silicon Valley remains an extremely important hub for software and web-based startups.

A startup is a new high-technology venture that aims to develop knowledge of emerging commercial opportunities, or advances in technology, and combine this with an entrepreneur's (or entrepreneurial team's) existing technical and commercial knowledge into a profitable market opportunity (Cooper & Park 2008). Use or investment in new technology is a key part of a startup's product development, production or marketing strategy (Park 2005), and are oriented towards producing cutting-edge products (Giardino et al. 2014a). A particular focus of these types of business is high growth, and the creation of a scalable business model (Cukier et al. 2016). They tend to have little market exposure, relatively low overheads, operate in uncertain environments, and

have high failure rates (Lasso et al. 2017). Whilst a range of terms exist in the literature for these types of company, including “New High-Technology Ventures” (Kuschel & Lepeley 2016); “High Technology Small Firms” (Oakey 2003); “New High-Tech Firms” (Anderson et al. 2007); “High-Tech Startups” (Park 2005), and “Tech Startups” (Lasso et al. 2017), the preferred term within the IT industry is simply “startup”. Two of the most popular practitioner texts include Blank and Dorf’s (2012) *The Startup Owner’s Manual* and Ries’ (2011) *The Lean Startup*.

Whilst there is no one single academic definition of a startup, there are four main dimensions commonly explored in the literature that typify these types of entrepreneurial organisations. Startups are: sites of (rapid) technical innovation; geared towards entrepreneurial learning; growth oriented; and are (usually) located within an entrepreneurial ecosystem. Each of these will be discussed below.

2.2.2.1. Startups as Sites of Technical Innovation

Innovation is the process of both developing *and* implementing a new idea (Van de Ven et al. 1989). The process of innovation is typically characterised as highly uncertain and dynamic (Kanter 1988), and proceeds in an improvised manner (Adomako et al. 2018; Seo et al. 2017). An organisation’s innovative capabilities are viewed on a spectrum from incremental, to radical (Subramaniam & Youndt 2005). Incremental innovation is the ongoing improvement and development of processes, products and services, whilst radical innovation is the introduction of completely new and original processes, products and services. Successful technical innovation requires embracing technology diversification, and continually evolving the technology with market or customer needs (Park 2005).

As Cooper and Park (2008) state, a startup aims to either operationalise advances in technology, or to apply existing technology to an emerging commercial opportunity. Innovation and entrepreneurship are understood to

be intimately linked (Sahut & Periz-Ortiz 2014; Shane 2012). High technology entrepreneurs, or startup founders, aim to create a firm to serve latent needs of customers through technical development of products or services that will provide competitive advantage (Beckman et al. 2012). They can do this through either explorative, or exploitative, innovative trajectories (Ireland and Webb 2007; Suarez 2014). Exploitative trajectories involve startups pursuing enhancements, modifications, or cost advantages of existing products or services through incremental innovations. Explorative trajectories of innovation involve startups pursuing technological leadership in their markets through radical innovations. The more knowledge-intensive the startup is, the greater the uncertainty (Singh Rao et al. 2008); however, they typically have an expectation of higher growth as a radically innovative new product or service should enjoy high returns (Ulhøi 2005).

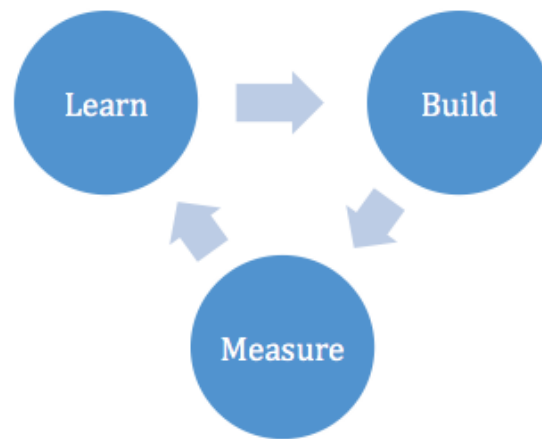
In the practitioner literature, explorative/radical innovative capabilities are referred to as a startup's "disruptive" capabilities (Ries 2011); a term taken from Christensen's (1997) research on innovative technologies. Disruption in Christensen's research refers to a new type of technology's ability to surpass an established form – the personal computer was a disruptive form of technology that overtook mainframe computers, for example. The use of the term has expanded to include not only technologies, but business models, and products and services (Markides 2006). Uber is an example of a technology startup that disrupted an industry; in Uber's case, the taxi industry (Cramer & Judd 2016). Uber have created a platform that connects self-employed drivers with passengers through a smart phone application. Rides are hailed through the mobile application, and payment is taken through it. Uber then take a percentage of the fare as a service charge. Whilst not all startups will be disruptive, their economic potential makes them highly desirable; Uber for example has received over \$21 billion in investment (Crunchbase 2018), making it one of the most successful "unicorn" startups – a term applied to startups valued at over \$1bn. Startups are an organisational form dedicated to innovation through entrepreneurial practice, and the driving force of entrepreneurial innovation are processes of learning (Cheng & Van de Ven 1996).

2.2.2.2 Startups and Entrepreneurial Learning

Entrepreneurial learning is often linked to technical innovation; as stated above, innovation is not a linear process but is improvised. Entrepreneurial learning is the mechanism by which this improvisation takes place, as entrepreneurs figure out what works and what does not (Van de Ven et al. 1989). Cheng and Van de Ven (1996) in their study of innovation in startups show that entrepreneurial learning is a complex process, where acts undertaken can be modelled as learning experiments. A successful experiment (trying something and it works) sets up a positive feedback mechanism, where future actions are rooted in what they have learned. An unsuccessful experiment sets up a negative feedback mechanism. Entrepreneurs have to learn not only what works technically, but must also learn how to run their business. The skills needed to successfully create and run a new business are gained through experience (Starr and Bygrave 1991), as entrepreneurs develop the human knowledge capital necessary for business ownership and entrepreneurship through their entrepreneurial journey (Ucbasaran et al. 2008). Prior experience can come both from previous entrepreneurship (Sarasvathy et al. 2013), and waged employment: the majority of new firm owners move from employment to self-employment (Greenman 2012).

Within the practitioner literature, startups are considered to be hypothesis-testing machines (Ries 2011). Ries models the startup founder's learning process as a three-stage loop: Build – Measure -> Learn (BML).

Figure 2.1: The BML Loop. (Adapted from Ries (2011))



Ries (2011) argues that startup founders start with a hypothesis, which relies on a number of assumptions. They start by building a “Minimum Viable Product”, or MVP, during the “Build” phase. This is a product with just enough functionality to get people to use it. The next stage is the “Measure” phase, where the founder gathers data on how the product is being used. The final stage is the “Learn” stage, where the founder analyses the usage data, to determine what users are doing, how they are doing it, and what changes are needed. The founder then uses this knowledge to repeat the cycle; they rebuild the product with new functionality, release it, measure it, and learn from this latest iteration.

Ries cites his knowledge of the Toyota Production System (TPS) as the basis for this approach. TPS is rooted in the work done by statistician Walter Shewart, and his work on statistical process control methods. He applied the scientific method to production control, arguing that the manufacturing control process of specification, production, and inspection was analogous to hypothesis, experiment, and evaluation (Shewart 1939). This work was introduced to the Japanese in the 1950s by William Deming, and was adopted by a number of large manufacturers, including Toyota (Noguchi 1995). In particular, Deming championed the use of what he called the Shewart Cycle, based on his adoption of Shewart’s methods (Deming 2000).

Figure 2.2: The Shewart Cycle. (Adapted from Deming (2000)).

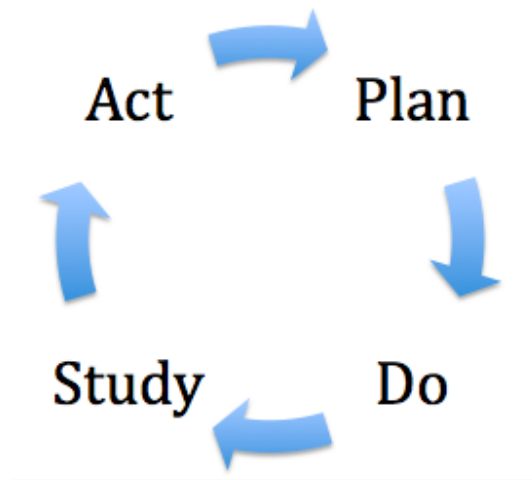


Figure 2.2 shows the Shewart Cycle, otherwise known as the PDSA cycle. The first stage of the process is Plan, whereby one determines what needs to be done. The next stage is Do, where the changes are made. The third stage is Study, where statistics are gathered. The final stage is Act, where necessary changes are identified and acted upon. The cycle is iterative. Whilst this is a four-step process rather than three, there is a clear overlap with the BML loop; “Plan” and “Do” have been elided into “Build” in the BML loop. “Study” is analogous to “Measure”, whilst “Act” is replaced with “Learn” in the BML loop, but the intent is the same: determine what actionable changes are necessary. The use of this cycle in innovation processes therefore enables learning (Martensen 1999).

Ries argues that this methodology is the basis of the “lean startup”. Lean is also a term taken from manufacturing process controls systems; a lean system considers anything which does not add value to be waste, and focuses on minimising waste during processes (Womack et al. 1990). Ries (2011) determined that the primary waste in software and web development was the time spent building the product, as many features would not be useful to customers. As a result, the use of an MVP minimises this waste: by developing the bare minimum needed to launch a product or service, the founder can then test in real-world situations how the product is used, and rely on customer feedback to guide on-going development (Blank 2013). Ries (2011) says that at the “Learn” stage, there are two broad actions a founder

can take, based on what they have learned: persevere with their current product, and continue making minor adjustments; or pivot, and make major and substantial changes, as in its current form the product is not meeting customer needs. Startups, particularly during their early stages, pivot their strategies and products until they achieve a market fit (Terho et al. 2015). Ries (2011) is extremely widespread within startups; Van Weele et al.'s (2018) study of startup communities found that the concept of the lean startup was widely used by founders; likewise, Seet et al.'s (2018) study found the concept was taught to entrepreneurs in an Australian startup accelerator.

The lean approach to startups has a strong synergy with the use of agile software development methods (Giardino et al. 2014b). Agile development methods rely on an iterative software development lifecycle consisting of short stages of development, rapid deployments, and flexible responses to change requests (Lee & Weidong 2010). Startup founders, through adopting agile techniques and lean methodologies, seek to rapidly develop, test, and iterate their technology, in order to develop a new product within an accelerated time frame.

Through the on-going process of iteration and testing, startup founders develop validated learning (Bajwa 2017). Validated learning refers to knowledge gained through empirical testing done in this manner; from Cheng and Van de Ven's (1996) perspective, validated learning is a successful experiment that sets up a positive feedback loop. The iterative nature of this scaffolds the entrepreneur's learning process, and directs it towards specific goals (Rigolizzo & Amiable 2015). These learning cycles guide the process of innovation within a startup as founders develop their business model (Ravarsi & Turati 2005).

The focus on entrepreneurial learning has largely taken a functionalist approach to the topic, and as Wang and Chugh's (2014) review shows, it examines it along three key domains; "know-what", "know-how", and "know-who" (Gibb 1993; 1997). "Know-what" and "know-how" are processes of developing knowledge and experience, whilst "know-who" is understood in

terms of developing ties, networks, and building social capital (Gedajlovic et al. 2013). The startup form has been explored in the literature for how it enables “know-what” and “know-how” through validated learning; the lean startup method allows entrepreneurs to pivot towards a successful business model as they learn through experimentation what works, and how to do it (Seet et al. 2018). A startup’s “know-who” capabilities are determined by their relations within an entrepreneurial network (Blomquist & Imel 2015), and a key feature of settings such as accelerators, coworking sites, and incubators are to develop these “know-who” relations (Seet et al. 2018). However, as Ozkazanc-Pan and Clark Muntean (2018) show, these “know-who” relations are typically highly gendered, with women lacking the strong ties within their networks, which male entrepreneurs tend to have. This will be discussed further in section 2.3.4.

2.2.2.3 Startups and Growth

Within the literature there is a distinction between stable, established industries, and new and evolving industries: Leten et al. (2016) refer to these as “Schumpeterian” industries, characterised by fast changes in products, technologies, customers, and competitors. Porter’s (1998a) work within strategy suggests that the high barriers to entry within established industries makes them unsuitable areas for startups, whilst the high growth potential within emerging industries, and lower barriers to entry, makes these industries more attractive to startups, due to their growth-oriented nature (Cukier et al. 2016), and focus on emerging technologies (Giardino et al. 2014a). Whilst not all entrepreneurs are growth-oriented, and may be motivated by lifestyle factors instead (Davidsson & Henrekson 2002), both academic and practitioner literature agree that high growth is a common goal of startups (Cukier et al. 2016; Ries 2011). There are two common methods to support rapid startup growth: firstly, venture capital (VC) funding; and secondly, accelerators.

Venture capital funding refers to a type of private equity investing, and Jeng

and Wells (2000) suggest that, in the small firm context, there are three types of investing: seed, startup, and expansion. Seed capital is initial finance that a newly created firm will secure to fund initial product research and development. Startup capital is targeted at companies that have moved past the idea stage and are looking to produce, market, and sell their product or service - Jeng and Wells (2000) note that, at this stage, the company is still using more cash than they generate. Expansion capital is sought when a company has established itself in the market, but needs to further capital to fund growth, and scale up their operations. Startups are more likely to seek venture capital than bank finance, due to the risks inherent to this form of entrepreneurship (Cosh et al. 2009).

Venture capital financing provides startups with cash and complementary resources (Chang 2004); and can also provide the new venture legitimacy, by signalling that the startup is worth investing in (Chang 2004; Singh Rao et al. 2008). Bertoni et al. (2011) argue that VC-backed startups are more likely to outperform non-VC backed startups for three reasons: firstly, startups are likely to be financially constrained, so VC funding provides necessary finance; secondly, VC investors will monitor startups they have invested in and provide coaching to them; and thirdly, VC investment acts as a quality signal to third parties. As such VC investment provides startups with resources beyond merely the cash itself, which might otherwise be out of reach (Lindsey 2008). VC-backed firms grow revenues faster than non-VC backed firms (Puri & Zarutskie 2012). Whilst there is generally a positive relationship between VC funding and firm performance (Manigart & Wright 2013; Gilligan & Wright 2012), performance tends to focus on growth rather than profitability (Davisson et al. 2009). Fraser et al. (2015) argue that this is because VC-backed firms, particularly in technology markets, take time to build into profitability.

A more recent, but increasingly popular, method of achieving growth is to take part in an accelerator programme. Cohen (2013: p. 19) defines accelerators as follows:

accelerator programs are programs of limited duration—lasting about three months—that help cohorts of startups with the new venture process. They usually provide a small amount of seed capital, plus working space. They also offer a plethora of networking opportunities, with both peer ventures and mentors, who might be successful entrepreneurs, program graduates, venture capitalists, angel investors, or even corporate executives. Finally, most programs end with a grand event, a “demo day” where ventures pitch to a large audience of qualified investors.

Cohen and Hochberg (2014) refine this definition to four key elements: they are fixed-term; cohort-based, mentor-driven; and culminate in a graduation or demo day. Accelerators typically take a fixed percentage of equity in the startup, and in return provide them with seed capital, working space, and education (Cohen 2013). Hathaway (2016) demonstrates an enormous growth in the number of accelerator programmes in the USA: the first launched in 2005, and by 2015, the number of active accelerators had grown to 172. He notes that these accelerators had invested in more than 5,000 US-based startups, with a median investment of \$100,000, and to date those companies have raised a total of \$19.5b during this period, or an average of \$3.7m per company. Whilst he acknowledges that this number does include so-called “unicorn” companies - companies that have raised over \$1b - the median valuation of companies that had raised additional venture capital after graduating from their accelerator program was \$15.6m. Whilst Hathaway’s (2016) study focuses on the USA, accelerators are becoming increasingly popular in the UK: as of April 2018 there are currently 179 accelerators active in the UK (Entrepreneur Handbook 2018).

Accelerator programmes not only provide seed funding, but also provide entrepreneurial learning, using a variety of pedagogical techniques to deliver content to entrepreneurs (Maritz and Brown 2013). Seet et al.’s (2018) study of startup founders in an Australian accelerator shows that taking part in an accelerator programme enhances an entrepreneur’s “know-what”, “know-how”, and “know-who” (Gibb 1993; 1997) capabilities. Seet et al. (2018)

identify “Know-who” as the core component for enhancing entrepreneurial learning; an accelerator not only provides a startup with access to mentors, experts, and investors, but also to a network of peers, enabling peer-to-peer learning and sharing of experiential knowledge: “by knowing ‘who’, participants learnt ‘what’ and ‘how’” (Seet et al. 2018: p. 252).

However, despite the rise of accelerator programmes (Hathaway 2016), relatively little research has been done into them (Cohen 2013; Seet et al. 2018), and little is known about what is learnt during such entrepreneurial educational programmes (Maritz and Brown 2013).

2.2.2.4 Startups and Entrepreneurial Ecosystems

The tendency for knowledge-intensive firms to cluster together has been well explored in the literature; Silicon Valley is one of the archetypal examples of how and why clustering together can be a source of advantage (Saxenian 1994; Porter 1998b). Similar clusters can be found in Tel Aviv, Israel (Trajtenberg 2001), and Cambridge, UK (Huber 2012). These clusters are advantageous for two reasons; firstly, startups often spend significant periods of time in negative cashflow. Whilst startups are able to initially create their product rapidly due to the focus on getting products to market as quickly as possible (Shih 2004), sales activity, and particularly profitability, often occurs far later in the venture’s lifecycle. Therefore, for startups to maintain operating during extended periods of non-profitability whilst research, development, testing, integration into the market and pursuit of a profitable business model in on-going, access to a resource-rich ecosystem (including financial and human capital) is necessary (Saxenian 1994). Within the practitioner literature, Boulder in Colorado is used as an exemplar of an entrepreneurial startup ecosystem, and Brad Feld, one of the co-founders of the Techstars accelerator located there, argues that it is possible to develop an entrepreneurial ecosystem to support startups in any city (Feld 2012).

Within the literature these entrepreneurial clusters have been described as

both entrepreneurial communities, and entrepreneurial/startup ecosystems. Following Moore (1993), the use of the term “ecosystem” refers to a firm’s external environment, and the literature has developed from a broad range of backgrounds, including business strategy, economic geography, and regional policy (Malecki 2018). Research on ecosystems tends to identify key components of the ecosystem, and then map the interconnectivity of these components: the core components include networks of entrepreneurs, leadership, finance, talent, knowledge, and support services. Both the presence of these components, and the interaction between them, determine the success of the ecosystem (Stam 2015). A successful ecosystem will be identified by its capacity for entrepreneurial spawning (Gompers et al. 2005): clusters of startups tend to continue spawning further startups, because employees working in extant startups are able to learn from co-workers what is needed to start a firm, and can easily take advantage of the ready exposure to a network of suppliers and customers. This would produce what Minniti (2005) calls a self-replicating culture of entrepreneurship within the ecosystem.

Malecki’s (2018) review of the literature shows that the definition of entrepreneurial ecosystems varies between different studies, although common elements include institutional, organisational, political, economic, and cultural factors, as well as physical infrastructure. The ecosystem is also a fundamentally spatial concept (Mayer 2013); however, the scale of the space is unclear. Of the studies Malecki (2018) cites, only two provide a concrete spatial definition of an ecosystem: Cukier et al. (2016) define it as a limited region within 30 miles, or a one-hour drive; whilst Gauthier et al. (2017) define it as a shared pool of resources generally located within a 60-mile radius of a centre point. This suggests that an ecosystem is a broad concept at a more macro level, and presumably encompasses an entire city or region; for example the city of Lahti in Finland (Aula et al. 2008); New York (Cukier et al. 2016) and Seattle (Mayer 2013) in the USA; Adelaide and South Australia in Australia (O’Connor & Reed 2015); London in the UK (Schäfer 2017); and so on.

Alternatively, clusters have been described in terms of entrepreneurial communities. However, again, it is not clear at what scale these communities operate: as Van Weele et al. (2018) show, the concept of a startup community has been applied to coworking spaces, incubators, science parks, cities, rural areas, and regions. It is also not clear who is included in the community; some only consider the entrepreneurs or founders themselves (Bøllingtoft and Uihøi 2005), whilst others, as with the ecosystem approach, consider mentors, VC investors, and service providers, to be part of the community (Blomquist & Imel 2015). As with startup ecosystems, the underpinning assumption of the communities-based approach is that startups in a similar industry locating close to one another should allow for synergies among the entrepreneurs (Hughes, Ireland & Morgan 2007), and in so doing achieve collective goals (Van de Ven et al. 2007). However, a key difference in the communities-based approach is that, unlike with the ecosystem approach, which assumes the spatial dimension to be the key enabler for replicating entrepreneurial culture, the communities-based approach does not assume that merely co-locating together will guarantee the emergence of a startup community (Bakouros et al. 2002; Huber 2012; Schwartz & Hornych 2010). As such, there is a need for further study to identify *how* a community is formed within a spatial cluster of startups, as this has been so far largely unexplored (Van Weele et al. 2018), in order to determine how a startup community produces a self-replicating culture of entrepreneurship (Minniti 2005).

2.2.3 High Technology Entrepreneurship within Workplace Communities

An observed trend over recent years has been the high growth of accelerators, incubators, and coworking sites, which cater to entrepreneurs, in particular startup founders (Hochberg 2016; Bone et al. 2017; Bouncken & Rouschel 2018). However, part of the problem is that these terms are often used somewhat loosely and interchangeably (Bone et al. 2017). The purpose of this section is two-fold. Firstly, I will compare and contrast the differences between these different organisational forms. Secondly, I will discuss the role of community within these sites, and how learning is enacted

through communal exchange.

2.2.3.1 Comparing and Contrasting Incubators, Coworking Sites, and Accelerators

As discussed earlier, research on ecosystems and clusters typically takes a very broad geographic frame. These can vary in scale from a university science park, to a city district, to a city, to an entire geographic region (Van WHEELER et al. 2018), and are primarily spatial phenomena (Mayer 2013). Research has examined the ways in which these clusters build up over years (Porter 1998b), and the networks within the cluster (Saxenian 1994). Furthermore, these are not managed; whilst regional or national policy might support the overall development of the cluster (Feldman & Francis 2003), there is no unified day-to-day management of the cluster's operations. Instead, clusters are beneficial because of the economies of scale and scope they provide, and the resources available within their networks that support development of new businesses and technologies (Porter 2000). This section will instead discuss incubators, coworking sites, and accelerators, which typically host co-located businesses.

Table 2.1: A Comparison of Incubators, Coworking Sites, and Accelerators³

	Incubator	Coworking Site	Accelerator
Space	Single worksite. Managed office space for tenants, communal meeting rooms	Single worksite. Open plan workspace. Communal areas for member use	Single workspace, often hired for duration of programme. May be held in an incubator or coworking space.
Form of Membership	Tenancy: 6 or 12 month contracts common; longer term might be 1-5 years	Membership: pay a daily/monthly fee to access the space	Cohort membership: recruited onto programme in a cohort; investment package often included
Time	Typical full-time tenancies are 6-12 months. Publicly funded incubators tend to offer longer term contracts, up to 5 years	Flexible membership; contracts run on a rolling basis, and might be part- or full-time	Short-term by nature. Three month programmes are the norm
Resources	Office space; facilities; support services; advisory services; networking; mentoring	Coworking space; office infrastructure; enhanced social interaction; organising platform for communal activities	Investment; structured pedagogic programme; mentorship; access to alumni network; networking; access to investors
Onsite Management	Yes; staff manage the day-to-day operations of the incubator	Yes; the space provider manages the space and the provision of resources	Yes; accelerator directors recruit cohort members and oversee the programme throughout its duration.
Purpose	Concerted, systematic effort to nurture new firms during the early stages of their development	Provision of affordable working space and sense-of-community to self-employed workers and SMEs; informal learning and collaboration	Short duration, cohort-based programmes to rapidly develop new businesses in an accelerated time frame

³ Sources: Van Wheel et al. (2018); Bruneel et al. (2012); Clarysse et al. (2015); Cohen (2013); Grimaldi & Grandi (2005); Hochberg (2016); Pauwels et al. (2016); Richter et al. (2018); Spinuzzi et al. (Forthcoming); Theodorakopoulos et al. (2014); Hackett & Dilts (2004); Bouncken & Reuschl (2018), Bone et al. (2017); Seet et al. (2018); Schwartz & Hornych (2010); Garrett et al. (2017)

Table 2.1 provides an overview of the similarities and differences between incubators, coworking sites, and accelerators. There is a certain degree of overlap; each typically operates from a single location, commonly a single building. These organisations are typically managed, and provide resources for their members to support them.

However, there are also key areas of difference. Incubators tend to operate on medium-to-long term tenancies for members, and focus particularly on providing office space, infrastructure, and access to professional networks, in order to systematically nurture new firms during the early stages of their development (Theodorakopoulous et al. 2014). Coworking sites focus on providing a sense of community to members (Garrett et al. 2017), and are far more flexible in their membership durations: the focus is on providing a social dimension to the work done by its primarily freelance worker and SME business members (Bouncken & Reuschl 2018), as well as supporting unstructured learning, collaboration, and innovation (Parrino 2015). Accelerators are cohort-driven, temporary programmes that typically run for three months or less (Cohen 2013). The purpose is to provide a structured pedagogic programme to nascent entrepreneurs (Seet et al. 2018), support peer-learning, and provide access to networks of investors (Ozkazanc-Pan & Clark Muntean 2018). Given that the organisation that provided the empirical findings for this thesis was a coworking site, and had also acted as the host of a number of accelerator programmes (see chapter 4 for details), I will describe the benefits and values of coworking sites and accelerators to high technology entrepreneurs.

2.2.3.2 Community and Entrepreneurial Learning in Coworking Sites and Accelerators

As shown in Table 1.1 in section 1.2, there has been very significant growth in the number of accelerators and coworking sites in the UK since 2005. This section will discuss two important outcomes of coworking sites and accelerators. Firstly, I will discuss the role of the community in coworking sites, and the role of

community in entrepreneurial learning. Secondly, I will discuss the function of Accelerators in entrepreneurial learning, and provide an overview of what the nascent literature says.

Coworking is a relatively new phenomenon; as a term applied to a style of working it was first used by Brad Neuberg, who founded a coworking space in San Francisco in 2005 (Parrino 2015). He founded the space as a third option for workers who did not want to either work at home by themselves, or working at an office in a company. The former offers an individual worker independence, but may also produce loneliness; whilst the latter provides community and organisational structure, but the workers lose freedom and autonomy (Jones et al. 2009). A coworking space is therefore the third option in between these two choices; a place where a worker can go to and work alongside other coworkers, and access a social group and community, whilst also maintaining autonomy without being employed by that workspace.

Deguzman & Tang (2011: p. 22) define coworkers as “a diverse group of people who don’t necessarily work for the same company or on the same project, working alongside each other, sharing the working space and resources”. Garrett et al. (2017: p. 822) explain that coworkers “pay a monthly fee to share a space with other freelance/remote workers with an explicit purpose of social belonging[...] coworking provides both a stable, functional work atmosphere and membership in a social community”. Coworking is therefore the practice of working in this way; of accessing a site where you can work on your own work alongside other freelance or self-employed workers, and other small businesses, whilst participating in the social community that access to the site provides.

The two core elements of coworking, therefore, are firstly that it is a way of doing work, and secondly, that it is a way of doing community. Garrett et al.’s (2017) study of WelCom, a coworking space in the USA, highlights that a primary purpose of a coworking site is to produce and maintain a sense of community

amongst the workers sharing the space as they go about their work. Coworking spaces are typically accessed by workers in the knowledge economy, to communally create knowledge and benefit from it (Spinuzzi et al. Forthcoming). These spaces allow communication and collaboration to occur easily across organisational boundaries throughout the community (Spinuzzi 2015). Bilandzic and Foth (2013) divide coworking members into three categories: Utilisers, who take advantage of the infrastructure of the workspace; Learners; who access them to acquire knowledge, attend events, and engage in peer-exchange; and socialisers, who search for recognition and a sense of community in coworking spaces. Utilisers are primarily accessing the site to take advantage of it as a site of work, whilst learners and socialisers are accessing the site to take advantage of its community.

Bouncken & Reuschl (2018) categorise coworking sites along three primary dimensions: the provider; the space; and the membership. The nature of the provider, including whether it is a public or private institution, whether it is for- or not-for-profit, and whether the providers depend on other institutions or other organisations can dramatically affect the organisation of the space. The provider is usually in charge of determining who the space is for, and what membership criteria are in place. The space of a coworking site is also a common theme for analysis; literature on this has looked at the ways in which the space is designed to create an engaging working atmosphere, as well as providing opportunities for encounters between members, in order to generate social or collaborative interactions (Jakonen et al. 2017). Finally, the membership base comprises the majority of the community; membership may be restricted to particular occupations, or types of workers (such as freelancers, or entrepreneurs), and members play a vital role in the coproduction of the sense-of-community within the space (Garrett et al. 2017).

The importance of community to coworking is well established in the nascent academic literature on the topic, as Spinuzzi et al. (Forthcoming, p.6) show:

Table 2.2 The Use of the Term “Community” in Coworking Studies⁴

Author(s)	What they say about community
Capdevila (2015)	“one of the most important features [of a coworking space is] the focus on the community and its knowledge sharing dynamics” (p.3)
Capdevila (2014)	“coworking is about creating a community” (p. 14)
Fuzi (2015)	coworking spaces are “collaborative work environments, [each of which] provides community” (p. 465)
Parrino (2015)	“The concept of community refers to the possible relational implications of the co-location of workers within the same space and emphasises the role of coworking as a work context able to provide sociality to coworkers” (p. 265)
Kubátová (2014)	“[Coworking] gives rise to a professionally heterogeneous community which enables development of informal relations, sharing knowledge, and increasingly also standards and values similarly to what happens at a normal workplace within an organisation” (p. 1)
Merkel (2015)	<p>“a collective, community-based approach to the organisation of cultural and creative work” (p. 124)</p> <p>"While the service provider concentrates on the work aspect associated with facilitating a good work environment and providing attendant services, the visionary host is more concerned with enabling the ‘co’ aspects of coworking such as communication, community and collaboration among the coworkers” (p. 124)</p>
Leclercq-Vandelannoitte	"Coworkers tend to co-create a sense of community” (p. 6)

⁴ Adapted from Spinuzzi et al. (Forthcoming)

& Isaac (2016)	
Holienka & Racek (2015)	“[The] community character of coworking is visible in the willingness of members to help each other within their expertise” (p. 32)

However, Spinuzzi et al. (Forthcoming) also point out that, for the most part, the term “community” is used uncritically, and without definition, within the literature. A notable exception is Garrett et al.’s (2017) paper, examining a coworking site in the USA, which looks explicitly at defining the notion of “community” in coworking. They rely on both Bellah et al.’s (1985: p. 333) definition of community as “a group of people who are socially interdependent, who participate together in discussion and decision making, and who share certain practices that both define the community and are nurtured by it”, and McMillan and Chavis’ (1986) notion of a psychological sense of community, which consists of four properties: membership, influence, integration, and emotional connection.

Despite the lack of critical engagement with the concept of community, nevertheless the literature agrees that coworking sites act as a nexus of community, trust, and learning, and that entrepreneurial performance might be improved through drawing on the social network capital present (Bouncken & Reuschl 2018). The growth in coworking sites represents the value of being part of a community. Whilst initial academic focus was on the social functions of coworking sites (Deguzman & Tang 2011), it has since explored the ways in which community enables collaboration (Spinuzzi 2012), the role of proximity in knowledge-exchange (Parrino 2015), and the extent to which coworking site providers commodify community as a source of collaboration and learning (Jakonen et al. 2017).

Spinuzzi (2012) was one of the first studies to attempt to theorise the practice of collaboration within coworking sites. Through a twenty month study of coworking spaces in the USA, he examined how coworking sites function as nexuses of

networked activities. He theorises that coworking collaboration is the outcome of members from diverse, but overlapping, occupational communities forging connections through both their working and social practices within the site, and as a result are able to create temporary assemblages through their networked creations to solve problems that arise either internally (such as a problem faced by a coworking member) or externally (such as the discovery of an external opportunity that no one coworking member can exploit alone). He argues that inter-organisational and cross-disciplinary collaboration and knowledge exchange is the likely outcome of coworking.

Parrino (2015) examined the knowledge exchange capabilities of coworking sites. He compared two sites, one of which only provided a shared workspace, whilst the other provided both a shared workspace and an organising platform to build synergies amongst coworkers: an online social network, events, management staff, and communication and collaboration tools. Within the shared-workspace-only coworking site, he found little evidence of coworkers socialising together, collaborating together, or engaging one another in customer-supplier relationships. On the other hand, in the coworking site that provided an organising platform to support a community within, he found recurrent interactions between coworkers, frequent socialising behaviour, collaborative relationships, and the members helped one another access new customers and suppliers within their own networks. Parrino (2015) argues that this contradicts the assumption that a coworking site is a “natural” space for collaborations and interactions, and an element was needed to promote and stimulate these behaviours.

In a similar vein, Jakonen et al. (2017) examine how community is mobilised to commodify the encounters of coworking members, in order to facilitate knowledge sharing. They argue that the “value of coworking spaces is thus seen not only in the desk space they offer but in a new kind of open workspace that is based on a community of heterogeneous people encountering each other

serendipitously” (Jakonen et al. 2017: p. 236), and explore the ways in which three different coworking spaces are managed in order to provoke these serendipitous encounters. These encounters are considered especially important for knowledge economy workers, and coworking sites are understood as knowledge exchange clusters (Capdevila 2013). In this way the coworking site functions as a focal point for precarious workers to find people and ideas, who would otherwise lack the information necessary for coordination (Potts & Waters-Lynch 2016).

The function of a coworking site as a cluster for knowledge exchange has implications for innovation. Knowledge exchange and innovation are assumed to be social practices (Amin & Roberts 2008), and Cabral and van Winden (2016) examine how coworking sites enable “open innovation” (Chesbrough 2003); that is, the role that external actors play in a company’s innovation capabilities. Cabral and van Winden (2016) identify four strategies by which coworking sites can enable open innovation: management acting as connector, by which the management of a coworking site connects members to other members; regulating the mix of workers, by which membership and access is managed to ensure diversity in backgrounds and skills, but within a broadly similar sector; designing for interaction, by which the physical layout of the space enables interactions and the formation of networks; and providing tools for networking, such as organised events. One of the outcomes of these strategies identified in the coworking space they studied was a collaborative project whereby a new product was developed and marketed by two of the companies within the space.

The literature on coworking to date highlights that membership of coworking site is dominated by workers within the knowledge economy, and typically include self-employed workers, and SMEs. However, coworking sites also attract significant numbers of entrepreneurs. Citing data from an international coworking survey, Bouncken & Reuschl (2018) suggest that, globally, around 20% of coworking site members are entrepreneurs. Coworking sites offer potential

benefits to entrepreneurs because of their capacities for knowledge sharing and innovation practices: the coworking space can act as an incubatory environment where founders can draw upon networks of knowledge, skills, and contacts (Hughes, et al. 2007). Furthermore, coworking sites can provide links to incumbent firms (Hughes et al. 2011); these links can both support an extant entrepreneur, and provide necessary prerequisites for entrepreneurial spawning (Gompers et al. 2005) through providing employees and self-employed workers with access to the social and knowledge capital necessary to start a new business.

However, to date, very few studies have looked at entrepreneurs within coworking spaces. Lumley (2014) provides an exploratory study of an attempt to set up an entrepreneurial coworking site within a small library on a university campus, in order to demonstrate the value of entrepreneurship to their students. Her library attempted to set up a coworking space and invited local entrepreneurs to use it, alongside their students. However, she found that, despite initial enthusiasm, the infrastructure did not support the project, due to the non-central location of the library, its small size, and limited opening hours. This was despite initial enthusiasm from local entrepreneurs, and an expressed interest by the students in having a space to work alongside, and learn from, entrepreneurs.

Van Weele et al. (2018), whilst not specifically researching coworking sites, interviewed entrepreneurs in three cities in Australia, many of whom worked in coworking sites. Their research found that the entrepreneurs emphasised that, despite the challenges to entrepreneurship in Australia, the ecosystem was improving, and the increase in the number of coworking sites was given as one of the factors in entrepreneurs' favour. Secondly, they found that the entrepreneurs frequently talked about communities in their respective cities. Van Weele et al. (2018) distinguish between communities at a city-level, which they label as "regional communities", and communities within physical boundaries of collaborative workspaces, which they label as "workplace communities". By

applying CoP theory to their findings, they show that entrepreneurs in workplace communities such as coworking sites are mutually engaged in a joint enterprise, share a sense of belonging to a community, and have a shared repertoire - for example, using the lean startup methodology as a shared roadmap on how to create a startup.

The emerging literature on coworking sites to date emphasises the knowledge-sharing capacities of coworking, but to date little has been done to see how this applies to entrepreneurs. Similarly, research on accelerators as workplace communities has been limited. As table 2.1 shows, both coworking sites and accelerators enable learning; however, the learning within a coworking site is more tacit and situational, whilst the learning within an accelerator is typically based on a structured pedagogic programme (Seet et al. 2018). Coworking sites and accelerators both leverage situated learning in order to benefit their members; for coworking sites this takes place through the process of being part of a community (Parrino 2015), whilst for accelerators, it is typically delivered by experienced entrepreneurs and mentors (Radojevich-Kelley & Hoffman 2012). However, little is known about what is actually learned on accelerator programmes (Maritz & Brown 2013; Seet et al. 2018). Likewise, the concept of “community” within workplace communities requires more critical attention. Van Weele et al’s (2018) study is a rare exception; whilst it was not examining coworking specifically, it did interview entrepreneurs working in coworking spaces. Using Communities of Practice (CoP) theory (Lave and Wenger 1991; Wenger 1998), they found that founders working in coworking spaces closely matched the definition of a CoP community, based on the members “strong shared identity, tight social relationships and sharing of practices” (Van Weele et al. 2018: p. 185).

Based on the literature to date, we can surmise that, for high-technology entrepreneurs, the appeal of a workplace community such as a coworking site or an accelerator offers several benefits. Firstly, both accelerators and incubators

have learning capacities. In the case of accelerators, this comes from a structured pedagogic programme delivered by experienced entrepreneurs, and mentors (Seet et al. 2018). For coworking sites, co-locating alongside other startup founders allows tacit and situational exchange of knowledge and learning, enabled through the community - the sets of relations and mutual engagement in practice - of the site (Van Wheelé et al. 2018). However, it should not be assumed that only organisational and entrepreneurial knowledge is being learned and transferred within these sites. Ozkazanc-Pan and Clark Muntean (2018) offer one of the few critical reviews of high-technology entrepreneurship within workplace communities; in their case examining accelerators and incubators. There they found, beneath the discourse of meritocracy, evidence of participative behaviour and practices that resulted in gender inequality. As a result, it is important to question not only how does entrepreneurial learning take place within workplace communities, but to also pay critical attention to what is being learned; for example, what gendered norms are being transmitted and reproduced?

2.2.4 Workplace Communities and High Technology Entrepreneurship: Avenues for Inquiry

As the above section shows, startups are typically growth-oriented new businesses, usually within emerging industries, which use technology in an explorative or exploitative way, to create an innovative new product or service. A startup founder begins with a hypothesis, or set of assumptions, and undertakes activities that serve as learning experiments to determine what works, and what does not. Startups are particularly likely to pivot their product or service at the early stages in their lifecycle, as the opportunity emerges through this iterative process of learning and testing. Once a viable product or service has been developed, the startup must scale up its operations in order to achieve growth. Startups are resource-intensive, requiring both financial capital, and social capital. As a result they are likely to seek a source of funding, such as VC

funding, or the seed funding that can be provided from an accelerator programme, or funding from other sources. Because no one individual founder has access to all the resources necessary to create an innovative product or service within an emerging industry, startups tend to cluster together, to share and access collective resources.

However, as this review shows, there are gaps in the literature on startups. Firstly, whilst there is a broad consensus in the literature of the importance of entrepreneurial ecosystems to support startups, the scope of the ecosystem is macro in nature, typically encompassing an entire city, or region. Co-presence alone within an entrepreneurial ecosystem does not explain how this type of entrepreneurship is done; it merely examines the structural conditions necessary to support it. Further study is needed to determine how entrepreneurship occurs at a communal level (Van Weele et al. 2018), taking the startup within its immediate environment as the level of analytic focus.

Van de Ven et al. (2007) argue that there is a need for theory of entrepreneurship that synthesises our understanding of an entrepreneur as an individual recognising opportunities and acting upon them, with our understanding of entrepreneurship occurring at an industry-level through accessing an infrastructure that supports the creation of the new firm. Van de Ven et al. (2007) refer to this as entrepreneurs running in packs with collaborators and competitors, as they both individually actualise opportunities into entrepreneurial ventures, and collectively produce the conditions necessary for entrepreneurship. A communal lens could bridge this gap between understanding the founder as a “rugged individualist”, going it alone, with the structural understanding of the entrepreneur as one component in an ecosystem.

Despite this call, little attention has been paid to the communal domain of entrepreneurship. Fuller and Warren (2006) provide a rare exception with their case studies of two entrepreneurial firms to demonstrate the importance of a

community-based analysis of high-technology entrepreneurship. In each case, the firms studied relied on access to a community of local firms in order to both learn, and develop their products. However, Fuller and Warren's (2006) focus is less on how entrepreneurs cooperate/compete with one another at the communal level, and more on theorising entrepreneurial "foresight". The ways in which entrepreneurs "run in packs" (Van de Ven et al. 2007) and create a communal domain of entrepreneurship remains under-examined.

Secondly, the literature agrees that entrepreneurial learning is an important part of entrepreneurship. In a startup context, the lean startup methodology provides founders with a method to experiment, iterate, and pivot where necessary, through validating their learning. This allows founders to develop "know-what" and "know-how" capabilities. Seet et al.'s (2018) study identifies "know-who" as the key mechanism that brings this together, supporting empirical findings showing that entrepreneurial spawning is facilitated by founders learning from colleagues and peers (Gompers et al. 2005), as well as raising a call for research to more closely examine the social context in which learning occurs.

There is a synergy between these two gaps; there is a need to examine entrepreneurship at the communal level, and a need to understand how a founder's social context enables learning (and therefore entrepreneurial practice). Furthermore, Minniti (2005) argues that the practice of entrepreneurship within a social environment leads to a self-replicating culture of entrepreneurship within that environment. However, she does not question what kind of entrepreneurial culture is replicated. Given that entrepreneurial learning involves learning not only the technical and administrative skills to start and run a business, but also more tacit knowledge such as what entrepreneurs look like, and how they act, it is important to apply a critical eye to what is learned within these sites. In particular, to what extent are gendered norms that reproduce systemic inequalities being learnt and transmitted?

2.3 Gender and High Technology Entrepreneurship

2.3.1 Gender in Entrepreneurial Theory

The early literature on entrepreneurship looked at entrepreneurial traits, in order to identify what made a successful entrepreneur (Handy 1993). This failed to be productive, leading to Gartner (1985) arguing that the question “Who is an entrepreneur?” is the wrong one that researchers should be asking. Despite the failure of research to identify reproducible entrepreneurial traits, a particular trait of entrepreneurs was left unexamined: that is, the male dominance of entrepreneurship. As such, researchers began turning a critical eye to the issue of gender within entrepreneurial theory.

Critical approaches to entrepreneurship began identifying the masculine bias of the entrepreneurial norm (Fagenson & Marcus 1991). Both the media, and representations of entrepreneurs within public discourse, emphasise entrepreneurs as heroic or mythical figures, and metaphorical constructs tend to draw on heroic/mythical imagery: warrior, superman, and explorer are common heroic representations, whilst charmers, wizards, and gurus are mythical representations (Nicholson & Anderson 2005). Entrepreneurs occupy a valorised space within the free market system, wherein entrepreneurship is seen as the goal to upward social mobility, equally available to all (Ogbor 2000). As such, this culture of enterprise promotes a discourse of particular characteristics, such as bravery, ambition, success, autonomy, and self-sufficiency, which are applied to entrepreneurs (Down and Warren 2008). The prototypical entrepreneur is a daring, decisive, strong-willed, ambitious self-made man (Ahl 2006).

By contrast, research on female entrepreneurs has tended to define them as not-male entrepreneurs, assuming particular challenges and idiosyncrasies to women-owned new businesses (Brush 1992). Studies of the female entrepreneurial archetype portray her as care-giving and nurturing (Bruni et al.

2004a), and struggling to balance work and domestic responsibilities (Greenhaus & Powell 2006; Chasserio et al. 2014). Studies have also suggested that the female entrepreneur is seen as less innovative, or less entrepreneurial, than the male (Bruni et al. 2004b; de Tienne & Chandler 2007). Women are also assumed to be more risk-averse than men (Jianakoplos & Bernasek 1998), are less likely to seek VC funding (Cosh et al. 2009), and are therefore thought to be less likely to start higher-risk, growth-oriented new ventures (Verheul et al. 2007; Fraser et al. 2015). Societal exemplars of successful entrepreneurs play a role in producing these scripts (Down & Warren 2008), setting social norms of what is expected of the stereotypical entrepreneur (Williams Middleton 2013). In particular, the discursive focus on successful male entrepreneurs solidifies the stereotypical image of the entrepreneur as male (Ahl 2006).

Gender theory has challenged this by examining the underlying assumptions of entrepreneurship. The social dimensions of human life are not considered in the traditional view of entrepreneurship (Ogbor 2000); the entrepreneur is viewed as disconnected from social life (Ahl 2006; Calás et al. 2009). This disembodied view of the entrepreneur reduces “him” to a purely economic dimension; no family, no social life, and no past (Chasserio et al. 2014). This theoretical stance serves to produce the Schumpeterian rational heroic figure, edifying the myth of the entrepreneur as a super-hero lacking personal or social contingencies (Ahl 2006). This in turn relies on the division of public and private life within Western society, and the coding of public life as masculine, and private life as feminine (Kanter 1977).

Acker (1990) builds on this to show how organisational logic assumes a disembodied worker, lacking any other imperatives that may impinge upon doing their job. However, as such a worker does not exist, the closest it comes to is a male worker whose life centres on his job and work, whilst his wife, or another woman, takes care of his personal needs. For both the disembodied worker, and the disembodied entrepreneur, masculine norms that are enacted through men

doing work, and doing entrepreneurship, therefore become seen as value-neutral norms. Women wishing to enter work, or entrepreneurship, must contend with the masculine-oriented nature of these roles, whilst at the same time maintaining traditional social responsibilities (Alvesson & Due Billing 2009).

Whilst a traditional view of entrepreneurship may assume it to be a value-neutral pursuit, this is not the case. Indeed, West and Zimmerman (1987: p. 136) argue that gender is always relevant: “a person engaged in virtually any activity may be held accountable for performance of that activity as a *woman* or a *man* [sic], and their incumbency in one or the other sex category can be used to legitimate or discredit their other activities”. Research on feminist entrepreneurial identity shows how fraught this can be for women; female entrepreneurs may struggle to resolve their entrepreneurial identity with their social identities as women, mothers, and as members of a family (Warren 2004). Chasserio et al.’s (2014) study of French female entrepreneurs also found these conflicting interplays between entrepreneurial identity, and social identity, in particular the women’s identity as mothers. However, they also suggest some positive interplays; for example a number of the women decided to start their businesses after becoming mothers, and some describe their relationships with their businesses in familial terms. As in Warren (2004), some of the women Chasserio (2014) studied avoided using the term “entrepreneur” to refer to themselves, feeling that they did not recognise in themselves the stereotypical image, or traits, of the entrepreneur. The masculine norms and values of entrepreneurship set up these interplays that female entrepreneurs had to negotiate.

2.3.2 Gender and High Technology

Not only is entrepreneurship a masculine-coded activity, but the IT industry itself is also masculine-coded, and demographic evidence shows that men dominate the IT industry (Griffiths et al. 2007; Servon & Visser 2011; e-skills 2014). Male dominance of technology is socially constructed; Cockburn (1999a; 1999b)

argues that technologies are coded as masculine both historically and materially. Furthermore, the relationship between science, technology, and men's performance of masculinities (Faulkner 2000; Wajcman 2004; Cockburn and Ormrod 1993), in particular the symbolic intertwining of science and technology with hegemonic masculinity (Lohan and Faulkner 2004), has a limiting effect on women's participation. Women's socialised femininity conflicts with the masculinity of science and technology (Henwood 1996).

As a result, women within the IT industry, and the STEM fields in general, are typically clustered within lower-level, non-technical positions (Truss et al. 2012). Jubas and Butterwick (2008) examine the gendered stratification of "hard" technical skills, and "soft" non-technical skills, and argue that "hard" skills are assumed to be self-evident in value and worth, whilst "soft" skills are assumed to be difficult to define and value. As a result, women within technology find that their jobs are more precarious, and valued less (Jubas & Butterwick 2008). Technical knowledge takes on a hegemonic position within the knowledge hierarchy (Foucault 1980) of the industry; furthermore, this hegemonic technical "expertise" is gendered; men are assumed to have expert knowledge of technical skills such as programming through their embodied masculinity (Ruiz Ben 2007). As a result, the IT field has become increasingly gender-stratified (Koput & Gutek 2011).

The gendering of IT as masculine is a relatively new phenomenon and is not the result of innate sex-differences (Fine 2010; Halpern 2012), as there is little evidence that men have greater intrinsic aptitudes for science and mathematics (Spelke 2005), and little evidence to suggest men perform better on mathematical and spatial tasks (Hyde 2014), that might explain the preponderance of men in IT. Historians of computing such as Ensmenger (2010) and Misa (2010) show that, during the first "boom" period of the IT industry in the USA during the 1950s-60s, women participated in far greater numbers. It was not until the late 1970s that a distinct "male" culture began emerging in computing

(Turkle 1984), and consequently it is from the 1980s onwards that female enrolment in computer science courses began dropping from its peak, to its current low levels (Misa 2010). Ensmenger (2010) traces the gendering of IT as a matter of historical contingency; whilst companies were willing to test women during the 1950s and 60s to find programmers, the tests themselves tended to be biased against women as they typically assumed some training in formal mathematical skills which women were less likely to have. Furthermore, the skills which companies in that era believed would be transferable to programming, such as puzzle-solving, skill with logic-based games, and “tinkering”, further biased selection processes in favour of a particular type of masculinity which we would now identify as “geeky” (Blu Buhs 2010).

2.3.3 Structural Explanations for the Deficit of Female Founders

There is not only a deficit of women in IT, but also a deficit of women starting IT businesses. Empirical research shows that female entrepreneurs tend to cluster in service industry sectors, and although it is hard to give an exact number, women entrepreneurs only own roughly 15% of high-technology businesses in the EU (Marlow & McAdam 2012). In terms of finance, female entrepreneurs tend to launch with less startup financing than male entrepreneurs (Fairlie & Robb 2009; Coleman & Robb 2012), and are less likely to access VC funding than male entrepreneurs (Cosh et al. 2009). When women do raise money, they tend to raise less (Coleman & Robb 2009). One UK study explained this by suggesting women were less likely to accumulate financial capital because they had accumulated less social capital, and were therefore less able to use it to acquire VC funding (Roomi et al. 2009). Research on pitching to VC investors suggests that gender is pertinent; that investors prefer pitches given by men (Brooks et al. 2014), and investors associate entrepreneurial competence with masculinity (Balachandra et al. Forthcoming). Brush et al.’s (2018) empirical study of VC funding in the USA found that, over a three year period, out of 6793 companies that received VC funding, only 15% had women entrepreneurs on the

executive team. Moreover, only 2.7% of these companies had a female CEO. Given the importance of finance to startups (Singh Rao et al. 2008), this suggests female entrepreneurs are at a significant structural disadvantage.

Because of these structural disadvantages, a strand of literature has examined the deficit of female startup entrepreneurs. Building on “Pipeline effect” literature (Wilson 2002), the assumption is that the underrepresentation of women is due to gender-related constraints, which impede female career progression and in turn encourage premature exits from employment. As such, women are significantly restrained in their ability to accrue entrepreneurial capital (Peterson 2007). Ashcroft and Blithe (2010) found that, in Silicon Valley, women only make up about 14% of senior management positions, which is similar to the findings of Brush et al.’s (2018) research on VC-backed firms in the USA. Kuschel & Lepeley’s (2016) literature review of the female-run startups found that the majority of studies have been conducted in the USA and Europe, and also find that there is a significant deficit of female-run startups. They call for research to better understand the gendered relations between entrepreneurial venturing and technological innovation in order to solve the absence of women in science, engineering, and technology entrepreneurship.

Research looking at the structural deficit of female startup entrepreneurs has primarily focused women’s access to resources within the entrepreneurial ecosystem; this includes the gendering of social networks in the knowledge society (Walby 2011); gendered access to investment (Brush et al. 2018), the lack of access to mentors (Laukhuf & Malone 2015) and structural disadvantage in access to accelerators and incubators (Ozkazanc-Pan & Clark Muntean 2018; Marlow & McAdam 2012). Research in the USA shows that shows that VC firms are predominantly male owned, and male operated: only around 6% of partners of VC firms in the USA are women (Brush et al. 2014). The same report highlights the importance of having women in VC companies for female entrepreneurs; VC firms with women partners are twice as likely to invest in

companies with a woman on the management team: 34% of firms with a woman partner versus 13% of firms without a woman partner. The lack of female VC partners means one supply-side explanation of the lack of investment in female-led startups is gender homophily, where men tend to support men in a homosocial pattern (Ahl 2004).

Whilst focus on the supply-side issue of finance has largely focused on VC firms (Brush et al. 2018), some studies have also considered angel investment, given that this is also an important source of funding, and, indeed, is more likely to be accessed by entrepreneurial ventures at the seed and startup phase (Becker-Blease & Sohl 2007). Research on angel investors again shows that the vast majority are men, with women making up between 5-10% of angel investors in the UK and USA (Harrison & Mason 2007). Research on female entrepreneur access to angel funding suggests that, whilst female angels are slightly more likely to invest in female-owned businesses (Becker-Blease & Sohl 2007), women entrepreneurs are more likely to seek funding from female angels - and, conversely, male entrepreneurs are more likely to seek funding from male angels (Harrison & Mason 2007). As such the development of female investment networks within a startup ecosystem would likely increase women entrepreneur's access to capital (Brush et al. 2004).

The importance of mentors has also been examined within the literature, although the application of it to entrepreneurial theory has been more limited (Memon et al. 2015). Haggard et al.'s (2011) review of the use of the term suggests that the three core attributes of mentors are that they engage in a reciprocal relationship with the protégé, that they produce developmental benefits (primarily for the protégé, but the mentor may benefit as well), and that they have regular consistent interaction over a period of time. Mentorship has two primary functions: firstly, a mentor provides career-related support; secondly, a mentor provides psychosocial support (Kram 1985). In the first case, a mentor is a source of capital for the entrepreneur, able to provide knowledge and expert

insight (Sullivan 2000), and often access to their network (Carter et al. 2003). In the second case, mentoring can provide support, acceptance, and role modelling: mentors can inspire would-be entrepreneurs to set up their own businesses and pursue non-traditional career paths (BarNir et al. 2011; Quimby & DeSantis 2006). As a result, the presence of mentors is considered to be an important component of an entrepreneurial ecosystem (Stam 2015).

For female entrepreneurs, a key function of a mentor is to act as a role model (Laukhuf & Malone 2015). Research also indicates that an entrepreneur's role models tend to be of the same sex as them (Bosma et al. 2012). Experienced entrepreneurs can act as mentors to nascent entrepreneurs, providing knowledge and connections necessary for them to set up their own businesses (Gompers et al. 2005). Therefore the number of entrepreneurs a would-be entrepreneur knows is likely to have an impact on how likely someone is to set up a business (Hmieleski & Corbett 2006). If a woman is less able to access female entrepreneurs to act as mentors/role models, she might be at a disadvantage compared to a male peer (Laukhuf & Malone 2015). Furthermore, whilst experienced entrepreneurs are the most common type of entrepreneurial mentor, they are not the only type of mentor: others may include experienced (non-entrepreneurial) businesspeople; academics; domain experts; and investors (Sanchez-Burks et al. 2017). Sanchez-Burks et al. (2017) studied mentoring within entrepreneurial ecosystems by examining academic (university-based) and non-academic entrepreneurial incubators and accelerators. They surveyed 33 programmes, and found that male mentors far outnumbered female mentors: less than 15% of the mentors across the programmes were women. In line with the literature above, comments from the survey suggested that seeing more women in entrepreneurial roles would be of benefit to nascent entrepreneurs.

The literature presented above suggests that the important roles of startup founder, investor, and mentor, are typically male. Women may struggle to find investment, may have less access to mentors and the knowledge, networks, and

psychosocial support they offer, and have little in the way of role models.

2.3.4 Individual Explanations for the Deficit of Female Founders

A related, albeit smaller, strand of literature has investigated women's experiences of being female startup founders, and the ways in which their gender was interpreted as relevant to their work. Marlow and McAdam (2012), studying high-tech business incubators in the UK, found that although at the time there were 20 high-tech incubators, there was only one female tenant in all of them. A richly detailed life-history of the experience of the entrepreneur, "Kate", is given. Kate is aware of her status as an "odd girl out" (Marlow & McAdam 2012: p. 665); she is a deviation both from the norm of the (straight, white) male entrepreneur (Ahl 2004; Ogbor 2000; Bruni et al. 2004a), and from the archetype of the male IT worker (Blu Buhs 2010). She struggles to reconcile her femininity with the masculine cultures of computing and entrepreneurship, and finds her gender mobilised tokenistically by the incubator for publicity. Research on finance shows that female-owned businesses are less likely to seek VC funding, in favour of bank funding (Cosh et al. 2009). Kate had sought bank funding, whilst her male peers predominantly sought equity-based funding. As McRobbie (2009) suggests, whilst women are expected and encouraged to enter traditionally masculine industries, there is still a powerful pressure on them to do femininity, for example through motherhood. Kate pursued bank funding in order to fulfil her accountability to cultural expectations about appropriate women's roles at home and work, in particular a woman's social role at home as a mother, which clash with the risk-taking norms of high technology entrepreneurship. Bank funding allowed her to maintain more control over her business and support her goal of work-life balance, to account for her motherhood at home.

Eriksson et al. (2008) conducted an ethnographic study of female entrepreneurs running small IT businesses in Finland. Despite the relatively high number of female entrepreneurs in Finland, there are very few within the IT sector, which in

Finland is also found to be male-dominated, and characterised by masculine cultures and normative assumptions. Gender is salient in how these women do their work, with some of the women enacting more traditionally “masculine” practices, such as authoritarianism, paternalism, informalism, and rational control, and others enacting more traditionally “feminine” practices, such as trust, open communication, empathy, and relational approaches to employee management.

Ozkazanc-Pan & Clark Muntean (2018) interviewed a number of female entrepreneurs working within accelerators and incubators in the USA. There they found that, despite the assumed gender neutrality of organisational practices within these sites, the rarity of women within these sites led to segregation and exclusion. In particular they found that the process of getting into an accelerator or incubator was extremely opaque, despite claims that the focus was on finding applicants that were good matches for the site(s) in question. The entrepreneurs they interviewed felt that it was essential to be a part of the young boys’ network, and being women, they were othered and excluded from this. A number of the entrepreneurs account for this by suggesting that female networking practices are more relational, rather than transactional in nature, and some reported finding the transactional approach, common amongst their male peers, off-putting. Therefore the way these women pursued feminine bonding strategies, as opposed to masculinist transactional strategies, disadvantaged them.

2.3.5 Gender and High Technology Entrepreneurship: Avenues for Inquiry

The literature agrees that there is a dearth of female entrepreneurs, particularly within science, engineering, and technology sectors, and certainly within the startup sector (Kuschel & Lepeley 2016). Women are differentiated from male entrepreneurs through their sexed coding as women (Ahl & Marlow 2012), and as a result face a legitimacy dilemma where they have to fit in amongst their peers as entrepreneurs, whilst standing out as women (De Clercq & Voronov

2009; Marlow & McAdam 2015). Particularly within technological entrepreneurship, such as in startups, there is a gendered order that tends to position women as end users of technology, and men as innovators and designers (Landstrom 2007). As such, the process of becoming legitimated as a founder of a high-tech startup may well be a more fraught process for women than for men (Marlow & McAdam 2015). Prevailing masculine cultures in the IT industry may well provide a barrier to legitimating women, and prevent them from accruing the capital necessary for a growth/innovation oriented venture (Wynarczyk & Marlow 2011). This is besides the other structural issues that women face more generally, such as access to finance, the expectations of care giving at home, and the leaky “pipeline” of lack of career progression and premature career termination. From an individual perspective, women are “othered” (Ozkazanc-Pan 2014) within the startup sector, and struggle to reconcile their femininity with the masculine norms of the industry (Marlow & McAdam 2012); women then struggle to engage and access their workplace communities, particularly when women are minorities within them (Ozkazanc-Pan & Clark Muntean 2018).

Male entrepreneurs, on the other hand, particularly when white and middle-class, enjoy a cultural hegemony and are assumed to be the norm (Down & Giazitzoglu 2014). In particular, men who are best able to enact stereotypical and culturally constructed entrepreneurial ideals will find it easiest to achieve recognition and legitimacy as entrepreneurs (Giazitzoglu & Down 2017). Masculine norms within the startup industry become assumed to be the hegemonic position; for example, Ozkazanc’s (2014) study of Turkish startup founders in Silicon Valley found that the hegemonic position within the Turkish community was that of the “Young Turk”; whilst this was at odds with the typically white young male founder, it nevertheless served as a legitimating and hegemonic subject position for these entrepreneurs.

Startups are overwhelmingly founded by men, invested in by men, mentored by

men, and operate within a field of practice that presents itself as value-neutral, but is in fact highly masculinised. The application of gender theory to entrepreneurship has shown how, as a practice, entrepreneurship is predicated on, and privileges, masculine norms (Ahl 2006). However, the primary focus of such research remains the lack of female entrepreneurs (Marlow & McAdam 2013), and the search for solutions to rectify women's presumed entrepreneurial deficiencies (Ahl & Marlow 2012). This is typified in Kuschel & Lepeley's (2016) call for further research into the gender gap of startup founders, arguing that the growth potential of the IT industry holds the promise of significant success for women, and the need to support women entrepreneurs. Some attention has been paid to the roles of mentors and experts (Sanchez-Burks et al. 2017), and investors (Harrison & Mason 2007), but overall the analytic focus remains on the role of the entrepreneur, and the masculine dominance of high technology entrepreneurship. Whilst men make up the majority of startup founders, this is not to say that women are not present and involved with these companies in a professional capacity; entrepreneurial work is likely to be distributed across the social setting, as Dy et al. (2016) suggest when they argue that taking the household as the unit of analysis may be a productive way to further entrepreneurial research and theory. By maintaining the focus on the entrepreneur, this marginalises other work being done that is nevertheless necessary for entrepreneurship to occur (Ozkazanc-Pan 2014). A community-based approach is a way to address this; rather than simply looking at entrepreneurs, it would enable a more holistic view at the relations surrounding them.

2.4 A Theoretical Framework for Understanding Gender and Community within High Technology Entrepreneurship

The literature reviewed above suggests that, to date, there has been a lack of focus on the communal domain of entrepreneurship (Van de Ven et al. 2007), what is being learned at this domain (Seet et al. 2018), and the necessity for a

critical approach to what is being learned in order to understand how practices at a communal level may in fact be gendered (Ozkazanc-Pan & Clark Muntean 2018). Furthermore, a communal approach would serve to de-centre the entrepreneur, and allow us to understand entrepreneurship as a practice that takes place within a web of relations that produce the necessary conditions for entrepreneurial work to be done.

2.4.1 Communities of Practice Theory

2.4.1.1 Overview of the Canonical Texts

The concept of Communities of Practice was first introduced in Lave and Wenger's (1991) book, *Situated Learning: Legitimate Peripheral Participation*. The work arose to address limitations in the prevailing theories of learning, which held that learning was the individual acquisition of a body of knowledge by a learner as it is transmitted by a teacher, largely decontextualising the process from its broader socio-cultural conditions (Hughes et al. 2007a). In contrast, Lave and Wenger (1991) posit that learning is inherently social in nature, and takes place within the situatedness of social practice.

In order to explain where this learning is situated, Lave and Wenger (1991) introduce the term "community of practice" (CoP). The practice is the situated activity around which the group coalesces, and the group that organises around the practice is the CoP. They examine five case studies of apprenticeship; Yucatec Mayan midwives in Mexico, Vai and Gola tailors in Liberia, U.S. Navy quartermasters, butchers in U.S. supermarkets, and "non drinking alcoholics" in Alcoholics Anonymous. They abandoned the traditional concept of "apprenticeship" as a master/student relationship in favour of a more dynamic conceptualisation, involving the changing participation and transformation of participants within a community (Wenger 1998). Their analysis of these case studies suggests that, within a CoP, there is little observable teaching: learning is

a constant, ongoing, improvised process that unfolds as participants are given opportunities to engage in the practice. Newcomers learn not merely through observation and imitation, but through participation: both absorbing, and being absorbed into, the practice's culture (Lave and Wenger 1991).

However, whilst Lave and Wenger (1991) introduced the concept of the CoP, it is intentionally left somewhat undeveloped, as an "intuitive concept" (ibid: p. 42).

The closest they come to a definition is as follows:

A community of practice is a set of relations among persons, activity, and world, over time and in relation to other tangential communities of practice. (Lave & Wenger 1991: p. 98)

As a result, Wenger (1998) returned to the concept of the CoP, in order to further develop a social theory of learning. He places his theory on the intersection between four main academic traditions; theories of social structure, theories of situated experience, theories of practice, and theories of identity. Learning takes place through our engagement in actions and interactions, but this is embedded in culture and history: learning both reproduces and transforms the social structure in which it takes place. Likewise, learning is the vehicle for the evolution of practices, whilst also acting as the vehicle for the development and transformation of identities. He supports the development of these concepts through an ethnographic study of a team of medical insurance claims processors at a large U.S. insurance company, identified as Alinsu. Wenger (1998) defined a CoP as a special type of community, with three core dimensions: joint enterprise; mutual engagement; and a shared repertoire. These will be discussed further in section 2.4.1.2.

Cox (2005) identifies 4 seminal works that are cited by almost all authors who use the concept: Lave and Wenger (1991); Brown and Duguid (1991); Wenger (1998); and Wenger et al. (2002). Cox (2005: p. 536) shows that, in each case,

the dominant reading of each work contrasts strongly with the others:

- Lave and Wenger (1991) is primarily concerned with the concept of legitimate peripheral participation, and the process of being socialised into a practice.
- Brown and Duguid (1991) focuses on the generation of new knowledge through narrative and improvisation by experts in a community.
- Wenger (1998) identifies how CoPs are a universal social phenomenon, arising when sustained engagement on an indigenous enterprise occurs.
- Wenger et al. (2002) is less analytical in nature, and is far more practice-oriented: it serves as a manual for practitioners looking to support the formation of informal learning groups in organisations.

As Cox (2005) shows, these different texts have different concerns, and concepts which are key in one, are largely absent from another - for example, legitimate peripheral participation is central to Lave and Wenger (1991), but is given little attention in Wenger (1998). Brown and Duguid (1991) largely ignore the possibility of conflict within a CoP as the focus is on coproducing mutual understanding and learning, whilst sources of conflict and disharmony are explicitly dealt with in Lave and Wenger (1991) and Wenger (1998). Wenger et al. (2002) offers insight on instrumentalist application of the theory, something deliberately not done in Lave and Wenger (1991). Whilst each text emphasises the situated negotiation of meaning and the importance of learning arising through engagement in practice, there are also clear divergences. As such, it is important that researchers are explicit in which text they are referring to, when utilising the theory (Cox 2005). For the purposes of this thesis, I will be working primarily with Lave and Wenger (1991) and Wenger (1998), and further works that rely on these texts.

In addition to these four texts, the ethnographic studies of Julian Orr (1996) of

photocopy repairers at Xerox are frequently cited by literature using the CoP concept: Brown and Duguid's (1991) paper also uses Orr's work for their analysis. Orr's (1996) book, developed from his doctoral dissertation, is a "thick" (Geertz 1973) descriptive study of how the work of photocopy repairers, assumed by their parent organisation to be relatively straightforward and simply a matter of carrying out step-by-step troubleshooting operations, was in fact deeply complex and unpredictable. Orr showed how the repairers had to use multiple resources in order to make sense of fragmented, contradictory and complex problems. Improvisation of repairs was widespread, and the engineers made use of each others' narratives and stories about difficult fixes to better understand and solve the problems they were presented with.

Whilst Orr's (1996) work is typically used as an example of how learning unfolds in CoPs - improvised, on-going, tacit, and situational - it is worth pointing out the Orr himself never uses the concept, instead using Van Maanen and Barley's (1984) concept of occupational communities. Van Maanen and Barley (1984) define an occupational community as a group of people who consider themselves engaged in the same sort of work, drawing their identity from their work, sharing sets of norms, values and perspectives that apply to but also extend beyond work, and whose social relationships meld work and leisure. Whilst there are definitely areas of overlap between occupational communities and CoPs, the core difference is that a CoP requires mutual engagement in the practice together, whilst an occupational community does not require that its members mutually engage (Cox 2005).

2.4.1.2 Key Concepts in CoP Theory

Legitimate Peripheral Participation

The core concept introduced by Lave and Wenger (1991) is legitimate peripheral participation (LPP). This is an analytical viewpoint of learning, where

engagement in social practice inherently entails learning. Through gaining legitimate access to social groups, by beginning as a peripheral member and moving to full membership, and by participating in the practice done within these social groups, individual agents are socialised into knowledge, as they come to learn the skills, activities, tasks, language, culture, norms, values, and ways-of-being and -doing that characterise being part of that group. Knowing is therefore activity by specific people in specific circumstances. They argue that this concept is *sui generis*:

we intend for the concept to be taken as a whole. Each of its aspects is indispensable in defining the others and cannot be considered in isolation. [...] Thus, in the terms proposed here there may very well be no such thing as an 'illegitimate peripheral participant'. [...] Similarly, with regard to 'peripherality' there may well be no such simple thing as 'central participation' in a community of practice. (Lave & Wenger 1991: p. 35).

LPP is an analytical lens to describe learning, using Lave and Wenger's (1991) focus on apprenticeship. Newcomers to the practice learn through participation; initially this is on minor, inconsequential tasks which nevertheless contribute to the practice overall. As newcomers pick up new skills, they are given opportunities to engage in more complex tasks, as they move to fuller participation. The focus is explicitly on learning, rather than teaching. Furthermore, much of this learning comes from fellow apprentices, rather than peers. There is explicit focus on how learning is the outcome of engaging in the social, lived-in world, and how learning is a holistic experience: newcomers learn not only how to do the practice, but what practitioners look like, how they think, and what they say.

Whilst Lave and Wenger (1991) argue that LPP is a *sui generis* concept, this view is not necessarily upheld elsewhere. Jubas and Butterwick (2008) intentionally break down the concept into each constituent part, arguing that

there cannot be a peripherality without a centre; likewise, considering each constituent part allows us to consider the impact of legitimation, for example, and the different ways it might come into play.

Mutual Engagement, Joint Enterprise, and Shared Repertoire

In Wenger (1998), he gives more analytical attention to the concept of practice, which refers to the process of doing - not just in and of itself, but of doing in a historical and social context that gives meaning to what we do. A CoP is a special type of community, where a community has coalesced around a particular, situated, practice. There are three key dimensions of the relation by which practice is the source of coherence for a community; mutual engagement, a joint enterprise, and a shared repertoire.

Mutual engagement refers to the interaction of the group's members, both in terms of quantity and patterns - how often they engage with one another, and how they do so. It is typically assumed that there is a minimum amount of interaction that is needed in order to maintain the momentum of the community (Wenger et al. 2002). This engagement is assumed to be primarily face-to-face; however, the face-to-face engagement may also be augmented with virtual elements (Wenger 1998; Wenger et al. 2002), and studies have examined CoPs that are entirely virtual in nature (Dubé et al. 2006).

The joint enterprise is the common purpose that the members of the community share; members of the community constantly negotiate this purpose. When a CoP exists within a larger enterprise, the goal(s) of the CoP may well differ from the goals of the enterprise, as it negotiates its own meaning and purpose, and its contribution to the enterprise may be uncertain (Kimble and Hildreth 2004). Wenger's (1998) primary focus was a group of insurance claims' handlers within a large insurance company. These claims handlers formed a CoP dedicated to the practice of completing claims; it does not represent the totality of Alinsu as an

organisation. Whilst the practice of the claims handlers clearly contributes to the goals of an insurance company, this is not to say the practice is totally aligned with these goals. Much of the negotiated and learnt practice was dedicated towards how to “make production”, or hit the minimum number of claims they were expected to process per day, rather than simply maximising their work output.

The shared repertoire is the shared history, techniques, culture, language, jargon, inside jokes, symbols, actions, tools, various forms and repositories of knowledge, and so on, that members of the community have access to. The shared repertoire provides reified concepts that allow for the negotiation of meaning. The concepts, languages and tools within a CoP’s shared repertoire embody its history over time; furthermore, access to this repertoire, and the ability to use it appropriately, is a marker of an individual's competence in the CoP’s practice (Wenger 2000).

A key point here is that engaging in practice "establishes what it is to be a competent participant, an outsider, or something in between. In this regard, *a community of practice acts as a locally negotiated regime of competence*" (Wenger 1998: p. 137 [sic]). As discussed earlier, a CoP is a special type of community that has coalesced around practice. As such, performance of practice is assessed within the CoP.

Participation/Reification

Furthermore, Wenger (1998) argues that engagement in practice relies on two interrelated processes; participation, and reification. Participation is the “social experience of living in the world in terms of membership in social communities and active involvement in social enterprises” (Wenger 1998: p. 55). Reification is “the process of giving form to our experience by producing objects that congeal this experience into ‘thingness’” (Wenger 1998: p. 58). Reification involves

creating points of focus around which the negotiation of meaning can organise; these are not just tangible objects, but can also refer to abstractions, stories, and practice-specific terms and tools. Participation and reification are mutually constituted and cannot be separated, although he does acknowledge that the degree to which the production of meaning is reified or left to participation may vary. He offers the example of a computer program as a more “extreme” degree of reification as the extent to which we can participate with it is far more bounded, whilst a poem relies far more on participation to negotiate meaning than its reified form.

Trajectories

Trajectories refer to the ways in which an individual’s participation in a CoP changes over time. Whilst Lave and Wenger (1991) took a fairly uncritical approach to trajectories, assuming a normative dynamic of progression which led from newcomer to legitimate peripheral participant to full participant and master practitioner, Wenger (1998) returned to this concept, to further develop it. Wenger (1998) argued that it should not be assumed that every participant is on a normative trajectory from outside, to periphery, to centre, but instead that participants negotiate their own trajectories depending on their relation with the CoP, and their relations with adjoining CoPs. An inbound trajectory may not always be the most desirable; in order for acts of exchange to occur across boundaries, this requires a participant to occupy peripheral positions across CoPs. Furthermore, Wenger also showed that, just as participants can be on an inbound trajectory, they can also be on an outbound trajectory.

Subject Roles

Subject roles are important parts of CoP theory in both Lave and Wenger (1991), and Wenger (1998). Lave and Wenger (1991) rely primarily on the roles of the “newcomer”, and the “old-timer”. These are temporal positions, and are used as

a way to discuss both learning, and the possibility of conflict. Newcomers simultaneously learn from old-timers but, as they renegotiate the practice, come into conflict with them: Lave and Wenger (1991) even argue that conflict is inevitable, as newcomers becoming old-timers implies the replacement of old-timers. However, both are necessary for the social reproduction of the CoP.

Wenger (1998) adds the subject position of the broker; this is a peripheral position that spans across different CoPs. Because of the broker's multi-membership, and legitimate participation in both groups, the broker can transfer knowledge across CoP boundaries. Other roles identified elsewhere include the "learner" (Handley et al. 2006; Pyrko et al. 2017), which unlike the newcomer does not have a temporal definition; and the "expert" (Contu 2014). The expert as a subject position is particularly discussed as a subject position at the intersection of knowledge and power: who has the power to be recognised as an expert within the CoP's knowledge domain (Ferlie et al. 2005).

Belonging

As CoPs may or may not recognise themselves as such, and given that membership may have either formal or informal requirements, Wenger (1998) offers three modes by which a participant in a CoP interprets that they belong:

Engagement is the mode in which participants take part in the on-going negotiation of meaning, and in so doing, contribute to an unfolding history of practice, through their on-going trajectory of participation. It is a trajectory because it has no particular end-point; rather, it is an on-going dynamic whereby the degree to which a participant is engaging is constantly shifting. It may move from peripheral to central, or vice versa, or remain within a peripheral orbit, and so on.

Imagination is the mode by which we are able to expand ourselves through

generating images of the world, and understanding them in relation to ourselves. For example, being able to look at a globe, see an image of a country, and understand that is where you live. Unlike engagement, this mode is not bound by proximity within space or time.

Alignment is the mode by which participants become connected to broader enterprises through the coordination of their energies, actions, and practices. This is important as the CoPs we participate in are typically only components in a larger system; a worker within a specific department in a large organisation for example can align themselves with their broader organisational goals and missions, even though the practice they engage in is only one composite part of the overall work of the organisation.

2.4.2 Applying CoP Theory to Entrepreneurship

Given that entrepreneurial learning is understood as a process of engaging in the practice of doing entrepreneurship, figuring out what works and what does not, which sets up future learning (Cheng & Van de Ven 1996), there is potential for CoP theory to be applied, through examining the practice of entrepreneurship.

To date, entrepreneurial literature has not engaged with CoP theory to a great extent. Warren (2004) used CoP theory to examine the experiences of female entrepreneurs. Drawing on Wenger's (1998) theories of identity, in which Wenger (1998) argues that through the process of both engaging in practice and learning the self is transformed, and that we understand ourselves through our mutually constituted identities as members of CoPs, Warren (2004) interviews female entrepreneurs who are part of a Women's Network of a local Business Link group. In the study she found that the interviewees were able to utilise the Women's Network to share entrepreneurial stories, and identify role models. In so doing the Network became a CoP for these women entrepreneurs, as they made sense of their shared practice together. She also suggests that the

Women's Network provided a means of legitimising newcomers to the practice of entrepreneurial activity through hosting unthreatening social occasions to support them.

Fuller and Warren (2006), noting the promise of CoP theory to entrepreneurship but that it had seen little practical application, conduct case studies of two entrepreneurial high-technology firms. In studying entrepreneurial foresight - the ability of an entrepreneur to see opportunities, and undertake rational future-oriented activities to bring a new business into being to exploit this opportunity - they draw on CoP theory to demonstrate that not only is the new firm a CoP itself, but that each and every member of it brings their own memberships of multiple other CoPs to it. It is these multi-memberships of different CoPs that enables an entrepreneur's "foresight": as new members are assimilated into the new firm and participate in it in differing ways, and as the entrepreneur participates in other CoPs, these new relations transform the entrepreneur's understanding of him or herself and their firm, and new possibilities emerge. They therefore view entrepreneurial activity as a relational process that emerges through interactions at multiple levels: the cognitive level of the entrepreneur; the CoP level of the small firm; the multi-membership level of business-to-business relationships; and the structural level of the industry.

Van Weele et al. (2018) apply CoP theory to their study of startup founders in Australia. Noting the lack of rigour in the use of the term "community", particularly when applied to entrepreneurship, they examine the role of geographical scale in entrepreneurial communities. In so doing they distinguish between workplace communities, which are communities of founders working alongside one another on a day-to-day basis (for example within a coworking space), and regional communities, which are communities of founders within the particular cities in which the entrepreneurs they studies are based. Whilst there was overlap between the workplace communities and the regional communities, there were also distinctions between the two. For example, whilst a shared enterprise of the

regional startup community in Sydney was to produce more successful businesses, different workplace communities had their own interpretation of this: one coworking space specifically focused on “clean tech” startups with an environmental agenda, whilst another focused on social enterprises, using startups to transform society. Overall, Van Weele et al. (2018) found that workplace communities most closely matched Wenger’s (1998) definition of a CoP. The core elements of shared identity, social relationships, and sharing of practices still existed at the regional level, but to a lesser extent.

There is clearly scope for application of the analytical tools of CoP theory to entrepreneurship; furthermore, as Warren and Fuller (2006) show, it provides an additional analytic domain between individual and structural.

2.4.3 CoP Theory: Avenues for Inquiry

Since Wenger (1998), there has been a dearth of research on CoPs. Amin and Roberts (2008) reviewed the use of the concept within the literature. They found that the term is used imprecisely, and typically strays from the original use of CoPs, which referred to relatively stable communities, with primarily face-to-face interaction, where members worked in close proximity to one another, and where identity formation through participation and the negotiation of meaning are central to learning and knowledge generation. Furthermore, they note that the proliferation of research on CoPs means that the original emphasis on context, process, social interaction, material practices, ambiguity, and disagreement is being lost in favour of broad-brush instrumentalist applications of the concept which seek to maximise learning through CoPs. Wenger (2010), reviewing the use of the concept since the publication of Wenger (1998), notes that the CoP concept has been applied across a huge range of disciplines and industries, further complicating matters.

Development of the theory itself has progressed in several areas. Firstly,

attention is increasingly turning to the issue of multi-membership across different CoPs (Omidvar & Kislov 2014). Furthermore, there is increasing focus on understanding practice from a landscapes perspective, where practice is understood to take place over a broader landscape of practice, whereby processes take place across CoPs (Wenger-Treyner et al. 2015). Secondly, critical development of the theory has largely focused on the issue of power within CoPs. This includes the ways in which CoPs embedded within organisations are subject to power struggles as external agents attempt to control the CoP (Pattinson et al. 2016), as well as understanding the relation between power and knowledge in relation to identity negotiation (Contu 2014). Ferlie et al. (2005) also apply critical attention to the ways in which the role of the “expert” is a contested position, and demonstrate how power is used to legitimate and control who is considered an expert practitioner.

Nevertheless, application of the theory remains instrumentalist in nature. Systematic reviews such as Pattinson et al. (2016) and Bolisani & Scarso (2014) show a preponderance of instrumentalist studies. For example, of the 82 papers Bolisani & Scarso (2014) review, 64 were empirical in nature, whilst 18 were classed as conceptual. The preponderance of empirical studies is, they argue, predicated on an underlying assumption that, following Wenger et al. (2002), CoPs can be created and cultivated within organisations in order to operationalise them for their knowledge generation and sharing capabilities. Whilst the papers they analyse cover a broad range of topics, the process of forming and developing a CoP was the most popular - again, this comes from a pragmatic approach to operationalise CoPs. Their review shows, in line with Amin and Roberts (2008) and Pattinson et al. (2016), that the focus of study has been on application of the theory, and Bolisani & Scarso (2014) note the lack of theoretical development. In particular, little attention has been paid to how learning and knowledge takes place on a day-to-day basis within a CoP.

Whilst LPP is central to Lave and Wenger (1991), the issue of legitimation itself

has been left somewhat undeveloped. In particular, there is no consideration of how broader social identities, such as race, sex, gender, sexual orientation, and so on, impact upon legitimisation, or participation within a CoP (Hughes et al. 2007c). To what degree does a newcomer's participation depend on whether they are perceived as legitimate within a CoP? Both Lave and Wenger (1991) and Wenger (1998) agree that participation in a CoP needs to be legitimated, but treat this as a given, and do not explore how legitimisation happens. As such, for a theory based on social participation in the lived-in world, it is strangely quiet on the social dimensions of legitimisation. A potential reason for this is that Lave and Wenger (1991) focused on apprenticeships in CoPs that were relatively closed with clear boundaries, and expected a trajectory of peripheral to full participation (O'Connor 2003), whilst Wenger (1998) looked at one department within a large, functionalist organisation, with clearly delineated departmental boundaries, and one singular point of access to it: being employed by the organisation within that department. Lave (2008) argues that research has overly relied on a reading of CoP theory that assumes social life to be closed, harmonious, and homogenous, where all participants are members in a learning community. She calls for greater attention to ways in which newcomers arrive at the periphery of a community, and processes by which the status of "legitimate" is conferred or denied.

O'Connor & Allen (2010) call for an understanding of learning as the organising of access, or denial of access, to valued and desired futures, in order to understand how institutional or social inequities preclude some from accessing these futures. O'Connor et al. (2015) argue that it is important to understand the ways in which legitimisation mediates access to learning, and draw on the example of a legally blind student taking an Engineering degree to show how his access to learning is far more fraught and contested than his peers. His disability impacts on his capacity to engage in taken-for-granted practices such as interacting with information presented visually on a whiteboard. As such his progression occurs at a slower rate than his peers as he struggles to complete legitimating activities such as passing Calculus modules. However, this research draws more heavily

on Lave and Wenger's (1991) work on legitimated peripheral participation, than CoP theory. O'Connor et al. (2015) are more concerned with the process of becoming an engineering student, than the process of joining a specific CoP. Greater attention is needed to determine the processes by which access to a CoP is legitimated. Regardless, O'Connor & Allen's (2010) argument that learning is a way of organising access to valued and desired futures has important implications. Someone who cannot access a CoP cannot access the learning necessary for these valued and desired futures; therefore, critical attention to the role of legitimation is crucial.

Relatedly, a key underdeveloped concept is the issue of exclusion from a CoP. Given that a CoP is a form of community, then from a cultural perspective collective identification as a member of a CoP produces an imagined entity that separates insiders from outsiders (Anderson 1991). Jenson (2007) calls for critical attention to processes of exclusion from CoPs, and Hughes et al. (2007b) suggest that broader social identities such as gender and race may be important determinants in deciding who is, and who is not, a member of a CoP. Furthermore, participation should not be assumed to be equally available to all. When considering high technology entrepreneurship for example, the literature suggests that women do not, or are not able to, participate in the same way as men, because of their femininity within a masculine domain (Ozkazanc-Pan & Clark Muntean 2018). Contu (2014: p. 294) refers to this as the way in which a newcomer determines if they are "this" or "that". If they do not identify with the "this" of a CoP, then they may struggle to be included within the CoP. This study therefore offers the opportunity for conceptual development of the theory, to better understand processes of inclusion and exclusion.

2.5 Conclusion and Research Questions

This chapter has provided an overview of key literature surrounding high technology entrepreneurship; workplace community settings, particularly

coworking sites and accelerators, in which high technology entrepreneurship is increasingly taking place; and has outlined the ways in which high technology entrepreneurship is a gendered phenomenon, that privileges the masculine whilst othering the feminine. Furthermore, it has outlined a theoretical approach to understanding high technology entrepreneurship within a workplace community setting, in the form of CoP theory.

Entrepreneurial research has primarily focused on either the entrepreneur him or herself, or the structural conditions within which entrepreneurial action occurs. This may well not be representative of the practice of entrepreneurship; entrepreneurs cooperate and compete at a local level with other entrepreneurs (Van de Ven et al. 2007). As such a communal approach - examining entrepreneurs within their local community - may resolve this. Examining entrepreneurs within a coworking site offers promise; coworking sites attract significant numbers of entrepreneurs, but little attention has been paid to this thus far (Bouncken & Reuschl 2018). Application of CoP theory offers a way to understand processes of community within such a site; as Spinuzzi et al. (Forthcoming) show, to date the literature on coworking has largely left the central concept of community undefined, and vague. CoP theory understands the community to be the locus of learning, and facilities such as coworking sites, and accelerators, are specifically geared towards learning.

However, as Seet et al. (2018) claim, it is not clear precisely what is being learned in such environments. Following Lave and Wenger's (1991) assertion that learning is a holistic practice, that involves the transformation of the self, a CoP approach draws our attention towards the ways in which norms are learned: a startup founder within a community of founders is not only learning the technical skills they need, but is also learning how a startup founder looks, thinks, and acts. As Ozkazanc-Pan and Clark Muntean (2018) argue, the assumed neutrality of practices within these settings is likely masking masculine norms and practices; it is likely that the reproduction of these has a limiting effect on

women's involvement in high technology entrepreneurship. Furthermore, through shifting the analytic focus to the communal domain, it allows us to understand entrepreneurship more broadly as a range of practices undertaken within the community, with the community aligned towards the production of entrepreneurship.

Despite the applicability of CoP theory, there are nevertheless areas for theoretical development. The issue of legitimation is one such gap; how is a newcomer legitimated? Who gets included and who is excluded? This issue of exclusion requires further theorising; the term "community" encourages us to assume that CoPs are welcoming to all. How might someone be excluded from a CoP?

Based on this review, this thesis aims to answer three research questions:

Q1: How does a coworking site support entrepreneurship, and what are the processes by which entrepreneurship is communally enacted within?

Q2: What are the mechanisms that might include or exclude a newcomer from a workplace entrepreneurial community of practice?

Q3: How do men and women participate in a workplace entrepreneurial community of practice?

Having set the research questions, the next chapter will discuss how the methodological approach and research design of the study produced the empirical data to answer these questions, and the methods of data analysis used to interpret the findings.

Chapter 3: Methodology

3.1 Introduction

This research aims to investigate how high technology entrepreneurship takes place within a workplace communal setting. Following on from the research questions outlined in the previous chapter, this research will examine how the practice of high technology entrepreneurship is enacted, the ways in which men and women engage in the practice, and, drawing on CoP theory to understand these findings, how processes of inclusion and exclusion are enacted. With this in mind, the research project was designed to understand how participants within an entrepreneurial workplace CoP mutually engage in their joint enterprise, and learn from one another. The purpose was to de-centre the entrepreneur; and, rather than treat the entrepreneur as the embodiment of the new venture (Swaill & Marlow 2018), instead understand entrepreneurship as a distributed practice enacted and constantly being negotiated across the community. In particular, the research was designed to capture the ways in which men and women participate in the community, to understand how one's gendered subject position is negotiated and made sense of at a communal level, and the differing ways in which men and women engage in, and contribute to, the practice of high technology entrepreneurship. In order to address this, a 31-week long ethnographic study of an entrepreneurial community, in the form of a coworking space dedicated to startups, and IT, digital, and creative SMEs, was conducted.

The aim of this chapter is to outline my methodological approach for this study. I will start begin by discussing my epistemological and ontological standpoints. Largely predicated on a subjectivist ontology that assumes that reality is socially constructed, this study will take a mostly interpretative approach, making sense of reality through capturing meanings in human interactions (Burrell & Morgan 1979; Black 2006), whilst still acknowledging the researcher's role in the process

of interpretation. I will discuss how this interpretative approach is rooted in an anti-positivist epistemology, which rejects the notion that reality can be objectively measured and analysed (Burrell & Morgan 1979), and justify why this approach is suited to my ethnographic research methodology. This will lead to a discussion my research methods, including my choice of field site, and the use of observations, interviews, and visual and other data. As part of this I will discuss the issue of researcher reflexivity, including my changing forms of participation, and the interplay between researcher and subject, as well as addressing ethical concerns. Finally, I will provide a description of my data analysis techniques, using a grounded approach (Strauss & Corbin 1998).

3.2 Ontology and Epistemology

An ontology is a theory of reality, and the nature of that reality (Stanley and Wise 1993). Within the Western world, our understanding of reality is largely predicated on a Cartesian dualism of subjectivity and objectivity (Hart 1996). Descartes understood the world as having two foundations, the first being the mental, and the second being the material. The mental foundation is our subjective sense of self, or consciousness, and this consciousness is distinct and separate from the material foundation, which is the objective, out-there world. As such, metaphysical debate surrounding the nature of reality is broadly divided into two ontological categories. The first is a realist ontology which assumes that social and natural reality exist independently of our cognitive structures, whilst the second is a subjectivist ontology which assumes that external reality is created by our cognitive structures (Johnson and Duberley 2000).

Each ontological approach has profound implications for how we gather, produce, and interpret knowledge, and as such our ontological alignment informs our epistemological perspectives. Since the Enlightenment, the realist ontology has been privileged within the West. This assumes an objective, out-there reality exists, and we can therefore produce true, factual, neutral knowledge about this

existence through the application of the positivist epistemology of the scientific method. Science is assumed to be autonomous - uninfluenced by social or political values; neutral - it does not presuppose any judgements; and impartial - theory is only accepted if the evidence supports it (Lacey 1999). The goal of science is to produce knowledge that is valid, verifiable, and falsifiable, where an observed phenomenon can be explained through empirical testing (Hempel 1966). As a result, the goal of Newtonian, physics-based science is to identify the efficient cause of an effect (McKelvey 2004): by isolating and controlling all variables being observed, we can observe and predict how manipulating one variable affects another.

On the other hand, a subjectivist ontology typically results in an anti-positivist epistemology (Guba & Lincoln 1994). If reality is constructed by our cognitive structures, then scientific facts are not objective statements of truth, but are instead sets of beliefs that have managed to prevail within particular social contexts (Johnson and Duberley 2000). Kuhn's (1962) concept of the scientific paradigm illustrates this. He argues that scientists work within a paradigm: a set of beliefs, assumptions, values, and techniques, centred on practical application. This paradigm has a regulative affect on its community of practitioners, as all work and theorising is grounded within a shared way of working and thinking, and scientists cannot stand outside of their respective, culturally derived, paradigm. As a result they have no neutral standpoint from which observations can be taken objectively, and so theory cannot be produced neutrally. Kuhn argued that paradigms can change, but it is a gradual process that is inherently political, as proponents of the new paradigm challenge the establishment.

Therefore, anti-positivists argue that there are no neutral grounds for knowledge, and observation and theory are value-laden and informed by our beliefs and cognitive biases. This has given rise to postmodern epistemologies, which see knowledge as produced by particular, culturally specific, language-games (Lyotard 1984): meaning is always constructed in and through language, which is

constantly in flux due to the polysemic nature of language (Ullman 1957). In other words, there are always multiple meanings and interpretations available, but only certain interpretations become accepted as “truth” within a given context. This is because knowledge is inextricably linked with power (Foucault 1980); those with privileged access to the means of creating and mobilising knowledge claims within a given context are empowered (given the right to speak and analyse), and able to subordinate and discipline others. In particular, Foucault (1980) identifies how science in the West has achieved a hegemonic position within the hierarchy of knowledges, and as such “scientific” knowledge has the power to suppress other knowledges. As an example, critical feminist research on healthcare practices has shown how doctors within a primarily male healthcare system have historically used their privileged access to scientific medical knowledge to discriminate against, exploit, and dominate others, particularly women, by dismissing women’s subjective knowledge-claims of their experiences (Sherwin 1992).

As a result, subjectivist epistemologies reject the notion that the quantitative, reductionist methods of scientific research can describe the “true” nature of a social reality. This is not to say that quantitative methods cannot be used outside of positivist traditions, but from a subjectivist standpoint, such research produces only one of a number of possible understandings, and the empirical methods of science are no longer recognised as “the chief arbiter of truth” (Gergen and Thatchenkery 1996: p. 366). Subjectivist epistemologies typically rely on qualitative, as opposed to quantitative, research methods. These methods result in “thick” descriptions (Geertz 1973) of social settings and social actors, recognising their fundamentally complex, idiosyncratic nature. This is in contrast to the thin descriptions of phenomena produced by quantitative methodologies, which focus on analysing how a small number of variables may predict outcomes, and the ways in which these variables can be manipulated in order to reliably produce differing results (McKelvey 2004).

However, the (primarily) qualitative research methods of the subjectivist standpoint are often viewed with suspicion by positivists, who question the legitimacy of knowledge produced, which is specific to a particular time and place, for its lack of generalisability and replicability (Morgan 1983). Knowledge produced within these fields, particularly by research using qualitative methods, would be met with skepticism by positivists for its failure to describe a true, objective reality.

Our ontological and epistemological approaches influence how we do research, and produce knowledge. In the case of gender, an empirical, positivist approach would start with the assumption that the gender binary exists, and is an essential feature of our identity: men and women are distinct groups, with distinct traits (Cosgrove 2003). Research would therefore focus on establishing, quantifying and predicting how men and women differ. Likewise, an empirical, positivist approach to CoP theory would attempt to isolate key variables that can be used to predict, for example, learning outcomes, and how to manipulate these variables in order to reliably reproduce the desired result: a functional and efficient learning community. Alternatively, an interpretative approach to gender would suggest that gender is socially constructed, contingent on socio-historical context, and the social groups in which we operate. Research would therefore look at how gender emerges from our actions and our relationship with culture and society, and analyse the phenomenology of gender from the perspectives of the lived experiences of men and women. In the case of CoP theory, an interpretative approach would look at the situated experiences of the participants in order to understand the complex, emergent nature of these social structures, and how participants make sense of what they do within their socially situated environment. This would assume that meaning arises out of interaction, and is a mutually negotiated process.

Therefore an interpretative epistemology fits my research more closely. Burrell and Morgan (1979) identify an interpretative approach as one of the four core

paradigms for the analysis of social theory, and define it thus:

The interpretative paradigm is influenced by a concern to understand the world as it is, to understand the fundamental social nature of the social world at the level of subjective experience. It seeks explanation within the realm of individual consciousness and subjectivity, within the frame of reference of the participant as opposed to the observer of the action. (Burrell & Morgan 1979: p. 28)

Based on this description, an interpretative approach is better suited to the ideographic nature of CoP theory. An ideographic approach assumes that we understand the world through obtaining first-hand knowledge of the subject under investigation (Burrell & Morgan 1979). CoP theory is a theory of social reality that aims to understand the ways in which we interpret our relations with particular social groups (in this case, CoPs), with our sense of self: we negotiate meaning both through participation in a CoP, and the ways in which we reify our participation (Wenger 1998). Practice is socially situated: "learning, thinking, and knowing are relations among people engaged in activity in, with, and arising from the socially and culturally situated world" (Lave 1991: p. 67). This has implications for the ways in which research is undertaken; Lave (1991) argues that, as part of the socially situated world, the social scientist's practice itself is also takes place within a particular socio-historical context. Just as the researcher's subjects are understood to be negotiating meaning through socially situated practice, so too is the researcher making sense of their research through their own socially situated practice. Having laid out my philosophical approach, I will now discuss how this impacts upon my adoption of an ethnographic methodology.

3.3 The Ethnographic Approach

Theory and method are mutually constituted; theory allows us to interpret or

illuminate a social phenomenon, whilst the methodological process directs how we gather the data that produces the theory (Madison 2011). Our theoretical assumptions will frame how we design our research, whilst simultaneously providing us with analytical tools to interpret the data produced from the research. Furthermore, our theoretical and methodological approaches are also grounded in our epistemological and ontological standpoints; a subjectivist approach acknowledges the analytical value of subjective human experience, value-laden inquiry, and local knowledges (Denzin 2000).

CoP theory is a theory of situated activity, which explores how learning, meaning, and identity are negotiated within small social groups of people, organised around a particular practice. This has implications for the methodology of a research project that examines CoPs; as Lave and Wenger (1991) argue, talk *within* a CoP is fundamentally different to talk *about* it, from the outside. As a result, research on CoPs has primarily been conducted using qualitative approaches, in particular ethnography, in order to understand what is going on within a CoP from within, as opposed to merely observing it from the outside. As Corradi et al. (2008: p. 23) suggest, ethnography is “the key methodology with which to observe social and situated practices and simultaneously to participate in them”. Returning to Lave and Wenger’s (1991) point above, that talk *within* a CoP is different to talk about it, from the outside, it is necessary to adopt a methodological approach that would give me access to an insider perspective (Pike 1990).

Whilst initially ethnography had its roots in anthropology, and the study of “exotic” cultures, disciplines such as sociology began adopting its methods to investigate phenomena “at home” - for example, the Hawthorne studies in the 1920s-30s moved ethnography into the workplace (Neyland 2008). The organisational ethnographer “can shift the everyday into the exotic” (Neyland 2008: p. 7). By applying the methods used within anthropology to understand exotic locations, tribes, and customs, ethnography within organisations applies

skeptical treatment to the everyday goings-on of organisational activity, to determine how people in a particular organisational setting make sense of, and take action within, their day-to-day situations (Van Maanen 1979). Ethnographic research within organisations typically involves the researcher embedding him or herself within the organisation for an extended period of time, to undertake detailed, in-depth, study of a particular group. Organisational ethnography takes the familiar minutiae of everyday organisational lives and demystifies them within their own cultural frame (Rosen 1991): what is being done, and why?

Ethnographic methods are a good match both with the theory of CoPs, and the epistemological standpoint of this research. As previously discussed, CoP theory is a theory of situated activity. Through this lens, action is not random or purposeless, but is instead purposeful and meaningful: activity is a meaningful endeavour undertaken by specific people in a particular time and place as a result of their understanding of their context and environment. O'Reilly (2012) describes CoPs as meso-level structures that are constantly shaped and reshaped, and within which wider social structures are enacted and embodied in the community's participants. As such a CoP is a dynamic structure in which the social life of its participants unfolds through engagement in socially situated practice. Ethnographic research should provide detailed, in-depth, up-close examination of a particular group, and the way that group operates, to understand why they do what they do (Neyland 2008). Ethnographic research therefore puts situated activity theory into practice: by taking the everyday activity of persons acting in their setting as our unit of analysis, we examine the relationship between an individual and their environment (Lave 1988). This is the essence of what Geertz (1973) means by "thick description": thick description is the blending of behaviour, and locally negotiated meaning.

Ethnography as a practice is simultaneously method and methodology (Brewer 2004), providing both the necessary analytic tools, and organising the approach to the research (Hammersley & Atkinson 2007). However, it is also a highly

varied methodological concept; as Whitehead (2004) argues, it is difficult to arrive at a singular definition of what characterises ethnographic research. Instead, he proposes a number of core attributes of ethnographic research. These include adopting a holistic approach to socio-cultural contexts, processes, and meanings; the necessity of fieldwork; the adoption of a range of different research methods; an iterative and emergent learning process; and an emphasis on interpretative processes.

For the purpose of this study, ethnography is used for four reasons. Firstly, CoP theory is a practice-based theory: learning, meaning, and identity are negotiated through engaging in practice (Wenger 1998). An important aspect of CoPs is their temporal dimension; they produce a shared history of interaction and unfold over time (Wenger 1998). As such, in order to understand the practice of a CoP, it is necessary for a research design to feature participant observation over a timescale, in order to understand the ways in which participants engage in practice, and the history behind their interactions and practices. Observation lies at the heart of data gathering within ethnographic studies (Rosen 1991). Ethnographic participant observation allows the researcher to record the daily and on-going behaviours within a CoP over time, and this is an essential component to generating “thick description” (Geertz 1973). Whilst interviews are one of the most common forms of qualitative data gathering, a methodology that relies on interviews alone relies on taking the participants at their word. By contrast, ethnography allows a researcher to both hear what is said, and see what happens in practice (Neyland 2008). This allows for the fact that participants are constantly engaging in practices of managing themselves (Collinson 1998), and as such, in an interview, a participant may present a counter-factual account of an event or phenomenon, for a variety of reasons. This is not to diminish the importance of interview data, but when what is spoken about is coupled with what is observed, discrepancies may in fact yield important insights about power relations within the field setting, or processes of negotiation of meaning.

The second justification for an ethnographic approach is that ethnography is a transformational process by which the researcher, through the act of research and embedding him or herself in the field setting, comes to understand locally negotiated meanings from a local perspective, whilst simultaneously maintaining the analytic distance necessary to note how these meanings are locally negotiated. O'Reilly (2009: p. 158) summarises this as a continuous process of attempting "to make the strange familiar and the familiar strange", echoing Neyland's (2008: p. 7) suggestion that the ethnographer shifts "the everyday into the exotic". This is the second dimension of thick description (Geertz 1973); it is not enough to merely observe practice, but one must also understand the locally negotiated meanings that underpin the meaningful behaviour of participants. A simple example of this would be an inside joke; the humour would be immediately apparent to insider participants who share the locally negotiated meaning, but the humour may well be lost on an outsider. The ethnographer comes to straddle the boundary between insider and outsider; able to access the locally negotiated meanings (the everyday), whilst maintaining a role as researcher in order to understand how this happens (the exotic). As Aull Davies (2008) suggests, this process is enabled through researcher reflexivity; balancing one's connection with that being researched, and one's degree of separation from it.

Thirdly, ethnography allows for a more holistic approach to the research problem. Ethnographic research takes place within the lived-in social world (Van Maanen 1979), and a crucial aspect of ethnographic research is that it relies on fieldwork (O'Reilly 2009). Whilst it is possible for a field research site to be purely virtual (Hine 2000), in the case of this thesis, the research takes place primarily within a real-world field setting. As Lave (1988) argues, researching situated activity requires examining the relationship between an individual and their environment. A CoP is a meso-level structure (O'Reilly 2012) within the social world, and is shaped by, and to a certain extent reproduces, structural norms. A CoP is not

immune to broader systemic issues. For example, given my interest in gender for this research, an entrepreneurial CoP is not immune to the structural deficit of women in both IT (Servon & Visser 2011), nor the deficit of female startup founders (Kuschel & Lepeley's (2016); however, the CoP is the location wherein this deficit may be determined (or not) to be meaningful. The presence, or absence, of female IT workers or startup founders within the CoP will have locally negotiated meaning(s) in relation to the structural issue of the deficit. Participants will not be immune to these broader systemic trends, but will make sense of them in their own ways.

Finally, the ethnographic approach sits well within the interpretative paradigm of this research. Ethnographic methods are typically applied in an iterative-inductive fashion (O'Reilly 2009), with the research process forming a progressive spiral, as data collection and analysis sensitises the researcher towards emergent themes within their data, guiding them towards shared socially constructed meanings, which are then reconstructed through the language of social science into findings and theory (Blakie 1993). This produces data that is unstructured, yet systematic (Brewer 2004); initially, the researcher captures and records as much as possible; and, as they become acclimated to the field setting, they begin to direct inquiry towards meaningful issues through a constant iteration of data collection and analysis. This is achieved through embedding oneself in the field, to understand taken-for granted social routines, embodied practices, and informal knowledge, that would otherwise be inaccessible (Gupta & Ferguson 1997). Through this immersion, the researcher comes understand and tease out the meanings and purposes behind what is done (Frankham & MacRae 2011). In so doing, the researcher is able to access locally negotiated interpretations, whilst simultaneously developing an organisational framework of meaning upon which to hang pieces of action (Rosen 1991). This framework emerges from patterns of interactions within the data (Fine et al. 2009), and does not presuppose to be the sole arbiter of meaning: rather, the framework of meaning is a way of ordering the "gestalt" of experience of the fieldwork (Gonzalez 2000).

3.4 Research Methods

This section describes the methods used for this research project. This includes the selection of the research site and gaining access to it, and the timescale of the project. It also describes the methods of data collection used; including observational techniques, semi-structured interviews, the use of ephemera including blog posts, documents, and photos, and the use of the field site's online messaging service. Finally this section will discuss the ethical implications of the research.

3.4.1 Selecting and Accessing The Field Site: CoWork

My aim for this study was to research an entrepreneurial community *in situ*. The selection of an appropriate field site is considered one of the initial challenges of an ethnographic research project (Gobo 2008). The main criterion for the selection of the site was the presence of a number of startup companies within a single site, in order to observe the day-to-day interactions of founders, and startup employees, within a situated context. Madison (2011) suggests that researchers should where possible mobilise their prior knowledge of an industry in order to select an appropriate site: in this case, my prior experience as a Recruitment Consultant working within the IT industry came into play. During my time in recruitment I had focused on digital, new media, and startup businesses in the North of the UK, and through my former professional contacts, I was aware of a moderate-sized coworking space in a large Northern city, which in this study I am calling Northam⁵. This coworking space, which in this study shall be referred to as “CoWork”, was familiar to me as the host of an annually run startup accelerator programme (please see section 2.2.3.1 for a discussion of the distinction between coworking spaces and accelerators). Research on social

⁵ For the purposes of this study, all organisations, locations, and participants, have been assigned pseudonyms.

media, and CoWork's website, confirmed that it hosted a number of startups as members.

In order to negotiate access, I attended a conference focused on women working in the digital sectors, at which I had noted the Chief Operations Officer of CoWork, Michelle, was due to speak. There, I introduced myself to Michelle, and discussed with her my proposed research topic. She was very receptive to the proposal, and invited me to visit CoWork for a day, to determine if it would be an appropriate field site. I therefore planned a visit to CoWork in November 2015, to spend a day observing and talking with members, in order to scope the site. This scoping visit accomplished two goals. Firstly, it allowed me to become acquainted with the field-site; and secondly, it gave me some insight into the practices of the organisation (Jeffrey & Troman 2004). During the visit I was introduced to a number of entrepreneurs working within CoWork, was given a tour of CoWork's space, spent some time observing work being done, and observed the social interactions that took place. This confirmed the suitability of the site, and I arranged with Michelle to begin dedicated fieldwork in 2016, following institutional approval from my department and university. I also discussed with Michelle if she had any requirements in returning for granting access. She did not wish to charge me any fee to access the space as she was happy for CoWork to participate in a PhD research project; however, she did request that, on completion of the thesis, an executive report of the findings be made available. As will be discussed in chapter 6, Michelle had a particular interest in promoting women's participation in STEM, and encouraging women to found startups. Given that my research proposal stated that I would be investigating the role of gender in high-tech communities, she wanted to hear any recommendations I might be able to make, particularly any suggestions addressing female participation.

3.4.2 Timescale

In terms of time scale, as every ethnographic research setting is different, there is no standard used to determine when enough data has been gathered. Instead, researchers need to spend enough time in the field to become saturated with first-hand knowledge of the setting (Glaser and Strauss 1967), so that the researcher can act like a native (Adler and Adler 1987). This process is expedited within organisational ethnography as the researcher often already shares the language, country of origin, cultural norms and so on of the research subjects.

The concepts of *emics* and *etics* are useful here; an *emic* standpoint represents the viewpoint of the members being studied or observed, whilst an *etic* standpoint represents the viewpoint of an outsider (Pike 1990). LaSala (2003) addresses this in his research on sexual minorities; as a gay male he had an *emic* understanding of the non-monogamous practices of some of his study's gay male participants, and he observed that, based on his interactions with his participants, it is likely that someone with an *etic* perspective would likely hold different assumptions about these practices. As such a researcher lacking an insider viewpoint may end up with markedly different conclusions based on the data, particularly if the researcher lacks a sufficiently deep understanding of the phenomenon in question. In this case, based on my scoping visit to CoWork, and the interactions I had, I was aware that a number of the participants were relatively young, white, straight men, much as myself, and similarly to me shared an interest in "geek" culture, as will be discussed in chapter 6. Of course, this is both an advantage and disadvantage; whilst my *emic* position as a self-identified "geek" in a field site with a number of other self-identified "geeks" expedited my inclusion into CoWork's community, it also ran the risk of blinding me to the exoticism of the everyday (Neyland 2008). As will be discussed later, one way in which I accounted for this was through the practice of reflexive entries in my field notes, to interrogate my own position.

Determining time scale is both a matter of reflexivity, and practical

considerations. Whilst traditionally it is assumed that ethnographers should stay in the field for a year or longer, this may not be necessary, or even possible, particularly in organisational ethnography (Neyland 2008). Organisations may be reluctant to give a researcher continued access for an extended period of time, and there may be other forces acting on the researcher - for example, publication deadlines, or thesis completion dates - which limit the length of fieldwork (Fine et al. 2009). One example of these forces for me was financial; as I was reliant on commuting by train to Northam, commuting costs were a significant consideration. Jeffrey and Troman (2004) suggest it is possible to complete fieldwork in as little as a month within a particular setting, with a directed research theme. Millen (2000) also offers time-deepening strategies for completing ethnographic research within a relatively short time - for example using multiple observational techniques, focusing on important activities, rapidly identifying and mobilising key informants who can provide a great deal of data rapidly, and so on.

Given the nature of my access I initially negotiated spending two or three days a week on site, for a period of three months, starting from the 13th July 2016. I felt this timescale would enable me to both experience the everyday goings-on of organisational activity as actors go about their day-to-day lives (Van Maanen 1979), as well as fixed, repeated, patterned, organised activities, such as the user group meetings, technical talks, and networking events that recur on a weekly, fortnightly, or monthly basis, to build up an understanding of these events over time (Jeffrey and Troman 2004). I made regular visits to CoWork until October 2016. It was at this point that I noted that my field note entries were decreasing in length, and were becoming more focused on particular phenomena. As such, I felt I was approaching theoretical saturation (Glaser & Strauss 1967). However, as I had become a popular member of CoWork's community by this point, both members and staff suggested I continued to visit. As a result, I continued to visit CoWork one day a week until February 2017, when other commitments necessitated I cease my visits.

Table 3.1: Site Visits

Month	Days on Site
July 2016	4
August 2016	15
September 2016	11
October 2016	5
November 2016	3
December 2016	3
January 2017	3
February 2017	1

Table 3.1 shows the time spent on site across my total observational period. My total observational period lasted 31 weeks, and included 45 site visits. For most visits I was on site between 8:30am and 4:30pm, although on some days I did extend my visits later into the evening, in order to attend out-of-hours events, or arrive earlier in the morning, to attend breakfast networking events. In total this represented approximately 360 hours of on-site observation. During the dedicated observational window between mid July 2016 and mid October 2016, I was on site at CoWork for a total of 33 days, across a 14-week period. On average I spent 2.4 days per week on site during this time. For the remainder of the observational period, I was on site at CoWork for 12 days, across a 17-week period, on average spending 0.7 days per week on site during this time.

This temporal pattern was methodologically consistent with the process of becoming part of a coworking site's community. As will be discussed in chapter 4, CoWork offered different tiers of membership. A popular option was a coworking membership, which entitled the holder to dedicated desk space for 10 days per month, or approximately two to three days per week. As such, visiting CoWork two to three times per week during my dedicated observational period also allowed me to experience the temporal dimension of membership, and build

up relationships and patterns of interaction over this time. Extending the observational period allowed me to retain these relations, and continue to track longitudinal events, such as the formation of new groups, for example the creation of The Workshop, discussed in chapter 4. Furthermore, this extended observational period allowed me to engage in processes of deconstruction, construction, and confirmation (Gobo & Molle 2017). Whilst the initial observational period uncovered a wealth of data and interactions, I had more space to reflect on these during the extended period, engage with emergent themes and concepts, and direct my attention to them. My field entries became shorter during the extended observational period, but more focused on particular phenomena.

Furthermore, it should be noted that as part of my access to CoWork, I was also granted access to Slack. As Parrino (2015) notes, the presence of an online organisational platform is an important feature of a coworking site, as it provides means for members to communicate and interact virtually; Garrett et al. (2017) also found that the online platform used for communication at their coworking site played a very important role in developing a sense-of-community. Slack was the online communications tool used by CoWork. Slack will be described in detail later; being added to it granted me access to CoWork's virtual community during the entirety of the observational period. As such, whilst I was not on site every day, like every other member with access to Slack I was able to communicate with members, and observe and participate in the discussions that took place online. As a result Slack was an important source of data, and method for tracking (online) interactions over time.

3.4.3 Participant Observation

Observation lies at the heart of data gathering within ethnographic studies (Rosen 1991). This relies on the researcher gaining access to the field, and there are several ways to do this. A total participant (Gans 1968) is a researcher who is

fully embedded in the field; in an organisational context, this may entail the researcher taking a job within the field, or basing their study at their place of employment. A total participant is likely to have excellent access to the research site, and can engage fully in the practice to understand it. However, there is a risk that a total participant may "go native" and lose their sense of being an observer, becoming completely immersed in the culture they are studying and in doing so abandoning their academic culture (Noaks and Wincup 2004). Furthermore, it raises questions of power relationships, particularly if the research is clandestine or the researcher is being paid.

Alternatively, a total observer (Gans 1968) is a researcher who is completely uninvolved in the practice of the field; in an organisational context this could be an ethnographic consultation firm hired to study an organisation. The risks a total observer faces are different; they may struggle to gain meaningful access to their research subjects, and if they do not participate in the practice at all, they may miss out on meanings that may only become apparent through engaging in practice. A total observer may be seen as an outsider or interloper, and within an institutional setting the researcher may be interpreted by the participant as a form of managerial surveillance; a Panoptic figure whose presence leads the subject to self-discipline their behaviour (Foucault 1977).

My negotiated access determined the extent to which I was able to participate. I was not able to be a total participant, as I am not being employed in any function either by CoWork, or any of the businesses within it. Furthermore, as I am not a programmer or entrepreneur, I was unable to participate in the technical or entrepreneurial work that goes on within. However, given that the incubator is a collaborative, networked space, I did not feel that a total observer would be suitable; my intent was to understand the processes of the space from more of an insider-perspective, which necessitated participating within the community of CoWork. As such, my position would be best described as a participant-observer (Gans 1968).

It is important to bear in mind that the relationship between researcher and participants is mutually constructed and negotiated. Research participants can influence the role of the researcher by choosing the degree to which they will participate in research, whether insisting on a greater level of participation than the researcher might wish, or rejecting the relationship altogether by refusing to cooperate (Graveling 2009). Furthermore, the nature of CoWork as a site meant that it was not possible to spend equal amounts of time with all members. Members worked from CoWork on flexible schedules, and so were not always present when I was. As a result, I spent more time with members who were present in CoWork more regularly, but also made an effort to engage with more peripheral members, in order to get access to a range of experiences. My role was therefore somewhat fluid and changed at different times and contexts. Whilst for the most part I was treated as another member of the community, my position as a researcher was alluded to on a number of occasions. For example, at CoWork's Christmas party, one participant asked me to keep something he told me off the record, and at one point I was told that I should research how developers can find wives (Field Notes 14/12/16). Performing different roles at different times can have an advantage; shifting degrees of participation allow the researcher access to different perspectives (Kleinman 1996), allowing for a more reflexive approach.

As part of ethnographic research, it is important to build rapport with participants, in order to encourage trust and interactions between researcher and participant, and enable the researcher to access the community (Le Dantec & Fox 2015). Tactics to build rapport at an early stage can include identifying key participants who can act as brokers to induct the researcher into the community, or providing something of token value to the community, such as contributing to a task or providing something of perceived value to the group by way of introduction. For Graveling (2009), in her study of religious communities, making small donations to community churches was a way of building rapport. In my case, one of the

primary tactics I used to build rapport and encourage interactions was to provide homemade baked goods once per week. I felt this would be appropriate from an ethical perspective as it was not a financial exchange; furthermore, based on my *emic* perspective (Pike 1990) as a British citizen conducting research in a British workplace, I believed that home-baked goods would be well received by the community⁶. This proved extremely popular with my research participants, and facilitated a number of interactions that developed into productive participant-researcher relations.

Participant observation was one of the central methods of data collection for the research. During the observation period, the researcher becomes immersed within the field, recording naturally occurring events, in order to understand and tease out the meanings and purposes behind what is done (Frankham and MacRae 2011). Ethnographic observations are typically very unstructured in nature; this is a holistic approach where the researcher is guided by prior knowledge and experience, and gathers data based on analysis of other data that has already been collected, or derived from the focus of the research (Jones and Somekh 2011).

In terms of engagement, I attempted to participate in a range of practices within CoWork, in order to get a sense for myself how participants went about their day-to-day lives. This included observing members working in both the open plan work spaces, and in offices; joining members at meal times and participating in socialising there; observing and taking part in leisure activities such as playing games; taking part in public events held by CoWork including networking events; observing “office hours” held by the director of the startup accelerator, and by a venture capital firm’s account manager; joining and participating in an informal group geared towards collaboration called The Workshop; and joining some

⁶ Home-baking is well established in British culture, as shown by the widespread popularity of shows such as *The Great British Bake-Off*, and the annual Macmillan Coffee Morning charity event ran by the charity Macmillan, whereby homes and workplaces are encouraged to hold a bake-sale of homemade goods with proceedings going to charity. My research site, CoWork, participated in one of these Macmillan Coffee Mornings during my observational period.

social events, including CoWork's Christmas party. Overall, the aim was to experience a broad swathe of activities and practices within CoWork, and through the longitudinal nature of the participation, gain an understanding of the ongoing patterns of practices and interactions.

In order to record observations, I used a field journal. Initially I used a pen and paper journal to record my entries; however, I realised after a few site visits that this had the unfortunate side effect of marking me as an outsider. Within CoWork, a space geared towards IT and digital media professionals, the use of pen and paper was the exception, rather than the norm, and the notebook itself became a rather obvious symbol of observation. On one occasion one of the staff jokingly said, "I dread to think what you are writing in there!", in response to a member commenting on the notebook. As such, in August 2016 I made the decision to switch to making electronic notes. This had several benefits. Firstly, as another (relatively) young man working from a MacBook, I appeared more similar to other members of CoWork. Secondly, word processing allowed me to write notes far more quickly and efficiently, allowing me to record more, and more detailed, observations. Finally, it expedited the process of analysing the data, as I was able to use software tools for my analysis, and therefore did not have to transcribe word-processed notes before being able to add them to the software.

My process of recording observations involved making notes of events I witnessed, as I was witnessing them, where possible. In cases where I was observing meetings that may have contained sensitive information, I got permission from all involved to make notes, and assured them I would not be making public any sensitive or identifying information. For participant-interaction, I would put my laptop or notebook away to engage with participants directly (rather than from across a book or screen), and write up notes immediately after the event, whilst it was still fresh in my mind, to ensure it was as faithful as possible. Particular sentences or phrases that I remembered which I felt were important would be noted down as direct quotations, whilst the remainder of the

discussions would be summarised. As an example, an extract is given below, showing an interaction between Ed (CTO HealthApp), and Will (Cofounder Market.io), during a chance encounter I observed in the kitchen:

Ed asked how they were going and if they had just had a meeting; Will said they had, a bit of a crisis one - "why won't anyone buy our product?". Ed laughed at this, said it was all "part of being an entrepreneur", which Will agreed with, and asked if they were planning to pivot. Will said that they had discussed a pivot, but still have a "few more irons in the fire yet". Will said they had a bit of a "hysterical" moment where they all started "hysterically giggling" to keep them from crying. Ed laughed again, and said, "at least you still have money. We can measure the amount of money we have left in hours!". As they left Ed asked if Will knew that they had moved out of their offices. (Field Notes 1/9/16)

As mentioned earlier, a further use for my field journal was to engage in reflexive journal entries, in which I reflected on my observations, and in particular, my own role as a participant/observer/researcher. Researcher reflexivity is important as it encourages the researcher to consider the contingencies involved in creating the data (Brewer 2004); particularly the ways in which the researcher's presence, and dynamic position as an insider/outsider produces unique interactions between the researcher and participants (Graveling 2009). It also encouraged me to critically reflect on my own position, and maintain a degree of analytic distance from my participants, whilst also considering the power relations between researcher and subject (O'Reilly 2009). I reflected on this at several points, and an example is shown below:

Again, my agenda as a researcher came up. Because of the transient nature of the use of the space, with actors coming in and out, it is important to remember that there are many who are not that aware of what I am doing. It remains important to be honest and upfront with

everyone; Marcus's [Software Engineer DistribuCo] comments showed this when I got yet another joke about my research being a form of spying. Whilst just jokes, they do show that being observed, even if there is no malicious intent behind the observation, has an effect on that which is observed, and in every observation there is the potential for ethical violations. (Reflexive Entry 16/8/16)

I will discuss the ethics of the research project in more detail in section 3.4.7.

3.4.4 Semi-Structured Interviews

Ethnographic research typically combines observation with interviews (Farnham and MacRae 2011). Ethnographic interviews typically come in three forms: oral histories, where a subject recounts their experience of social historical moments; personal narratives, where subjects give their individual perspectives on an event, experience, or point of view; and topical interviews, where a perspective on a particular subject, issue, or process is sought (Madison 2011). In particular for this research, oral histories and personal narratives were felt to be important, in order to gain data on historical events that I was not able to observe (such as the accelerator programme which a number of the participants had taken part on), as well as hearing my subjects' perspectives on particular issues. Research on CoPs has typically adopted this approach: combining observations with interviews in order to understand group members' own accounts of their experience within the group over time (Thompson 2005).

In addition to the participant observation, I carried out a small number of semi-structured interviews with purposively sampled participants. Purposive sampling involves seeking out participants based on criteria that are assumed to be relevant to research criteria (Guest et al. 2006). An advantage of purposive sampling is that important themes and concepts can emerge in a relatively small number of interviews; in Guest et al.'s (2006) paper, from a study of 60

interviews, they found that theoretical saturation occurred after 12 interviews, but key themes were emerging from as early as six interviews. For this research, I conducted a total of nine interviews, each lasting from forty-five minutes, to over an hour.

Table 3.2: Interviews

Participant	Sex	Age	Position and Company	Date of Interview
Michelle	F	Mid-30s	Chief Operations Officer, CoWork	3/8/16
Deborah	F	Mid-20s	Cofounder, GameCo	31/8/16
Pete	M	Mid-20s	Cofounder, GameCo	2/9/16
Adam	M	Mid-20s	Cofounder, Market.io	29/9/16
Cynthia	F	Mid-30s	Cofounder, SocApp	29/9/16
Eugene	M	Early-40s	Founder, Copter	29/9/16
Ed	M	Mid-20s	Chief Technical Officer, HealthApp	4/10/16
Zack	M	Mid-40s	Founder, DMCo	6/10/16
Jenny	F	Mid-20s	Community Manager, Funder	11/10/16

Table 3.2 provides details of who I interviewed, and when. Whilst a small number overall, interviews conducted in this manner can play an important role in complementing the data gathered through other methods, particularly when questions are based on observations from field notes (Spradley 1980). These interviews came to play an important role in my data and analysis for a number of reasons. Firstly, as shown by Guest et al. (2006), important themes can emerge from a relatively small number of interviews. When reading and analysing these interviews in conjunction with other data, I was able to more systematically

address emergent themes. Secondly, through purposive sampling, I was able to target particular participants with whom to engage in more detail. In particular, I wanted to speak to startup founders, and six out of nine of my interviewees were startup founders. This allowed me to better understand how these founders made sense of what they did from their perspective. Furthermore, given the relatively small number of women within CoWork overall, purposively sampling women who were active members of CoWork's community, including a member of staff, two startup founders, and a startup's employee, allowed me to understand how they made sense of their roles within the community. Finally, it gave me access to historical data outside the observational window of my study. For example, an important piece of data came from Michelle's (COO CoWork) interview, when she told me a story of evicting a company from CoWork who had frosted their office door. This became a vital part of understanding processes of exclusion.

Following Spradley (1980), I did not begin interviewing straight away, but instead waited until I had a sense of the research setting, had identified several key participants, and had begun exploring some important themes emerging from my observational data. As the dates on the interview showed, the majority of the interviews (6/9) were conducted towards the very end of the dedicated three-month observational window, at the point where I felt well grounded in the research setting. Choice of interview date and time was also dependent on participant availability; the reason why three interviews were conducted on one day was because two of the participants asked me to reschedule their planned interviews for that day instead. Transcribing and reading through the earlier interviews also generated some insights for the remainder. All interviews were tape-recorded, with the consent of each interviewee, and all bar one conducted in one of CoWork's meeting rooms, for the purposes of privacy. Michelle's (COO CoWork) interview was conducted in a nearby cafe, at her request. These interviews were semi-structured in nature; for each I determined a list of topics that I wanted to address. Common topics included life history, career history,

attitudes towards entrepreneurial practices (for the startup founders), and the value of CoWork's community. As these were semi-structured interviews I was responsive to the participant, recognising that the interviewer and interviewee are partners in co-constructing knowledge through the interview process (Holstein & Gubrium 1995), and if the participant wanted to discuss a particular topic, we turned the focus of the conversation to that. Whilst the interviews were limited in number, they nevertheless produced high-quality, relevant data in conjunction with the other forms of data collected, and many of the interviews play a central role in this thesis.

3.4.5 Slack Logs

As discussed earlier, as part of my access to CoWork, I was also given access to CoWork's Slack account. Slack is a web and mobile application widely used by businesses as an online platform for communication and file sharing. Unlike a tool such as Twitter, where communications between Twitter users are public by default, Slack is a walled garden: you can only access a particular Slack account if granted access to it by the account's administrator. Access to CoWork's Slack account was controlled by Diane (S&M Manager, CoWork); when a new member joined CoWork as a member, they were sent a link to join CoWork's Slack account. They could create a profile (if they did not already have one), and could then communicate directly with all of CoWork's members, as well as participate in public discussion channels.

As noted in Garrett et al. (2017), online communications platforms within coworking sites are important sources of data, and also play a vital role in the production of a sense-of-community within a coworking site. As the virtual space of CoWork's community, access to Slack granted me several benefits. Firstly, it provided me with an additional channel of data to observe interactions and behaviours amongst CoWork's members. Secondly, Slack served as an important element of CoWork's shared repertoire (Wenger 1998), containing as it

did a searchable history of interactions, and a great deal of informal knowledge and in-jokes, accessible and understandable to members. Thirdly, it provided me with a way of observing participants remotely; as Slack has a smartphone application, I was able to log on daily during my observational window, in order to keep updated on what was being posted and discussed on Slack. Finally, it provoked some interactions that would not be possible without it; for example, I noted that Deborah's (Cofounder GameCo) profile picture on Slack was a picture of Deadpool, the comic book anti-hero. This enabled me to ask her about this, and develop my understanding of geek culture and identification within CoWork.

In terms of functionality, Slack provides instant private messaging between individuals; instant private messaging between groups; file sharing between individuals and groups; and "channels". A channel is similar to a chat room; public channels are searchable and available to all within CoWork's Slack, whereas private channels are not searchable, and members have to be added individually by an administrator of the channel. A channel contains a log of all messages posted to the channel, as well as all files shared to it. Anyone who is a member of a channel can access this log, and add to it.

Figure 3.1: A Screenshot of the #bizdev Channel on Slack

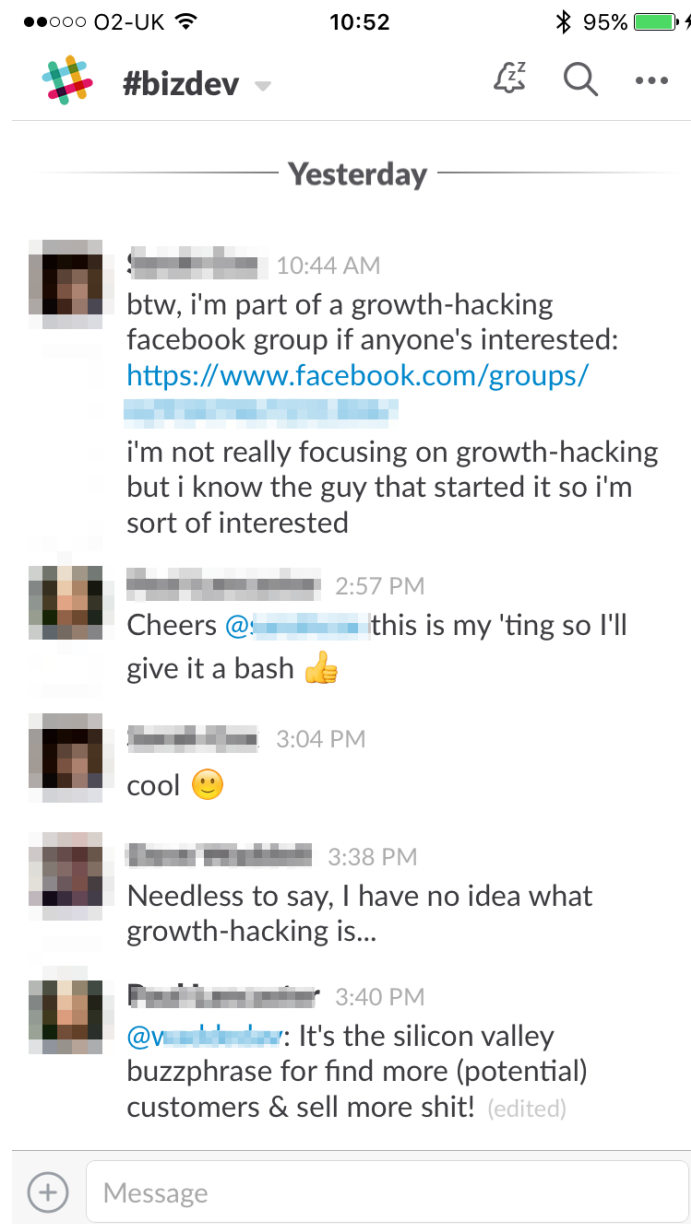


Figure 3.1 illustrates what a channel looks like to a mobile user of Slack. This is the #bizdev channel, one of the public channels used in CoWork. In each case,

the members' pictures, usernames, and names have been redacted, for anonymity. In this example, the first member is providing a link to a "growth-hacking" group on Facebook that she had joined. A second member who was a digital marketer thanks her for providing the helpful link. A third member says he does not know what "growth-hacking" is, and so the second member explains that it is a Silicon Valley "buzz phrase" for, essentially, digital marketing. He also directly tags the third member in his reply, which would notify that member that he had been mentioned.

When a user is added to Slack, they have to fill out a profile of themselves. This profile includes their handle (mine, for example, was @andrewf), which is used to tag members in discussions; their full name, which is labelled at the top of each message they send; their contact information including what company they work for; and all users are encouraged to include a picture of themselves (although this is not obligatory), which is displayed next to their name. This means that there is no anonymity, and you cannot create multiple accounts. You have one account, and it is tied to your physical identity.

Public channels are searchable and available to all within CoWork's Slack, whereas private channels are not searchable, and members have to be added individually by an administrator of the channel. CoWork's Slack had a number of public channels, the four most commonly used of which were #General, used for general discussion and announcements; #Random, used for more light-hearted, irreverent discussions; #Tech, used for discussions about technology, and #Food, used to discuss food, for example if someone had brought in some food to share, or to arrange going out for a meal. Everyone could comment on these channels, and Slack also has the functionality to "react" to a message that someone has sent on a channel: you can add an emoji from Slack's internal emoji library to a message. When someone made a joke, people would often respond with a laughing emoji. Users can also upload documents to these channels, such as photos.

Many of the companies within CoWork also created their own private channels for internal communications, although channels can also be created across companies. For example, all members of the cohort of an accelerator programme were given access to a private channel for that cohort, which also included CoWork's staff and Accelerate's directors.

During the observational window I accessed Slack on an almost-daily basis. I was also able to record a number of interactions, and produced a number of "logs", or screenshots of interactions. In total I took 34 logs; these ranged from just three or four messages sent between two members; to dozens of messages, photos, and gifs sent between a number of members. Furthermore, I also noted interesting interactions on Slack in my field notes, when I observed them, but did not have time to make a log. These provided additional depth to my data, and added an interesting virtual dimension to my findings.

3.4.6 Documents and ephemera

Finally, I supplemented the observational data, interviews, and Slack logs with documents and ephemera gathered during the research process. Ethnographic study often gathers data beyond observational field notes and interview data, for example archival data, visual data, floor plans, relevant organisational documents and so on - this data forms part of the overall research site from which findings can be drawn (Fine et al. 2009). The documents and ephemera gathered included blog posts written by CoWork's staff, and the staff of the accelerator programme a number of the startups had been through; content from CoWork's website, and the websites of CoWork's startup websites; social media posts including tweets; and some illustrative photos of the research site. Many of these sources were useful in providing background information, and also played an important role during the iterative process of collection and analysis (O'Reilly 2009), as I revisited these documents and ephemera during the analysis

process, making sense of them in light of emerging concepts and themes.

Furthermore, I also supplemented the data with several photographs taken within the site. I felt that these would be useful not only from an impressionistic perspective, to record parts of the site that had made a particular impression on me, but also to use as data to analyse the presentation of the space, and how it is meaningful. The pictures I took were primarily of visually striking decorations within CoWork, such as the large mural in the cafe area, and the comic book decoration I found in the toilets. This adds a visual dimension to the data presented here; as Pink (2013) notes, the visual is inextricably interwoven with identities, narratives, lifestyles, and cultures, and including a visual element can contribute to our understanding of CoWork's culture as it is expressed visually. Whilst few in number, the photographs presented within this thesis underscore the ways in which normative assumptions are made about *who* is using the space, and what the assumed viewer is "reading" from these visuals (Banks & Zeitlyn 2015).

3.4.7 Ethical Considerations

The ethics of the research process were both a personal and institutional concern. From a personal perspective, I felt a moral obligation to respect my participants, and protect their interests. From an institutional perspective, ethical approval is a necessary step of any research project, and the research design and process outlined within this chapter received approval from the relevant University of York ethics committee. As part of this I confirmed that my research participants would not come from any identified vulnerable groups; that my research was not taking place in a high-risk environment; that I had negotiated informed consent with CoWork's staff; that I would take steps to minimise any risk to participants; and that all participants, organisations, and locations would be assigned pseudonyms for anonymity. However, what often seems ethically straightforward and uncomplicated at the outset of a research project may in fact

be more complex in practice (Iphofen 2013). This section will briefly reflect on some of the issues I faced.

Firstly, informed consent is considered a vital part of ethical research practice (ESRC 2018). However, this posed a challenge for this research; as an ethnographic project conducted within a coworking site which frequently saw new members join, and non-members access the space, it was not possible to obtain informed consent from every single person I interacted with, due to the frequent and fleeting nature of many of these interactions. Wherever possible, informed consent was sought: CoWork's owners and directors approved my access to the site. Upon arrival, the staff sent around an email to all members stating that my research would be taking place, and including a copy of my participant information sheet I had prepared. The response to this was rather enthusiastic; my field notes show I was approached by several members who were very willing to participate, and interested in the project. For any direct observations I made of particular events, I asked for consent from the participants to observe and make notes, with the assurance that no sensitive information (for example information covered by a non-disclosure agreement) would be taken, and all participants would be anonymised. For recorded interviews all participants were given an informed consent sheet to sign and agree to, and were also made aware that they could withdraw at any stage, and request their data be destroyed at any point up until publication. Finally, on my Slack account, I included a note that I was doing a PhD research project onsite, and in discussions with any participants I had not met before, I would tell them very early in the conversation that I was conducting research.

As explicitly gaining consent from all participants engaged in activities at which I was present was not possible, I instead ensured I was as transparent as possible about my role. I also used my own judgment when making notes of discussions; I felt able to make detailed notes about interactions with key participants whom I got to know well over the course of the project, who were fully aware of my status

as a researcher. For other interactions with very transient participants, I made more general notes, and ensured that I recorded no identifying details. I also had to apply a degree of judgment when recording any more dubious behaviour, such as drunken sexist banter at the Christmas party. Whilst this was an extremely rare occurrence, I had to apply judgment as to the extent to which the participant would consent to such behaviour being recorded, and potentially published. In those situations I avoided any attempt at describing the individual, for risk of their being identified: whilst I use pseudonyms throughout, this cannot be assumed to be a foolproof method of anonymising data.

Secondly, and relatedly, whilst I have taken reasonable steps to ensure participant anonymity through the use of pseudonyms, and avoiding giving descriptions which could easily identify a participant (such as an exact description of a startup's product), some data for this thesis has come from publicly accessible sources, such as websites and online blogs, and as a result it might be possible to identify participants and organisations through this. This was also a guiding decision in my data collection process; as part of my process of informed consent participants were aware that I was interested in the issue of discrimination, and as such I would be recording data that could contribute to discrimination, such as conflict, arguments, sexist jokes, and bigoted behaviour and language. Whilst such occurrences were fairly rare, it would have left a gap in the data to not collect them. Instead, I applied a reflexive approach to these: if this were me, how would I feel about such information being published. This guided my decision-making process in the extent to which I needed to anonymise the incident, beyond the minimum of applying a pseudonym.

Finally, whilst I did become friendly with a number of the participants in the study, I had to remain aware of the power relations between the researcher and their subjects, and maintain some degree of separation. For example, in December 2016 one participant invited me on a night out for heavy drinking, and offered to let me stay the night in his spare room in Northam if I agreed. I felt this would not

be appropriate in terms of maintaining analytic distance and could lead to over-rapport, and so politely declined. Overall I felt I was able to manage my relations with my participants successfully; whilst by the end of the research I was on convivial terms with a number of CoWork's members, my role as a researcher had not been lost through over-rapport and "going native" (Noaks & Wincup 2004). Many of the participants regularly engaged with me in discussion about my research, and my being a researcher was on a number of occasions the subject of good-natured jokes. For example, as a method of building rapport, I would bring in home-baked goods once a week to share with members; one member joked that he suspected my research was in fact investigating the effect of sugar on startups. Whilst I became an active participant in CoWork's community, engaging in similar practices of coworking and socialising as many of the members, my role as a researcher was never completely forgotten.

3.5 Data Analysis

Ethnographic analysis is the process of "writing up" one's experiences from the field, and is very much a literary task (Rosen 1991). Van Maanen (1987) suggests that an ethnographer can adopt a realist, confessional, or impressionist approach during this process. The realist approach strives to absent the researcher from analysis, striving to present the data as "realistically" as possible. The confessional approach involves the ethnographer interrogating the text personally - emotional reactions, hardships, unexpected occurrences etc. - to enable the reader to see how the researcher came to understand a particular cultural scene. The impressionist approach "braids the knower with the known" (Van Maanen 1987: p. 81): the ethnographer transforms him or herself into a teller of tales, in which they are a participant, to reconstruct in dramatic form actions that appear notable and important. As Van Maanen (1987) notes, the confessional approach is typically found in secondary analysis of data, where a researcher revisits previously published work and reinterprets it in light of their own experiences. As such, a confessional approach would not be suitable for this

thesis. The risk with a purely realist approach is that it may force a singular interpretation upon the data, foreclosing the possibility of alternate understandings, whilst a purely impressionist approach runs the risk of appearing to be a narrative, with little empirical base. As such, this thesis will blend the realist and impressionist approaches: I rely on my gathered data to allow to speak for itself, and present participants using their own words wherever possible, with the aim of facilitating a sense of trustworthiness (O'Reilly 2009), without assuming that my interpretation is anything more than a partial account (Brewer 2004) of a highly complex and polysemic research setting.

Typically within ethnographic research, coding and analysis of data begins as soon as data collection begins (Fine et al. 2009). This is an iterative process of selecting and sorting data into clumps: these data clumps then go on to create an organisational framework for analysis (Glesne 1999). Coding typically begins with generic categories, such as places, people, key topics or events (Madison 2011), and may be hierarchical in nature: low level coding groups together concrete data, whilst high level coding organises around abstract ideas (Carspecken 1996).

In order to analyse the data, I primarily used a qualitative data software analysis package: NVivo. Field notes, interview transcripts, Slack logs, blog posts, documents, and photos were uploaded to NVivo to facilitate management of a large and diverse set of data. For analysis, I adopted a grounded approach (Strauss & Corbin 1998). Strauss and Corbin (1998: pp. 9-10) provide a list justifying the use of grounded theory with qualitative research. These include the ways in which grounded theory: develops theory grounded in data; assumes that people act in meaningful ways; acknowledges that meaning is defined through interaction; and allows for “awareness of the interrelationships among conditions (structure), action (process), and consequences”. These justifications in particular suggest that a grounded approach is methodologically well suited to a practice-based theory such as CoP theory, which is also predicated on the

assumption that meaning is negotiated through interaction (Wenger 1998). Furthermore, they stress that grounded theory is intended to be a flexible approach, which I felt important for a research project relying on diverse sources of data. Finally, whilst “pure” grounded theory assumes that the researcher approaches the data with no preconceptions, it can also be used “to elaborate and extend existing theory” (Strauss & Corbin 1998: p. 12): the main feature of the method is simply that concepts are grounded in data.

To begin analysis, I adopted open coding techniques, relying initially on “microanalysis” (Strauss & Corbin 1998: p. 57) of the data. This involved careful, word-by-word and line-by-line analysis. Starting with my initial interviews, coding progressed in an inductive manner, starting initially with general categories such as “Participation”, “Community”, and “CoWork”. As discussed, given I was interested in extending an existing theory, some codes (such as “Participation”) were suggested to me through my understanding of CoP theory; however, I remained open to other lines of inquiry. Initially coding was done on paper copies of the transcripts; as the quantity of collected data built, I began using NVivo. The initial coding on paper was basic and explorative, and served to guide me towards emergent themes. These were used to both refine ethnographic questions for later interviews (Spradley 1980), and to sensitise me towards interesting interactions to observe and discuss with participants.

Analysis proceeded in what O’Reilly (2009) terms a progressive spiral; to-ing and fro-ing between collection and analysis. As Strauss and Corbin (1998) note, whilst microanalysis serves as a useful starting ground for coding, this is not to say it was carried out on all materials. Instead, as an emergent structure arose, new data was scanned for interesting or relevant material, and I continued to revisit older data to revise my current understanding against material that had already been analysed. Over the course of this process, I began to build dimensions into the data, and began linking previously separate categories together, as I came to understand that a particular code was in fact a sub-

category of another. As an example, whilst initially I was treating collaboration as a *sui generis* phenomenon, I came to realise that collaboration was a subcategory of my theme of “Community”: collaboration, whilst a practice, was a process of community. Themes were generated out of the data analysis rather than being built into data collection (Hammersley & Atkinson 2007). Once a framework was in place, the literary process of writing up the data into findings was the final stage of analysis (Rosen 1991).

3.6 Conclusion

This chapter has outlined the philosophical approach this thesis is predicated upon; assuming an interpretative approach in which social reality emerges through the meaningful interactions of actors. This approach is a suitable complement to the ideographic nature of CoP theory; a theory of socially situated practice, in which meaning is mutually negotiated through participation. It has outlined the ethnographic approach the study has taken, and described the methods used to gather data, and the analytical techniques that ground the findings in data, from which themes and theory emerge.

The purpose of this thesis is to examine high technology entrepreneurship as a socially situated practice that takes place at the communal level. Through the selection of a coworking space that hosts startups, SMEs, and freelance workers within the IT, digital, and creative industries, the methods described above enabled me to gather rich and deep qualitative data of men and women within this space engaged in their day-to-day work, and the ways in which they worked together, socialised together, and learned from one another. Through my journey as an ethnographic researcher to becoming a member of this community, I was able to gain an insider perspective on how meaning was negotiated, and individuals made sense of their work and practices. In particular, the ways in which I myself was included generated insights into processes of inclusion within the site, whilst observational data and interview data revealed how processes of

exclusion worked.

Over the course of the next three chapters I will present these findings. Chapter Four will introduce the research site in more detail, to familiarise the reader with the setting, and will also discuss the key concept of “community”, and how it was negotiated by members. Chapter Five will discuss processes of participation at CoWork, and the ways in which varying forms of participation contributed to CoWork’s practice. The final empirical chapter, Chapter 6, will address how participants negotiated their gender within the context of their work, and the gendered division between technical, “hard” work, and relational, “soft” work.

Chapter 4: CoWork and Community

4.1 Introduction

Chapters Four, Five, and Six comprise the empirical findings of this thesis, and are intended to be read sequentially. The purpose of this chapter is to introduce the research site, in order to provide the situated context of the study. Following Bouncken & Reuschl (2018), I will describe CoWork along three key dimensions; its providers, its space, and its members. Furthermore, this chapter will discuss a further dimension of CoWork; its community. Community is a key concept to coworking (Spinuzzi et al. Forthcoming). This section will describe how CoWork's providers understand the concept of community, and reified it as part of CoWork's enterprise, as well as describing how the community manifested in the form of "vibe" and collaboration.

4.2 CoWork's Providers

This section will detail the team behind CoWork. It will introduce the staff, and the owners. It will describe the history of CoWork and how it emerged from an accelerator programme, to act as a permanent home for the programme, before becoming a separate business. Its current business model will be explained, as well as its mission according to its staff and owners.

4.2.1 CoWork's Staff

Figure 4.1: CoWork's Organisational Structure

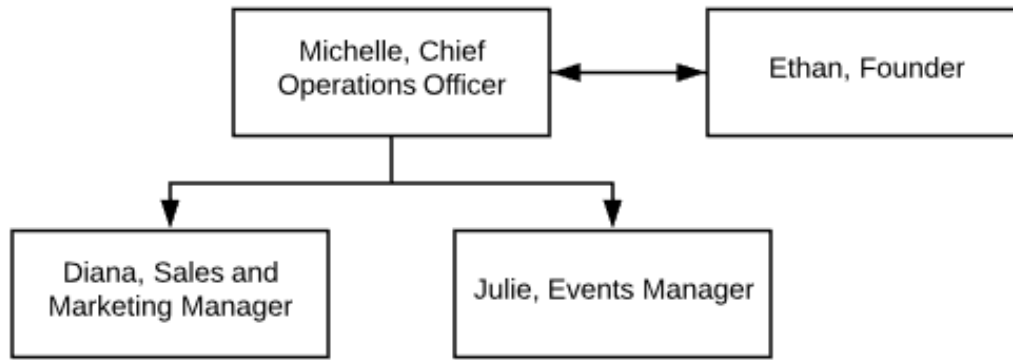


Figure 4.1 outlines the staff hierarchy at CoWork. CoWork was a small organisation with two director officers, and two members of staff. Michelle and Ethan were both founders and directors of CoWork. Michelle was the COO of CoWork and worked full-time on site; Ethan was the director of Accelerate, the accelerator programme that was formerly hosted by CoWork. CoWork and Accelerate's history will be discussed below. Ethan was a non-executive director and only works from CoWork for approximately two days each month. He worked full time with Accelerate and was primarily located in Accelerate's London offices.

Besides Michelle, there were two other full-time staff at CoWork. Diana and Julie were two full-time employees, and report directly to Michelle. Diana was the Sales and Marketing Manager, and Julie was the Events Manager. As Figure 4.2 shows, CoWork's hierarchy was fairly flat. Diana and Julie were both equal in seniority, and both reported directly to Michelle; the three of them comprised CoWork's operations staff. The operations staff was responsible for the day-to-day management of CoWork. This included administrative duties, such as answering the phone, meeting and greeting visitors and showing them around, handling mail, planning and scheduling the use of the meeting rooms within the space, and dealing with any member issues as and when they arise. They ensured the space was kept neat and presentable, and were in charge of making sure that the refreshments available to members, such as tea, coffee, milk, sugar, and fresh fruit, were kept stocked. All three were personally involved with

the upkeep and arrangement of the space, and all took part in painting and decorating it during its rebrand in 2016. In addition, each had certain specific areas of responsibility.

Michelle was the COO, and was in charge of the daily running of the site. She was in her mid-30s, and was a founding member of CoWork, which was founded in 2014. She was responsible for managing the staff, providing financial and managerial reports, finding sponsorship for CoWork, coordinating the facilities management, and promoting CoWork's brand within Northam and the North of the UK, for example through press interviews, and attending conferences. She was also responsible for vetting new members, and dismissing members who did not conform to CoWork's standards, as will be discussed later. She also attended a number of the events hosted at CoWork, as CoWork's representative.

Diana is the Sales and Marketing Manager. She was in her mid 20s, and had worked at CoWork since June 2015. Her main area of responsibility was finding potential new members, organising tours of the site, and managing the member recruitment process. She was also in charge of Marketing, and was responsible for most of CoWork's social media. She wrote blog posts for CoWork, operated CoWork's main Twitter account, and managed their advertising budget.

Julie was the Events Manager. She was in her late 20s, and had worked at CoWork since July 2015. Her main area of responsibility was managing the events that took place at CoWork; this includes events hosted by CoWork itself, such as the monthly networking events, and the events organised by external companies, and user groups. She was responsible for coordinating the availability of CoWork, and managing the bookings of the spaces within the building by external parties.

4.2.2 CoWork's Ownership

Information for this section comes from Companies House, and the documents filed there for CoWork. CoWork was a privately held organisation, and was founded in Northam, a large metropolitan city in the North of the UK. CoWork's address was also registered as its head office. It was incorporated in 2015; previously to this, the coworking space had been run as an operational arm of Accelerate, as will be discussed in the next section. During its incorporation Michelle (COO CoWork) and Ethan (Founder CoWork) were registered as its owners and directors.

When CoWork was initially set up, as described below in section 4.2.3, it was funded through a combination of crowdfunding, using the popular crowdfunding website Kickstarter, and through venture capital investment. Kickstarter's crowdfunding model does not give a backer a stake of ownership in the crowdfunded project; however, the venture capital firm was granted shares in return for investment. Following CoWork's incorporation as a separate business, the venture capital firm were granted 25% of the shares; however, the firm does not have an executive position in the company.

Also of note is that when CoWork was divested from Accelerate, it was granted 10% of Accelerate's shares, which were held by CoWork as assets. Whilst the two businesses were run as separate entities from 2016 onwards, they both maintained a high degree of coordination and shared ownership. Ethan and Michelle were listed as officers of both CoWork, and Accelerate. However, Michelle was not involved with the operations of Accelerate. Furthermore Accelerate, despite it now operating from offices in London, still used CoWork's address as its business address for filing purposes.

As such, whilst CoWork was run independently as a coworking space, its ownership and history suggest that it was a hybrid organisation: a cross between an accelerator, and a coworking space. This history will be described in the next section.

4.2.3 CoWork's History

Table 4.1: A Timeline of Accelerate and CoWork's History

2011	First Accelerate Programme held. Michelle hired.
2012	Second Accelerate Programme held.
2013	Third Accelerate Programme held. Founders began looking for a permanent space to host the programme.
Jan 2014	Warehouse space found in Northam.
Feb 2014	Kickstarter campaign to fund CoWork launched.
Mar 2014	Kickstarter campaign concluded; over £18,000 pledged from a £12,000 goal.
Jun 2014	CoWork's refurbishment completed; doors opened.
Jun 2014 - Dec 2015	Four Accelerate programmes completed at CoWork.
Jun - Jul 2015	Diana and Julie hired; plans made to separate CoWork from Accelerate. CoWork is incorporated as a separate business.
Dec 2015	Final Accelerate programme at CoWork concluded. Accelerate relocates to London.
Jul 2016	CoWork launched as a separate company, no longer under Accelerate. Educational initiative launched under CoWork's banner.

The timeline above provides an overview of CoWork and Accelerate's history. As a coworking space, CoWork was founded in 2014. Initially, it was founded to provide a permanent home for an early stage IT startup accelerator programme, called Accelerate. Accelerate was founded in 2011, initially as a one-time programme designed to rapidly incubate a number of local IT startups within Northam. Ethan (Founder CoWork) was one of the founding members of Accelerate, along with another founder named Patrick (Founder Accelerate). Michelle was hired after the teams for the programme were selected, to act as a

programme manager (Michelle, COO CoWork, Interview). The programme was a success and it was decided to run Accelerate as an annual programme.

Accelerate hired a large loft space in Northam to use for the duration of the programmes, which ran for 12 weeks each. However, Accelerate's founders felt that the programme would benefit from having a permanent space to use, which could also act as a coworking space for the local IT industry. They began scouting for a suitable permanent home for the space in 2013, and after finding the building that CoWork would occupy, organised a Kickstarter campaign to raise the funds necessary to hire and refurbish the space (CoWork Kickstarter Webpage). In addition to this crowdfunding, they also secured sponsorship from corporate partners. Much of the renovation and decorating work was done by Accelerate's founders, including Ethan, to keep the costs as low as possible (CoWork Kickstarter Webpage). The space opened in June 2014, and immediately began hosting accelerator programmes. At this time CoWork was run as a subsidiary of Accelerate, and the main tenants at the time were the current cohort of startups on the current Accelerate programme, as well as startups from previous cohorts that wanted to use CoWork for workspace.

In 2015, the founders decided that they wanted to separate the two arms of the business. Whilst CoWork was incorporated as a separate business in the summer of 2015, the actual process of divesting the two businesses was not completed until the summer of 2016, around the time my observations began. The accelerator and CoWork were divested from one another for two reasons: firstly, Accelerate's directors wanted to run programmes outside of Northam, in other cities, including London. Secondly, it was felt that the close association between the accelerator and the coworking space was detrimental to CoWork. Too many people were associating it as a place just for IT startups, and not a hub for the broader industry as a whole:

when we first started CoWork and first set it up, because it was very heavily under Accelerate, a lot of people assumed that it was just

for Accelerate members, and that is something that this year especially - because we've been kind of separating the CoWork brand from Accelerate, making it into its own entity, it's something that we're working quite hard on. (Michelle, COO CoWork, Interview)

In order to separate the two, Accelerate's staff relocated to London, whilst CoWork remained in Northam. CoWork underwent extensive rebranding; during my time in CoWork, the accelerator's logo, painted prominently on the wall of the coworking space, was painted over (although a mural elsewhere featuring the name remained), and in its place CoWork's name and logo were painted. This coincided with the relaunch of CoWork's website, and new social media channels were set up to specifically focus on CoWork, rather than Accelerate. CoWork's staff undertook dedicated business development activities, and as a result occupancy of CoWork rose from 47% at the beginning of 2016, to 84% by the end of 2016 (Diane, S&M Manager CoWork, Blog). Furthermore, an educational initiative was launched during the summer of 2016; CoWork offers educational services and support to schools, teachers, and adults, looking to learn how to code. The final Accelerate programme held in CoWork concluded in December 2015, and no further programmes were held in CoWork between then and the conclusion of my observational period in February 2017.

4.2.3.1 Accelerate

Whilst Accelerate was no longer present in CoWork during my observational period, and whilst no programme was hosted at CoWork during that time, it is nevertheless useful to provide an overview of Accelerate, due to its on-going association with CoWork, and in particular the number of Accelerate startups that still work at CoWork.

Accelerate was initially planned to be a one-time only accelerator, modelled after similar successful programmes in the USA, with the goal of fast-tracking early-

stage startups in the North (Accelerate Website). Accelerate particularly targeted “seed” stage startups: startups still at concept, or minimum-viable-product (MVP) stage. The goal was to provide both seed investment, and a dedicated pedagogic programme, to rapidly develop the founders’ entrepreneurial capabilities, and create a marketable product as quickly as possible. Accelerate was founded by two technology entrepreneurs within Northam. Ethan (Founder CoWork) was involved in the first programme as a participant; he took a startup through the programme that successfully raised investment after the completion of the programme, and had a successful exit later on when the business was sold to (and integrated into) a competitor. He then joined Accelerate as a programme director in 2013. Michelle (COO CoWork) was hired into an operations role initially, but became a director in 2013.

Accelerate modelled itself after the Techstar accelerator programme in Boulder, Colorado (Accelerate Blog). This programme consists of a 12 week long period of incubation with a cohort of startups completing the programme simultaneously, and culminates in a demo day during which the startups present their products in a showcase in front of friends, family, peers, local businesses, investors, and journalists. Accelerate’s directors chose this format they felt it was a common and replicable seed-stage accelerator programme format (Accelerate Blog).

An Accelerate cohort consisted of ten startups. In order to take part, startups had to apply to the programme. The application process had two stages; firstly, applicants were invited to an interview to discuss their idea, and relevant experience. From this interview, a short list was created for a second stage pitch. This pitch is made in front of the accelerator’s directors, and partners from the venture capital firm who provided a significant sum of capital to cover the investment costs. Successful teams were then invited to join the cohort, and were expected to relocate to Northam, if not already local.

Accelerate’s own marketing materials for the programme tell prospective

applicants that the programme is divided into three stages (Accelerate Website), which are summarised here:

- Weeks 1-4: Shape. Teams have identified an interesting problem, but have most likely built the first solution they came up with. Through mentoring, customer conversations, and reviews, the programme will help teams deconstruct their concept, identify any weak assumptions, and recreate it in a more scalable way.
- Weeks 5-9: Build. The programme puts teams into contact with real world customers to help them build and integrate their business. They are also put through a Start-Up MBA course; to give them the skills needed to grow the company, during which they learn from successful founders.
- Weeks 10-12: Sell. Teams learn the basics of creating a compelling presentation in order to effectively pitch products and concepts to investors. This presentation provides investors with the story of the product, and identifies how it substantively solves a customer need within a growth market.

During the course of the programme, teams met with the directors at least once a week to set and evaluate milestones, discuss progress and particular challenges. Furthermore, Accelerate provided follow-on support after the conclusion of the programme; they were still able to access and consult with the programme team, and gain access to Accelerate's network of alumni (Accelerate Website).

Whilst their literature presents a highly structured and organised programme, this was not necessarily how alumni remember it. Cynthia was a serial entrepreneur working on her second startup in CoWork. Her first startup went through an Accelerate programme in 2013, and her memories of the experience suggested it was a chaotic, emotional, and difficult process for founders on the programme:

It was kind of in three parts for us. The first one was, don't build anything,

just talk to as many people as possible. And then I went to New York, Tom [her Cofounder] stayed back and built something. And then it was building, finding out the fit with people, talking to more people, trying to get sign-ups, and then the last bit was that, but mostly preparing for the pitch and the investment, and all that kind of stuff. So, like, grossly, my experience was that, a very top-level kind of thing. So yeah, in the second month, it was “every day’s a school day”. So every lunchtime, someone would come in and do a talk about something legal, hiring, or whatever, so that was quite intense, but the whole Accelerate process for us was really, really intense. The first week, the Thursday, bearing in mind I’d been building websites for, like, fifteen years at that point in time, I left thinking, “oh my god, I don’t know anything! What have I done, I’ve wasted my entire career up to this point! And what are they talking about, and what are they talking about, I thought I knew about that, but I don’t know what he’s talking about!”

So then it was very much a crisis point, where it was either I just stopped, or I thought, “fine, I don’t know anything, I’ll just learn everything”. And that was very much a turning point for me. So yeah, you just get bombarded, and it’s not just the fact that you have twenty minute mentoring sessions with people, where everybody has a different opinion, everybody will give you conflicting advice, and every time somebody tries to describe what you’re trying to do in a different way, you have a whole, like, twenty million different thoughts about it. It’s the chatter around, and you start to find out that, actually the people that are talking the biggest buzzwords, and telling you you should read this book, and that book, and that book, which I did go and read, they haven’t read it - they still haven’t read it! One of them I’m quite good mates with, and I know there’s three books he’s told me I absolutely should read; he hasn’t read them, I have!

So, there was a lot of that. And there’s a lot of egos in that room, and you

know, we are geeks, so not all of us have the greatest social skills. So, yeah, there was a lot of that, but the most fun. Like, it's difficult, but brilliant. That's the first time in years that me and Tom [her Cofounder] had had the space - I mean, bearing in mind we were still running [our web design agency] at the same time, so we'd have an hour in the morning with the team, we'd do a day in Accelerate, and then for the last hour we'd go back and make sure everything was ok. And I was trying to not to answer emails from the other stuff, so, like, ours was particularly intense, so yeah, that was really stressful. And I think the stress helps? Because it gets to a point where you either have a breakdown, or you just become very zen. It's like too much, it gets so loud, that you just shut it out. So, that's what we took from it. (Cynthia, Cofounder SocApp, Interview)

Whilst her recollections show that the three-stage structure was there, and that the programme was heavily learning-oriented, her experience of the process was anything but ordered. Far from being a rational, scientific approach to developing a new business, she was presented with conflicting advice, bombarded with mentors, had to negotiate with egos and posturing, and ultimately figured out by herself what she needed to learn. Despite this, she did *post-hoc* rationalise it as an enjoyable experience, although her repeated focus on the intensity of the experience and the high levels of stress suggests that, at the time, she may well have not enjoyed it. These recollections also show that at least part of the learning experience involved learning the cultural norms of being a startup founder. Many of these founders were keen to use "buzzwords", and recommend important books that others should read, but would recommend them without having read them themselves. The knowledge that these are books that startup founders should read might be more valuable to a founder, in order to signal legitimisation and cultural belonging, than the knowledge they contain.

Furthermore, whilst Accelerate had an official process for applying to join the programme, consisting of the two-stage interview and pitch described above, this

was not universally the case for all applicants. During Cynthia's interview she told me that she had met Patrick (Accelerate Founder) at a drinks event for the IT industry held in Northam. After talking with him, he invited her and her cofounder directly to the final pitch stage of the application process. Furthermore, another startup working from CoWork applied to the programme with an early stage product, which was rejected as the directors of Accelerate felt that the product would not be likely to scale effectively. However, the cofounder of this startup told me during an interview that, as Accelerate's directors liked them, they were still invited to the pitch stage, but told to come up with another idea. Despite failing at the interview stage, they were still invited to pitch: "they recognised that we had the skills to build things, which was quite rare for both the founders to have. I guess they liked us, so we had a couple of days to think of a new idea" (Adam, CTO, Cofounder Market.io, Interview). These examples suggest that decisions about who got accepted onto a programme were not made merely based on relative merits of the concept itself, but were definitely influenced by human factors.

Since leaving CoWork, the Accelerate programme has pivoted away from the twelve-week co-located accelerator model they were using, and are now running a distributed programme. This lasts three months longer, and does not require teams to relocate. However, all the Accelerate startups within CoWork during the research project were graduates of the original format.

4.2.4 CoWork's Business Model

CoWork's primary function was to provide managed office and desk space for freelancers, self-employed workers, SMEs, and IT startups. CoWork advertised itself as a coworking space for startups, and the digital and creative sectors. CoWork had six offices available to rent, ranging in size from 3-person to 8-person, and 55 coworking desks available to hire. As of the end of 2016, all six offices were occupied, and 45 out of the 55 coworking desks had been hired,

leaving CoWork at 83% capacity (Diane, S&M Manager CoWork, Blog). Other than office space, CoWork also hosted networking events, classes, conferences, and user groups for these sectors. In 2016 CoWork hosted 12 breakfast digital sector networking events, 11 digital sector drinks events, 12 coding classes, 60 event bookings by private external companies, and 142 user group meet ups (Diane, S&M Manager CoWork, Blog).

CoWork focused primarily on IT, digital, and creative sectors; as such, it was a prerequisite for individuals wishing to join that they operate in these sectors, as it is felt that this allows for “collaboration” and maintains a “focused community” (Michelle, COO CoWork, Interview).

CoWork’s three primary sources of funding were desk and office rental fees, event management fees, and sponsorship from both local and national businesses. Their sponsors included a multinational software company, a national accountancy firm, and several smaller, local businesses. As mentioned earlier, 10% of Accelerate’s shares were held by CoWork, giving it a financial interest in the success of the Accelerate startups it still hosted after the separation of the two arms of the business.

Table 4.2: CoWork’s Membership Costs and Services

Membership Type	Cost	Services
Hotdesking	Free	Access to the public cafe space Monday-Friday 9am-5pm; public wifi hotspot
Virtual Office	£25 PCM	Use CoWork as a business address; mail handling. Access to public cafe space Monday-Friday 9am-5pm; public wifi hotspot
Hotdesking plus	£100 PCM	Access to the public cafe space Monday-Friday 9am-5pm; 10 days-per-month access to members-only area of CoWork Monday-Friday

		9am-5pm; protected wifi hotspot; refreshments; printing; and access to Slack
Coworking	£180 PCM	Use CoWork as a business address; mail handling; own desk and chair in coworking space with 24/7 usage; access to members-only area of CoWork; private wifi hotspot; refreshments; printing; access to events and hosted “Office Hours”; free use of meeting rooms; and access to Slack
Office rental	From £400 PCM	As coworking benefits except access to private office space

Table 4.2 outlines the costs and services of different membership options at CoWork, as of the beginning of 2017. CoWork had 4 tiers of membership, and a free, non-membership option. The free option allowed access the public area of CoWork, from 9am to 5pm during the week. This level was implemented during the summer of 2016 as part of CoWork’s attempt to separate its brand from that of Accelerate. CoWork announced this free coworking initiative on their social media channels. However, this only allowed an individual limited access to CoWork: they were not allowed in the members-only area, and could not use the meeting rooms or classrooms (although could pay for the use of them).

Beyond this, all of CoWork’s membership options required monthly fees. At the most basic paid level, someone could pay to use CoWork as a virtual office, using them as a business address. Hotdesking-plus members got access to the members-only area of CoWork for ten days per month; this was offered to workers who were only looking to cowork part time, for two days per week. Coworking members and office members were those who work full, or close-to-full time from CoWork. They got round-the-clock access to CoWork, and access to all of CoWork’s membership benefits.

CoWork also received income from events management, and sponsorship. Julie (Events Manager, CoWork) was responsible for arranging events managements packages and these are priced based on requirements; however, for one-time externally organised events, hiring CoWork's Classroom space (which holds up to 50), cost £60 an hour, whilst use of the meeting rooms cost £17.50 per hour. Michelle (COO, CoWork)) was primarily responsible for arranging sponsorship deals with local businesses; one of their primary sponsors was a multinational software company which, in return for its sponsorship fee, got to advertise within CoWork, and also got access to networking events that are held there.

4.3 CoWork's Space

This subsection will discuss two different aspects of CoWork's space. Firstly, it will discuss CoWork's physical space, and layout. Secondly, it will discuss CoWork's virtual space: the communication platform, Slack.

4.3.1 CoWork's Physical Space

Members of CoWork were able to access the entirety of CoWork. CoWork occupied two floors of a converted warehouse close to Northam's city centre. In total it was a little over 1,000 square metres in size. This included the public cafe area, the classroom, the meeting rooms, the phone booths, the toilets, the coworking space, the kitchen area, and as CoWork operated under an open-door policy, the offices were available to members as well.

The public cafe area was the entrance area to CoWork. It included tables with benches and chairs, and a small cafe counter operated by an employee of a nearby cafe selling coffee, sandwiches, and baked goods. CoWork's staff sat in this area. This area was used both for work, and social interaction. The cafe itself was not run by CoWork. One of CoWork's neighbouring businesses was an independently owned cafe, and it was this cafe that runs the counter in CoWork.

The classroom was the large meeting room available for hire for events. It could seat up to 50, and contains foldaway desks that can be set out if needed. CoWork used it for internal events for members, as well as hosting external events such as user group meet ups, the Code Club programme run to introduce school children to coding during the school holidays, and technical training events. This area was used primarily for and networking, and teaching and learning events; however, some social events do happen within.

The meeting rooms were two smaller rooms containing desks, chairs, whiteboards, and clipboards, and seat up to 16. One room contained a projector. These rooms were free to use by CoWork members although must be booked through CoWork's staff. They were available to hire by non-members for an hourly fee. These were primarily used for work.

The phone booths were four small booths with a closable door, with enough standing room for one person only. Members used them when they want to make phone calls with a little more privacy. Each booth has a small shelf to sit a phone or laptop on, to take notes, or if using these for video calling. These were used for both work and personal calls.

The toilets at CoWork were individual cubicles down a separate corridor downstairs. There were four toilets in total; two were gender-neutral; one was a gender-neutral accessible toilet, and one was for women only. There was also a further gender-neutral toilet available upstairs.

The coworking space was a large room containing 55 desks available to hire. The desks were arranged in a variety of patterns; the most common was to have single back-to-back desks, each seating a single member, opposite another member. However, SMEs were given larger desk islands to work from if necessary. This space was primarily used for work.

The kitchen area was upstairs. The kitchen itself was comprised of a row of kitchen counters, and a number of appliances including a kettle, a coffee machine, a microwave, a sink, a dishwasher, and a fridge-freezer. The kitchen area was a large open plan space with the kitchen at one end, a large table with 14 chairs around it in the middle, and four sofas placed around the room. The room was primarily used for eating and socialising, although it was also used as an informal meeting space.

The six offices were located off the kitchen area, with doors opening into the open plan seating area of the kitchen. Each office was a different size, ranging from a two-person office, to an eight-person. The offices contained tables and chairs, and any furniture and possessions the tenants had brought with them. These spaces were primarily used for work. Whilst CoWork had an open-door policy, the norm was that only the office's tenants work in their office.

Figure 4.2: CoWork's Floor Plan

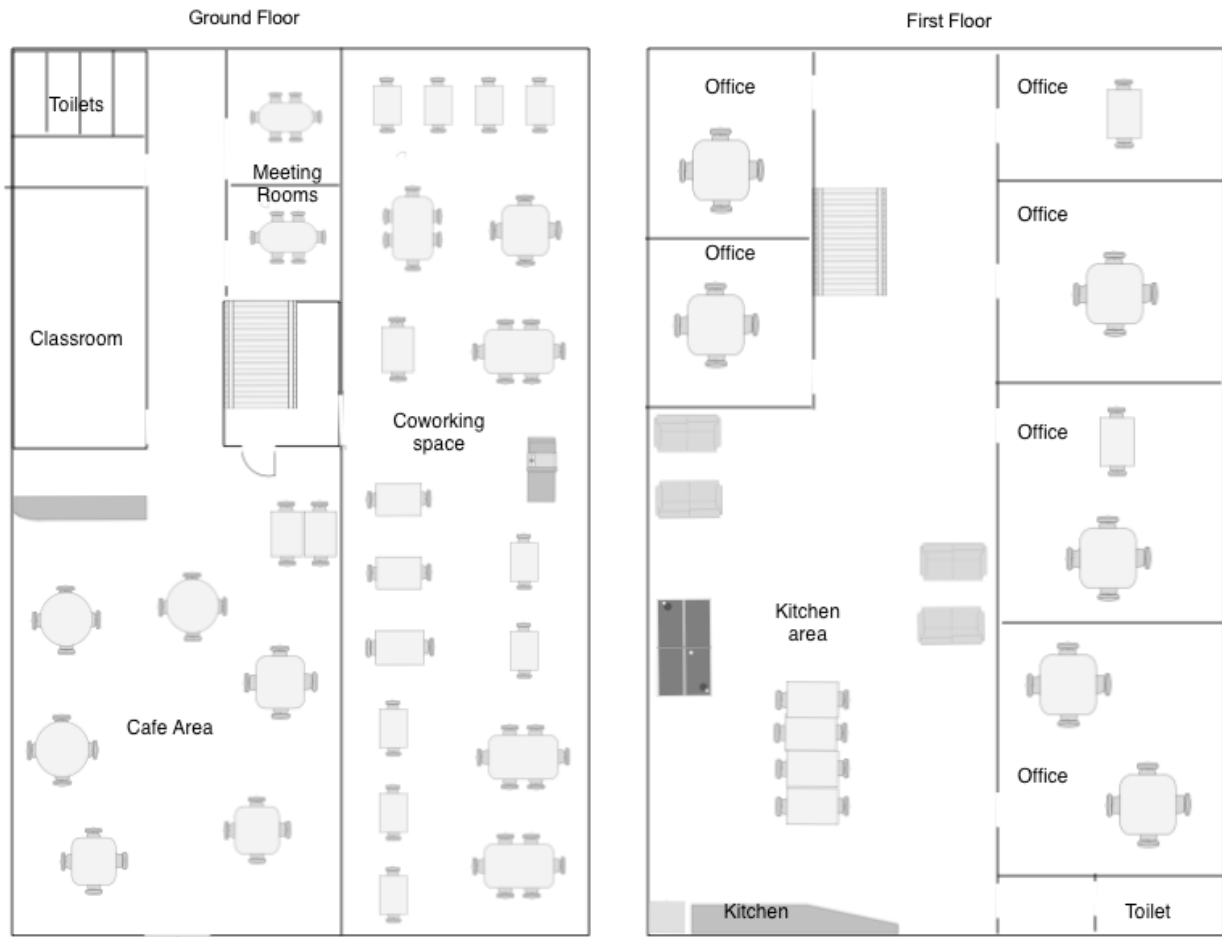


Figure 4.2 above shows the physical layout of CoWork. CoWork was accessed through the main double door located at the entrance to the cafe area. This was a large, open plan cafe area. A number of tables, benches, and seats were scattered throughout the space. The tables are made of chipboard, giving a contemporary feel to the space. The room was large and well lit, and there was a large mural on one wall, shown in figure 4.3. The mural had a science-fiction theme: a large face of what appears to be a male superhero was at the centre, and was surrounded by a retro-futurist depiction of men in boxy space suits, and women in more form-fitting suits, exploring an alien landscape. Accelerate's name was displayed prominently in the centre of the mural, although CoWork's was not. Music played over speakers from a Spotify playlist; the music was controlled by CoWork's staff and a different selection was typically played every day.

Figure 4.3: The Mural⁷



At one end of the cafe there was the cafe counter. Members of CoWork got a 10% discount off all food and drink purchased there. On the right hand side of the room were the desks of CoWork's operations' staff. Directly behind their desk is a locked door. Through this door was the entrance to the coworking space, and the stairs up to the office area, and coworking kitchen area. The door was controlled by a key fob. In order to get a key fob, you needed to join CoWork as a paying member.

Past the cafe area, a corridor led to two meeting rooms on the right hand side. The meeting rooms each contained a large table and chairs, and had whiteboards on the wall for brainstorming activities. There was also a larger room on the left known as the classroom. At one end of the classroom was a large

⁷ Accelerate's name and logo have been redacted for anonymity

screen, and a projector was mounted on the ceiling, so that presentations could be given. At the very back of the downstairs were the toilets; two of these were mixed gender toilets, one of which was an accessible toilet, and there was a further toilet that was for women only. The toilets were identified as such through the use of a symbol of Batman (to indicate men), Wonder Woman (to indicate women), and Professor X of the X-Men in his wheelchair (to indicate disabled access). The mixed-gender toilets had both the Batman and Wonder Woman symbol on, whilst the women's only toilet just had Wonder Woman's symbol. The insides of the toilet doors were decorated with superhero comic book strips. In the corridor leading to the toilets, outside of the classroom, there were large plaques publicly thanking the backers of CoWork's Kickstarter campaign. Not shown in the diagram is a space underneath the stairs; the alcove there had been converted into "phone booths"; three small, standing-room-only booths with a closable door and a small shelf, where members could make phone calls with a little more privacy. These booths were also decorated with comic book strips.

Figure 4.4: The Decoration on a Toilet Door



The locked door behind the staff desks led through to the member's-only area. A doorway to the right led to the coworking space; this is where paying members were given desk space. It was in this room that Accelerate's logo was predominantly painted on one of the walls, as this was where Accelerate's cohort would work during a programme. In its place CoWork's name and logo had been painted. The walls had all been painted white, although around the room you still

find artefacts of Accelerate, such as logo stickers of the companies that had gone through one of the programmes stuck to walls and pillars. There was very little on the walls in way of decoration.

This room was where most of CoWork's members spent their working time. The desks and chairs were placed through the room in desk islands. The SMEs that worked there typically had larger desk islands to work around. The rest of the members were sat in two-person desk islands, facing opposite each other. Each desk was separated by a small gap from their neighbour; far enough to allow passage between, but close enough that it was easy to talk to your neighbours. Most of the desks had PCs or laptops on them, and members were also free to bring in any office supplies or personal possessions that they wish to have. Some desks were cleaner and neater than others; one member's desk was almost buried in folders and books, whilst his neighbour's was clear other than a PC, a lava lamp, and a desk-tidy with a few papers in it. Another member had decorated his PC with homemade "flowers"; lolly sticks with folded paper glued on to give the impression of petals. For the most part, it was impossible to tell which company worked where. Whilst two of the companies working in the coworking room had small banners attached to the sides of their desks with their company's name on, this was the exception rather than the norm. If you wanted to get to know who your neighbours were, and what they did, you had to talk to them.

Upstairs, the space was divided into the kitchen area, and the offices. The kitchen area contained several sofas, a large dining area, kitchen counters (including a microwave and a fridge), a dartboard hung on one of the walls, and a ping-pong table. On either side of the kitchen area, their doors opening directly onto it, were the offices. These varied in size from a small three-person office, to the largest capable of holding around eight. The offices were mostly occupied by startups from previous Accelerate programmes; during my observational period four out of the six office tenants were Accelerate startups. The exceptions were a

web design company that moved from the coworking space to a vacant office in September 2016, and a law firm that moved into the largest office. This office had been rented by a startup, but the startup left CoWork towards the end of 2016 as they needed to expand into larger offices.

Office tenants were free to decorate their offices as they like. One startup, HealthApp, had a large mural painted onto the wall of their office. The mural featured an athletic woman wearing workout gear, with the HealthApp logo on her clothing, standing in front of a dramatic landscape with a volcano erupting in the distance behind her. Another startup, Market.io, had mounted shelves to the wall of their office. These shelves are used to hold some potted plants, a number of business-related books including *The Lean Startup*, and several expensive (and unopened) bottles of rum and whisky. Most of the offices had wall-mounted whiteboards, which were used for brainstorming, wire-framing design ideas, or tracking ongoing projects or sales.

The kitchen area had a little more decoration than the coworking space. There were several photos mounted to the walls. One was a frame quote said by Steve Jobs: "It's better to be a pirate than to join the Navy". Another was a framed A3 print of a webcomic by a popular artist known as The Oatmeal; the comic was called "Why I Believe Printers Were Sent From Hell To Make Us Miserable", and was a series of complaints about the difficulties of dealing with printers. The walls were painted a warmer cream colour than the stark white walls in the coworking space, and the sofas were bright red. Two of them had a small bookshelf next to them with a range of books within. Most of these books relate to programming and development, managerial praxis, how-to guides on business finance and accounting, and a number of startup practitioner texts such as *The Lean Startup*. The dining area in the kitchen was comprised of one large table, with chairs placed around it. During lunchtime many members ate their lunch either there, or at the sofas. Some ate at their desks, or left CoWork to get food from a shop or restaurant outside.

CoWork's physical space was designed to create a sense of community, and enable collaboration. The cafe area provided a legitimating space for newcomers to access CoWork:

We knew it was important to support [Northam's] business community by providing a space where people can work from free of charge. In short, think of it as working from a coffee shop without feeling the pressure to buy expensive drinks just because you need access to the WiFi to answer those all important emails. We're open from 9–5pm each working day and there's no need to book. Simply drop in whenever you need to get some work done. [...] Our free space is perfect for people who don't need a permanent workspace. For others, having their own dedicated desk or office is important. That's why we have different membership options at CoWork. There's something for everyone. (Diana, S&M Manager CoWork, Blog)

The blog post above was written by Diana to explain why they introduced the public cafe area. Diane suggested that CoWork was supporting Northam's "business community" through providing a free space to work as and when needed. She then uses this as an opportunity to pitch membership to CoWork. Whilst it is reasonable to assume that not many of the non-members who access CoWork in this way will go on to become members, a small number could. The peripherality of these non-members was reinforced through the structuring of the space. Whilst they could access the cafe area for free, they were not able to use the meeting rooms without paying a booking fee, and could not access the members-only area through the locked door. They could interact with the staff who work in the cafe area, and could interact with members in that space, but there was a limit to the extent to which they can participate more fully. This limit could only be overcome by paying to become a member.

As such, the cafe area was one of the ways in which CoWork's community can find the new members necessary for the ongoing renewal of the community. As members leave, new members must take their place, and a non-member who already had some familiarity with CoWork through using the publicly-available area for work would be a good candidate: they may already know the staff, and possibly some of the current members, and have some understanding of what coworking is like based on their experiences working in the cafe. The classroom also played a role in this. The classroom was an extremely popular venue for technical meet-ups and user-groups; whilst some of these attendees may be members of CoWork, many were not. Providing a space to cater for these was another way of enabling legitimate peripheral participation. An attendee is able to peripherally participate in the community at CoWork through their presence in the space, and the potential to interact with members; however, again, this was a very bounded form of participation.

Whilst these were two different forms of accessing CoWork as non-members, it is also worth considering who in particular is likely to be attracted by these. CoWork advertised themselves as a coworking space for startups, and digital, creative, and IT workers.

Figure 4.5: CoWork's Tweet Advertising Free Hotdesking



Figure 4.5 is a screenshot of a marketing tweet of CoWork's, advertising their free hotdesking service. Other than word-of-mouth and events, CoWork relied heavily on social media for marketing. Their assumed target audience was someone who uses social media. Furthermore, their use of emojis suggest that their assumed target audience is a younger individual, for whom emojis would be culturally relevant and meaningful (Stark & Crawford 2015). You were most likely to encounter CoWork's marketing if you were engaged with web-based technologies (either developing or using them), working in an industry where web and social media usage was common, or, if you were working in the digital, creative, and IT industries, and attended a meet up or user group that is held at CoWork. The target audience for CoWork was those who were a similar demographic to CoWork's current membership: CoWork wanted like-minded people to come, on the assumption that they should be a good fit with the current membership base.

Beyond the publicly accessible area of CoWork, the physical design of the space was very much geared towards promoting interactions. The coworking room itself was open plan, with no barriers between members; the physical layout of the space was such to ensure that all desks were accessible. Furthermore, the kitchen area was located away from the coworking room, which encouraged movement around the space, increasing the likelihood of chance encounters. For social encounters to occur, pseudo-Brownian motion, driven by the layout of the

space, needs to happen (Jakonen et al. 2017). Members would move from the coworking room, past other members, to the kitchen area, where they might encounter other members. Office tenants moved through the kitchen area to get to their offices, and came out to access the kitchen area. Members accessed the members-only space through the public cafe area, and movement in and out of CoWork (for example, leaving to get lunch) took them through this space again.

The design of the space alone was not enough to make encounters happen. CoWork wanted “like-minded individuals” to come to CoWork under the assumption that sharing working norms and cultural norms would encourage interactions and collaborative behaviour. Encounters between members are not necessarily going to lead to collaboration, or knowledge sharing; encounters may well be social in nature more often than they are effecting knowledge exchange or collaborative behaviours. Nevertheless, these encounters each build the networks of relations and history of on-going interactions, as will be discussed further below. Furthermore, whilst the membership of CoWork might be heterogeneous to a degree, it was bounded heterogeneity. The resources on offer, including the spatial resources, were well suited to IT, digital, and creative workers, but were less suited to sectors that require specialist equipment or spaces for work. CoWork’s space and facilities was geared to supporting workers only from particular occupational communities.

The space of CoWork has been designed around the assumption that “like-minded” individuals and businesses would use it. In the coworking room they worked alongside one another, whilst the offices were located around the central socialising area for members, maximising the potential for encounters to happen with the more isolated office workers. Movement within the members-only area created potential for interactions, of various forms. The ping pong table and dart board allowed for playful or competitive interactions, for example, whilst the communal dining table encouraged members to interact with one another, particularly at lunchtime, in an informal setting. However, access to the space

where these different kinds of interactions can happen was nevertheless predicated both on someone being in the right kind of industry, and sharing particular cultural norms with the other members.

4.3.2 CoWork's Virtual Space

Section 3.4.5 introduced Slack, and detailed its functionality. Slack acts as the electronic organisational platform for CoWork, and served as CoWork's virtual space. Access to CoWork's Slack account was primarily dependent on having membership to CoWork; in this way, the locked door leading to the members'-only space served not only as a physical barrier, but a virtual barrier too: once you were permitted past that door, you were permitted to join Slack. Members could access Slack at any time of the day, from anywhere, using the web or mobile application, thereby allowing them to participate in CoWork's community even when not physically present.

CoWork's staff saw Slack as integral to the community, and it was considered to be a valuable resource as such. Diana (S&M Manager CoWork) had considered selling access to Slack to external companies as a way of generating revenue, but decided against it out of concerns that it would interfere with the community's culture (Field Notes, 27/7/16). Whilst becoming a member was the primary prerequisite for access to Slack, CoWork's staff did allow some discretion beyond this. In response to a question about who was allowed access to CoWork's Slack, Michelle (COO CoWork) said that non-members might be allowed to join, depending on their circumstances and attitude:

Michelle: it kind of depends, though, you know, honestly, like it depends on who they are, and what they're bringing to it. If it's somebody who we know but they're just doing daily at the moment because they haven't quite got to where they want to be yet,

Andrew: Yeah

Michelle: and they're really interested, and an active part of the community already, or they want to be part of it... I suppose it's more, are they interested enough and valued enough to bring something to the community? (Michelle, COO CoWork, Interview)

Slack acted as the virtual dimension of CoWork's community. This virtual dimension was predicated on the physical space: your virtual identity was tied to your physical presence as a coworker, staff member, or active community member within CoWork. Whilst it is tied to the physical space, it also enabled community interaction by removing the limits of space, and time. Face-to-face communication is dependent on colocation in space and time; communication on Slack can be done at a distance, and across time. Members could post questions or communicate with one another in a way that did not need them to be physically and immediately present. During a conversation about Slack with Jenny (Community Manager Funder), I was told that “everyday the atmosphere in here is different; some days it is really chatty, others it is really quiet, and everyone just has the headphones in. Slack is a great way to speak to people without interrupting them” (Field Notes, 27/7/16).

As noted in Parrino (2015), the existence of an organisational platform facilitates both knowledge flow, and sociality between members. Whilst members could and did discuss work both inter- and intra-organisationally, as will be shown later, they also used Slack to make jokes, share news, and organise social activities both inside and outside of CoWork. Gaining access to CoWork's Slack allowed for fuller participation in the community, as it granted access to the shared repertoire contained within Slack's historical, and continually updating, log of interactions between members.

However, in order to protect the community, CoWork controlled who got access

to it. CoWork's Slack had potential value; as Michelle (COO CoWork, Interview) said, that for a number of companies, "we're quite aware that we have their target audience all in one place". The value of access to Slack came from the verifiability of the user's profile, which was mostly predicated on being a member of CoWork, with a seat at a desk. Expertise was tied to an identifiable individual, and the lack of anonymity controlled for the risk of "trolling" - users who engage maliciously or in bad faith. As one member said, the link between one's physical identity and one's Slack account was a significant marker of trust: "I know who they [the other members] are, and where they sit" (Field Notes, 13/7/16). Excluding non-members and external businesses from Slack protected the community from outside influence.

4.5 CoWork's Members

The final key dimension of a coworking site is the membership; the members are those who use the services of the site, and access it for both workspace, and sociality. This section will discuss the different types of members who use CoWork. There are three different categories of users: individuals; SMEs; and startups, and each will be discussed.

4.5.1 Individuals

Individual members are those who access a coworking site on their own, rather than as employees of a business that uses the space. Whilst CoWork did not provide me with details of how many members met these criteria, a straw poll of the desks within the main coworking room suggested that individual members occupied around 75% of the desks, with the remainder occupied by SMEs or startups.

Many members of CoWork were freelancers; individual members who joined CoWork on their own, rather than as employers or employees of companies

within CoWork. Freelancers tend to operate on a project-by-project basis; hiring their services to other individuals or businesses. Common freelance professions within CoWork included Graphic Designers, Web Designers, Web Developers, and Copywriters; in keeping with the membership criteria of CoWork, the freelance members primarily work within the digital and creative industries.

The conversations I had with freelance members suggested that the sociality afforded by CoWork was a strong impetus for accessing the site: “it’s nice that everyone gets on well; it feels like being part of a company” (Freelance Copywriter, Field Notes 26/8/16); “I started coming to CoWork a couple of months ago because I needed some form of human interaction” (Freelance Developer, Field Notes 14/12/16); “I work from home, but it’s nice to get out, and be around other people. Gets quite isolated otherwise” (Freelance Marketer, Field Notes 26/8/16). At least two freelancers I spoke with worked from CoWork because their partners worked from companies working from CoWork; whilst they did not work alongside their partners, I frequently observed them sitting together at lunch time.

Other individual members were micro-businesses, or one-person businesses. Whilst there is some potential overlap between freelancers and micro-businesses, the distinction is that freelance workers rely on gig-based work, whilst micro-businesses have a business model offering a product or service. For example, a freelance web developer might contract out their services on a daily basis to different clients, and work alongside the client’s in-house development team on a project, whilst a micro-business web development agency might take on a contract to complete the development of an entire website. The micro-businesses working from CoWork included digital marketing businesses, a photography/graphic design agency, several web and/or software development agencies, and unusually for CoWork, a hardware business working with RFID technology developing products used in home security. Again, the businesses were all within the digital, creative, and IT sectors.

Finally, a few individuals were distributed employees. These were employees working for distributed companies that did not have dedicated office space to support them. I only spent time with one distributed employee during my observational period, Alex (Software Engineer DistribuCo). He had previously worked for a startup within CoWork, but had left to pursue more lucrative employment, for a large distributed software development business. As a result, he had taken a membership with CoWork, and worked from it several days per week, in order to maintain his relations within the site, and enjoy a sense of community: "working from home you definitely miss the social side of work; you feel very isolated without it. This way I can stay on top of what's going on in the community!" (Field Notes 16/8/16).

4.5.2 SMEs

There were also a small number of SMEs working within CoWork. As discussed earlier, an important prerequisite for membership for SMEs was that they worked within particular occupational communities, within the IT, Digital, or Creative industries. SMEs are distinct from startups in that they are not geared towards experimentation, high growth, and learning, in the way that startups are, and as such are a distinct form of entrepreneurship. During my observational period, there were two SMEs working from CoWork. Both were web design and development agencies.

WebCo was a design and development agency owned and operated by Timothy (Founder WebCo). In total it had four employees. Initially, WebCo worked from the coworking space; however, in September 2016 they moved to one of the vacant offices. The other design and development agency was DesignCo. In total five people worked for DesignCo; however, one was a distributed employee who did not work onsite. My main contact at DesignCo was Erin (Director DesignCo); she was also the Project Manager of the company, and in charge of managing

the development team.

The value of CoWork to SMEs came out in a discussion with Timothy (Founder WebCo):

Timothy is a designer and so wanted to create a design agency doing something a little bit different; rather than simply build a website, encourages clients to think about how they can build their brand into every point of the user experience. “We’re just trying to do things a bit differently, really”. This is his first time running a company full-time – had previously set up an events management company that he ran in his spare time, but this is first time doing it as a main business. Finds the admin side of things a bit boring; a lot to learn and do, and takes him away from design which is what he wants to be doing. Found out about CoWork through community events, and because he knew Michelle (COO CoWork) from working with her at a previous company. Decided to set up shop here because whilst the office space upstairs is quite pricey, the co-working space is very reasonable. They needed somewhere to work, and decided that they didn’t actually need walls and an office. He likes the community spirit here; said that it is more trustworthy than other business hubs where you are always dealing with competitors, people looking to backstab you etc. Again, Slack plays a massive role in that and is very helpful in resolving disputes. Interestingly he said it is often used to just give people a space to get an issue off their chest – i.e., not necessarily about problem resolution per se. (Field Notes 13/7/16)

There were several important factors in Timothy’s decision to set up within CoWork. Firstly, Timothy already had networked linkages to CoWork; he had attended it for community events, and also had ties to Michelle (COO CoWork). Secondly, CoWork provides the necessary workspace needed, but in a cost-effective and flexible way; Timothy avoided taking a more expensive office (at

least initially) because they felt as a company they did not necessarily need walls. Finally, the “community” of CoWork was a draw; there was a spirit of cooperation and mutual support for one another. This spirit of community will be discussed in more detail in section 4.6 below.

4.5.3 Startups

In total, eight startups worked from CoWork. Of these, all bar two had taken part in an Accelerate programme. Of the remaining two, one was a startup founded by two entrepreneurs who had previously taken a different startup through an Accelerate programme, whilst the final was a “bootstrapped” startup: a startup that had not taken any investment, in particular equity investment, and was self-funded. This section will briefly introduce these startups.

Market.io was founded in 2015 by Will (Cofounder Market.io) and Adam (Market.io), both of whom were in their early-twenties, and first-time entrepreneurs. They had joined an Accelerate programme straight out of university in 2015, and to date had taken around £150,000 in investment⁸. Market.io was a platform for advertisers to dynamically hire and use digital screen space, based on real-world analytics of what audience is likely to be nearby.

Copter was founded in 2014 by Eugene (Founder Copter), who was in his early forties. This was the second business he had founded; the previous was a web and application development consultancy. He took Copter through an Accelerate programme in 2014, and to date had taken £30,000 in investment. Copter offered web-based software solutions for drone operators.

HealthApp was founded by Victor (Cofounder HealthApp) and Sean (Cofounder

⁸ All investment figures have been taken from Crunchbase, a website that tracks investments in startups.

HealthApp) in 2014, both of whom were in their mid-to-late 30s. Both had previously ran their own businesses; Victor had started two web development agencies previously, whilst Sean had run his own personal training business. They took HealthApp through an Accelerate programme in 2014, and had raised just under £230,000 at the time I began my observations. During my fieldwork, they closed a further funding round, taking their total investment to £400,000. HealthApp was a smartphone app-based platform providing training solutions within the health and fitness industry.

IM.io was founded by Jon (Cofounder HealthApp) who was in his early thirties, along with a partner, who was not present in CoWork during my observational period. Both were first time founders. They took IM.io through an Accelerate programme in 2015, on the same cohort as Market.io. They had raised £290,000 in investment. IM.io provided analytic tools, widgets, and chatbots for businesses using instant messaging platforms for customer interaction.

Funder was founded by a man in his early forties, who was not present in CoWork during my observational period, as he lived in France. However, his employees worked from an office in CoWork. Funder had gone through an Accelerate programme in 2015, and had raised around £600,000 in investment. Funder provided a web-based platform enabling online charitable fundraising, taking a cut of all funds raised.

DMCo was founded in 2010 by Zack (Founder DMCo) who was in his mid-40s, along with a “silent” Cofounder who was not present in CoWork during my observational period. Zack was a first time founder, and took DMCo through an Accelerate programme in 2014, and had raised £380,000 in investment. DMCo was a web-based platform for direct marketing.

SocApp was founded in 2016 by Cynthia (Cofounder SocApp), and Tom (Cofounder SocApp), both of whom were in their mid-30s. Cynthia and Tom had

taken another startup through an Accelerate programme in 2014; however, due to the collapse of a funding round in May 2016, that startup had been wound down. Both had also previously founded and run a web development agency together. SocApp was a “bootstrapped” startup and had not taken any investment. It was a web-based platform to facilitate the creation of social networks around television programmes.

GameCo was founded in 2013 by Pete (Cofounder GameCo), Deborah (Cofounder GameCo), and Lawrence (Cofounder GameCo), all of whom were in their mid-twenties. They were all first time founders and had started that business whilst working for other companies. They had not taken any investment, although they had taken GameCo through a publicly funded seed-stage incubator, which did not provide investment or take equity. GameCo was “bootstrapped” and self-funded through revenue. It was a mobile game development platform and studio.

As this section shows, the majority of startup founders were relatively young (thirties or younger), and male, with only two female startup founders present within CoWork. The majority had been through an Accelerate programme, and had remained working within CoWork after graduating from that; through Accelerate, they had been able to raise investment, and many had raised two or more rounds of investment. These startups will be discussed in greater detail over the remainder of the empirical section of this thesis.

4.6 CoWork’s “Community”

“Community” was a frequently occurring word in my data, used repeatedly in interviews, discussions, and in ephemera produced by CoWork such as their social media and marketing activities. This section will discuss the different dimensions of community. Firstly, I will discuss how “community” serves as CoWork’s enterprise - its purpose. Secondly, I will discuss how community is defined by the “vibe”, or the ongoing relations and interactions within CoWork.

Thirdly, I will discuss the collaborative dynamic of community; the expectation of members to mutually engage together, and how this happens in practice. Finally, I will discuss the extent to which CoWork's community appears to be a "clique", and whether it is open or closed to outsiders.

4.6.1 Community as Enterprise

A CoP's joint enterprise is its mutually negotiated purpose, defined by the participants as they engage in it. As discussed in CoWork's history, CoWork emerged from Accelerate, a seed-stage startup accelerator programme. CoWork's founders were responding to two identified needs: firstly, a permanent place to house the accelerator programme during its operations; and secondly, a desire to create a centralised hub for the technology industry in Northam: "[CoWork] sprung out just because there was a need for it, and we felt as though we were in a position to facilitate it" (Michelle, COO CoWork, Interview). Prior to CoWork's founding in 2014, teams going through an Accelerate programme were taken to New York, and whilst there, spent time working in startup-focused coworking sites. Zack, the founder of an Accelerate startup that went through the programme in 2013, discussed this in his interview:

As part of the Accelerate process, we all went out to New York. And Patrick [the founder of Accelerate] is a big fan of places like WeWork, Beta Works, we visited various places like that, coworking spaces. And he always wanted to have a version of that type of place, to be like a centre point within the tech community within Northam predominantly. (Zack, Founder DMCo, Interview)

Patrick's (Founder, Accelerate) vision for CoWork was to recreate something he had found in coworking spaces in the USA. As discussed in CoWork's history, the Accelerate programme itself was also a replica; it was based on the Techstar model, a US high-technology startup accelerator. Coworking spaces and

accelerator programmes are widespread in technology clusters in the USA such as New York, Seattle, and Silicon Valley, and so CoWork was a deliberate attempt to replicate a successful model in the north of the UK. Whilst other coworking spaces have recently opened in Northam, at the time of CoWork's founding, it was the only coworking space in Northam (Diane, S&M Manager CoWork, Blog). From the outset, CoWork's founders saw two primary purposes to CoWork: to support entrepreneurship within Northam, and to provide support and coworking services to the technology industry in Northam. This first goal was made explicit in CoWork's crowdfunding campaign, which was launched in early 2014 to raise the funds needed to refurbish the warehouse space that CoWork's founders had rented:

Northam has one of the strongest tech communities outside London, so we're creating one of the biggest venues dedicated to technology startups in the North of England. (CoWork's Crowdsourcing Campaign)

The money for this was raised through the popular crowdsourcing site Kickstarter. Of its initial £12,000 goal, over £18,000 was raised, with most of the donations coming from members of the technology industry in Northam. Most backers pledged £25 to £40, and all backers had their names inscribed on a plaque hung on CoWork's wall. This plaque was displayed prominently outside "the classroom", the large room used for many events within CoWork, and it thanked "the community" for their support; a reified artefact of CoWork's community value. Crowdfunding itself is a technique used by startups as an alternative way to both raise investment and to validate a business model; many crowdfunding platforms such as Kickstarter do not release the funds to a campaign unless the entirety of the money has been raised. As such, hitting a target demonstrates that there is a market, or need, for the product or service. The success of CoWork's campaign suggested that the technology industry in Northam recognised the potential value in having an IT industry-focused coworking space in the city.

The second goal of CoWork, to provide support and services to the IT community, was also explicitly stated in their campaign:

We want to guarantee the region's not-for-profit tech meetups free space for their events, support educational events such as Code Club, and provide a venue for community events such as hack weekends. Raising a small amount of money ensures we can staff out-of-hour events, provide refreshments and ensure a high quality of facilities. (CoWork's Crowdsourcing Campaign).

CoWork's founders had identified that the IT community needed a community space, where meetups, educational programmes, and community events could take place. In this, CoWork has been extremely successful: in 2016, it hosted 142 meetups alone (Diane, S&M Manager CoWork, Blog). It also ran monthly Digital Showcases to highlight new developments, and startups, in Northam, which were always extremely popular; these events, whilst free, required registration, and I noted that they always sold out. CoWork continues to heavily advertise their commitment to the local community through their website and marketing efforts:

Community comes first! We're all about supporting, promoting and accelerating digital entrepreneurship in the North by putting the needs of the tech community at the heart of everything that we do. (CoWork Website)

We're more than just a place to work. We know how important being part of a community is and how it's all about collaboration. (CoWork Website)

CoWork is all about community and knowledge sharing (Diane, S&M Manager CoWork, Blog)

CoWork made repeated references to the “community” throughout its website, blog posts, and social media. CoWork saw the community it hosted as integral to its success; when CoWork received an award in a national Best Workspace competition, Diane shared the news on CoWork’s Facebook page, along with a message: “It’s all thanks to the community of people we have around us”. Supporting the community was both a stated goal, and an important part of CoWork’s practice, and combined with support for entrepreneurship in the region, made up CoWork’s interpretation of its enterprise.

4.6.2 Community as “Vibe”

Another aspect of the community is the general milieu of the space, produced by the daily activities and interactions of the members. Diane (S&M Manager) refers to this as the “vibe” of CoWork, and discusses it in a blog post:

I've been one of the CoWork team for just over a year now. I'd heard about the place many times before I joined them, but I never really got it. Surely it was just a building full of lots of companies? Big whoop. I didn't understand what made it so special. A considerable amount of time passed before I crossed their threshold. Then it hit me. I get it.

“I love the vibe here!”

It’s largely (if not entirely) due to the community. There’s an incredible support network of like-minded, innovative, creative people. (Diane, S&M Manager CoWork, Blog)

Diane draws a distinction between a space that is simply a building full of lots of different companies, and CoWork. A building full of different companies is not necessarily a community; co-location by itself is not enough. This was something

that Eugene, the founder of Copter, an Accelerate startup, reflected on. Prior to taking part in Accelerate he ran a web design and marketing agency from a business centre:

We were in the international business centre before, we never used to speak to anybody in the building, because everybody on the floor was - like, we had a landscape architect, we had a translation company, you know. There was literally nothing, we had nothing in common with any of the other businesses in the building. But here, we're all kind of in a very similar sort of space. (Eugene, Founder Copter, Interview)

Co-location is not sufficient to produce community between different businesses working from the same building. The production of community requires both sustained patterns of interactions between the members of those businesses, and for those members to have a certain degree of overlap in terms of industry and skills. Eugene (Founder Copter) refers to this overlap when says that they are all in a “similar sort of space”:

So people are doing email marketing, people are doing social, people are doing adwords, people are doing Facebook, people are developing stuff, people are working on apps, you know, it's very much - it is like being part of a bigger company, but it just happens that we're all not on the same payroll, you know what I mean? (Eugene, Founder Copter, Interview)

For Eugene, working from CoWork had the feel of being part of a bigger company; the space they shared was not just a literal physical space, but also an occupational space. The sense of this shared occupational space was the difference between a business centre, such as where Eugene used to work, and CoWork. This sense was apparent as soon as you cross the threshold: the “vibe”. The vibe was the result of the relations amongst CoWork's members; a network of like-minded people. The vibe was not a tangible phenomenon; it was

more of a feeling or impression. Deborah, the Cofounder of the startup GameCo, noted the difference between CoWork, and other office spaces they looked at when looking for somewhere to work:

We checked all the offices around here, and they were all boring. We were surrounded with people with suits, and there was like a little tiny room, and I love those guys [her Cofounders] but I can't be stuck in a tiny room with them! [laughs] And CoWork was just this big open space. It had games, and that's kind of what we wanted, we wanted a lifestyle office. (Deborah, Cofounder GameCo, Interview)

By describing the environment of other spaces, Deborah shows how CoWork differs. In other offices, they were surrounded by people wearing suits, a professional norm. By contrast, most people at CoWork wore t-shirts and jeans; as one startup founder wryly remarked to me, "t-shirts and jeans are practically a startup uniform" (Field Notes 2/8/16). CoWork had the feel of a "lifestyle" office; one in which they could play games. Deborah was not just referring to the ping pong table and the dartboard in the kitchen area; as GameCo is a games development company, they had gaming consoles at their desks, and I observed them playing a video game over lunch with one of other coworking members (Field Notes 20/9/16). Diane referenced this kind of interaction in her blog post:

You overhear many conversations by the kettle, or at Friday beers, of people sharing their problems, their latest successes, asking for help or talking complete nonsense. It's organic, and it's priceless. (Diane, S&M Manager CoWork, Blog)

The "vibe" was not all serious; it was also playful in nature, and included "complete nonsense", such as a group laughing and joking as they played a video game. Diane claimed that the "vibe" produced through these interactions was "organic"; in other words, that it is an emergent phenomenon. This concept

of “organic” also came up with Michelle:

we’re still quite selective about who we bring in because we don’t want companies who will come in and just sell to our community; [...] we need to make sure that they’re coming in for the right reasons, and if some business develops organically from that, then that’s really fine.

(Michelle COO CoWork, interview)

Organic is often synonymous with the concept of something being natural, and the halo-effect that such positive words are surrounded with. Something that happens organically is good; something that is not organic would be forced, or unnatural, and could potentially disrupt the status quo within CoWork. Supplier-customer relations within CoWork did not produce the “vibe”, but supplier-customer relations may be effected because of the vibe; through these patterns of interaction, members may be more willing to outsource work to other members, rather than outsiders. Certainly, this is something that Deborah did:

So we get asked for a website every so often. We know that we don’t need to just push them away, we can take those clients and be like, “well, you know, let’s get this nice contact company I can just redirect you to, somebody from CoWork”. (Deborah, Cofounder GameCo, Interview).

The important thing here is that this was something that happened “organically”, as Michelle (COO CoWork) would put it. There was a belief in reciprocity and a sense of trust amongst members; one member told me that the reason why he liked the atmosphere in CoWork was because of the reciprocal nature of these interactions; you help your fellow members out because sooner or later, your fellow members will help you out (Field Notes 13/7/16). Likewise, Deborah was happy to refer work to other members in CoWork because “I’m pretty sure that if anybody from CoWork was approached for a game, they’d know that we’re right here, and that we can easily be worked with” (Deborah, Cofounder GameCo,

Interview). The vibe of CoWork - the on-going interactions between members - helped build the trust and shared history necessary for this. This came out in a discussion I had with Eugene, the founder of Copter, when he introduced himself to me by the kettle in the kitchen area:

Copter is his startup; he founded it and took it through the Accelerate programme; same cohort as HealthApp. The business is a product that allows drone operators to share large data files in browser easily over the internet. He said that one of the things he finds difficult is that, as a sole founder, he doesn't have the benefit of having a Cofounder to bounce ideas off. But, this, for him, is the benefit of CoWork. "So, for example, Evan [a CoWork member] can come over and I can have a chat with him about something, and eventually we get around to my website, and a problem that I'm having, and I can have a chat with him about it and I can come at it from a different direction." (Field Notes 16/8/16)

In the example above, Eugene references how a chance interaction with a fellow member, with whom he has a shared history of interactions, evolved from a general discussion, to a specific issue Eugene was having, which Evan, as a Web Developer, was in a position to help with. This was an example of an "organic" interaction between fellow members, which contributed to the "vibe" of CoWork, leading to a problem being solved, even though the problem was not the point of the initial interaction.

Of course, it is somewhat misleading for Diane (S&M Manager CoWork) to refer to these interactions as "organic". As a coworking organisation CoWork had been designed to facilitate these types of behaviours; from the design of the space itself, which includes open-plan working areas, and a centralised area for socialising (particularly at meal times), to the provision of events to bring together the community. Diane referenced one of these in the blog post above: Friday Beers. This was a weekly ritual of CoWork's. CoWork provided a fridge with cans

of beer, bottles of wine, and cans of non-alcoholic fizzy drinks. On a Friday afternoon, shortly before 5pm, CoWork's staff sent out a message through Slack that it was time for Friday beers. Any member that wished to attend was then free to do so, and could help themselves to drinks from the fridge at no cost. Deborah (Cofounder GameCo) told me in her interview that she often attended: "Friday night drinks, I think, are awesome, they just get you talking". Another event CoWork organised was a monthly "Pot Lunch": members are invited to make their own food, or to buy some, and bring it in to be set out as a large, communal buffet-style meal. This event was always well attended; I was present in CoWork for two Pot Lunches, and on both occasions I noted over 30 members present.

CoWork's staff's role in the vibe was to keep it as an "organic" phenomenon. This was why Michelle (COO CoWork) saw it as so important that new members were vetted before being allowed entry; new members that might disrupt the vibe by treating CoWork purely as a potential market of customers, which could disrupt the status quo. CoWork was "quite protective" over their members (Michelle, COO CoWork, Interview) for this reason. The vibe was a valuable commodity for CoWork as a result; in her blog post discussing it, Diane (S&M Manager CoWork) bemoaned the fact that you cannot "bottle a 'vibe'": "My role in the Campus team is Sales and Marketing Manager. If I could bottle that feeling, that vibe, that buzz, people get when they first walk in, I'd be a very happy girl!". The "vibe" was valuable because through it, collaboration could happen - a vital part of CoWork's enterprise.

4.6.3 Community as Collaboration

Collaboration is the process of coworkers within a coworking site mutually engaging on work or work-related activities together. For CoWork, facilitating collaboration between its members was very important:

We're more than just a place to work. We know how important being part

of a community is and how it's all about collaboration. (CoWork Website)

[CoWork's] brand itself is about the people that are in it, and it's about making it part of everything we do, and, it's about that collaboration (Michelle, COO CoWork, Interview)

[We want new members] to have some kind of creative or digital aspect to what they do, because that kind of helps with all the collaboration in there (Michelle, COO CoWork, Interview)

Michelle saw collaboration as an important part of CoWork's brand, and collaboration was an important dimension of CoWork's community. When potential members are taken on a tour of CoWork, this was something that is impressed upon them, for example on a tour I observed:

Later in the afternoon, Diane came up [to the kitchen area] with someone; she was showing him around the space. As they came up she said that this was the kitchen area, and was the main place to come to "chill out" and chat with other tenants. She showed him the kitchen and told him that tea and coffee facilities are provided to members free of charge, that there's milk in the fridge, and everyone is welcome to use the fridge, that there's a microwave to heat up food. She pointed out the offices; "mostly startups working from these - that one over there isn't, that's WebCo, they're a lovely bunch of lads". She said that all the offices had an open door policy and if you needed anyone for anything just knock on - "everyone's really friendly and helpful, we all help each other out on CoWork". She went over to Market.io's door and told the guy that she would quickly introduce them; she knocked on, opened the door and went in with him. Heard her make introductions and a little bit of chat. On the way out she said hi to me, then took him back downstairs. (Field Notes 21/9/16)

New members were told that they can access the community for help and support; Deborah (Cofounder GameCo) recalled in her interview that this was something CoWork tried “selling” to them, that there were a lot of developers working from CoWork whose knowledge GameCo could benefit from. The potential for collaboration was not just something that CoWork uses as a marketing device however; it was an important value of CoWork. The value of collaboration was so great, that members who do not uphold it can be dismissed from CoWork, as Michelle (COO CoWork) told me:

We’re definitely not just an office space. So, we have had a company come in before where they did treat it as an office space, and we had to say to them, “you know, we expect you to be actively participating with the other members”. It’s no good if one of our members are just sat behind closed doors, not talking to each other, because there’s other places that you can go to do that. [...] When they came in, I think they kind of nodded, and yes, they understood it, and yeah, it was a great fit. But, when it actually came to it, they frosted their office door so you couldn’t see in, and just kept it shut, and we didn’t really see any of them or speak to any of them for the full time that they were there. And, overall, yes, it’s revenue for us, but if everybody in there did that, then what’s the point in us being there? You know, we didn’t set CoWork up for being office space, we have got the spaces [in Northam] that are publicly funded to do that. (Michelle, COO CoWork, Interview).

The collaboration between members is something that distinguished CoWork from other workspaces; as Michelle says, if you just wanted office space, there were other places you can find that, but that was not the point of CoWork. This company was made aware of CoWork’s values, and the expectation that they participate (and collaborate) with other members, and agreed to this, but this was not how they acted in practice. The breaking point for Michelle was the frosting of

the office door. This showed that they were “very disengaged from us, the community, in a very extreme way” (Michelle, COO CoWork, Interview). Symbolically, this act cut the company off from the network of relations within CoWork, and was recognised as highly unusual behaviour. Ed, the Chief Technical Officer of HealthApp, was a neighbouring office tenant, and I asked him if he recalled this happening:

Ed: I remember the frosting on the office door, yeah! Crazy.

Andrew: Was it a big deal at the time?

Ed: I remember thinking, “what is that? What’s going on there?” Just, yeah. (Ed, CTO HealthApp, Interview)

This was a significant breach of the community’s values, and was recognised as such. The company was asked to leave because the revenue they offered was not sufficient to offset this; as Michelle said, if all of their members shut themselves off from one another, then what is the point of CoWork? A member that makes itself unavailable to others will not collaborate with, or participate in, the community.

Protecting the integrity of the community was something that CoWork’s operations’ staff took seriously. On one occasion, I noted an argument between Ethan (Founder CoWork), and CoWork’s operations’ staff. Ethan had been approached by a company that offered training services, and wanted to hire an office in CoWork:

CoWork’s staff are quite resistant to this, but Ethan thinks it is a good idea. Ethan is saying that CoWork was originally set up to support tech companies, and they've kind of gone now - he's asked to clarify this, and he says the original purpose was startups, but there are a lot fewer of

those. Far more creative/design companies in now, so the community has already changed. So he feels it is worth at least doing some research to see if it is worth bringing in other companies. Their table has gone quite quiet now; atmosphere seems a little frosty. (Field Notes 18/8/16)

Whilst it was true that the focus of CoWork widened after incorporating as a separate company from Accelerate, CoWork's staff still felt strongly that the goal was to support IT and digital businesses. Ethan's suggestion that a training company be allowed in was outside this scope, and the staff were not happy with the idea; certainly, no such company had joined CoWork by the end of my observational period in February 2017, suggesting that the staff were able to protect their interpretation of CoWork's focus.

As a value, collaboration was also important to CoWork's members. CoWork's members were, for the most part, willing to help and engage with one another. For example, Deborah (Cofounder GameCo) shared this story, of helping a fellow member after one of their employees quit during a time-critical project:

[The company] had one of their devs [web developers] go out on them, and because we're such a close community we trust each other, and they were like, "oh, well this person's gone, I need this by the end of the week", and I was like, "well if they don't show up anymore, we can just do that for you in two days, really quickly" (Deborah, Cofounder GameCo, Interview)

Being part of the community meant trusting your fellow members, and helping them out where possible. There were also some attempts to create some more structured collaboration. Evan (MD Consult.io) was a freelancer and member of CoWork who had been involved with CoWork since the beginning; before becoming a freelancer, he had been employed by a startup that went through an Accelerate programme prior to CoWork's founding. Evan decided to set up an informal group, that would meet twice a month, for members to come together,

share problems, and work towards solutions together. He announced the founding of the group on Slack's #General channel:

Good people of CoWork! I was chatting with @Eugene earlier, who I think was chatting to @Zack, who was probably chatting to someone else before that.

ANYWAY... we felt we were missing some CoWork sharing. Are there people here that could help you out with some work, or that you could help out? Do you have problems someone else could help you solve? People you'd like to be introduced to? What does everyone do? We use to have a bit more of that going on in the lofty old days.

Please join us 5pm around the sofas and we'll see if we can't get something rolling! (Slack Log 26/09/16)

Initially Evan referred to this as "share and care", but after two sessions, it was given a name: The Workshop. The Workshop met roughly once a fortnight, with the time and place varying slightly depending on people's availability, but most commonly around lunch, or early afternoon. A public channel for the group, called #TheWorkshop, was set up on Slack. Sixteen members of CoWork joined, and I was also invited to attend. I attended three meetings during my observational period. The meetings were informal stand-up meetings, lasting less than an hour. Members would gather in a circle, go around and introduce themselves, and each would discuss any particular problems that they had, or something that they were working on. The other members would then offer support, advice, and solutions. For example, Deborah (Cofounder GameCo) had been having a problem with a client refusing to pay for some work, and Erin (Director, DesignCo) helped her write an email requesting payment. The email was a success, and the client paid (Field Notes, 27/10/16).

Another example of more structured collaboration was The Collective, an inter-organisational initiative started by Zack (Founder, DMCo). The Collective was a cooperative effort between different members, with the goal of producing limited edition runs of socks, utilising the various skills of CoWork's members to design, print, market, and sell. Zack explained his motivation behind it:

Zack: In here, there's a lot of people with unique skills.

Andrew: Yeah.

Zack: We were looking for a proof point to do a really good example of how ecommerce can be very effectively marketed, so the suggestion that I came up with was, "let's form a collective, we'll use our system to prove the marketing, we'll get content writers, designers, website builders, whoever that's in here, to contribute towards that, and, you know, if we make some money, great, if not it's a good story in terms of everybody contributing", which is where the whole sock thing came from. Heel and Co.!

[...]

Zack: And if people like them, great, and if they don't like them, we've tried. [laughs] That's a proper lean startup, that one. (Zack, Founder, DMCo, Interview).

The Collective was the result of several factors. Firstly, CoWork had a number of members with particular skills, including technical and design skills. Secondly, there was an impetus for it; Zack was looking for a way to prove that his system could effectively market ecommerce. Thirdly, it would act as a community-building activity: "it's a good story in terms of everybody contributing". And finally, it utilised the lean startup development methodology, which many of CoWork's

members would know, and be familiar with. It was a peripheral activity done around everyone's work; one of the main bottlenecks was waiting for the sock designs to be created by one of the members. However, it served as an ongoing mutual collaboration. Whilst the first batch of socks were not ready by Christmas, as Zack had hoped, due to delays in getting the designs from the member responsible for them, there were still plans to produce a batch at the time my observations finished in February 2017.

Collaboration was effected by the "vibe" of CoWork: networks of relations, built through a shared history and supported by a shared repertoire, enabled mutual interaction and engagement with one another on problems and issues. CoWork itself played several roles in supporting this. Firstly, CoWork's staff could act as signposters, directing members who have particular problems towards other members. For example, a member shared an issue they were having on Slack:

Figure 4.6: Signposting on Slack

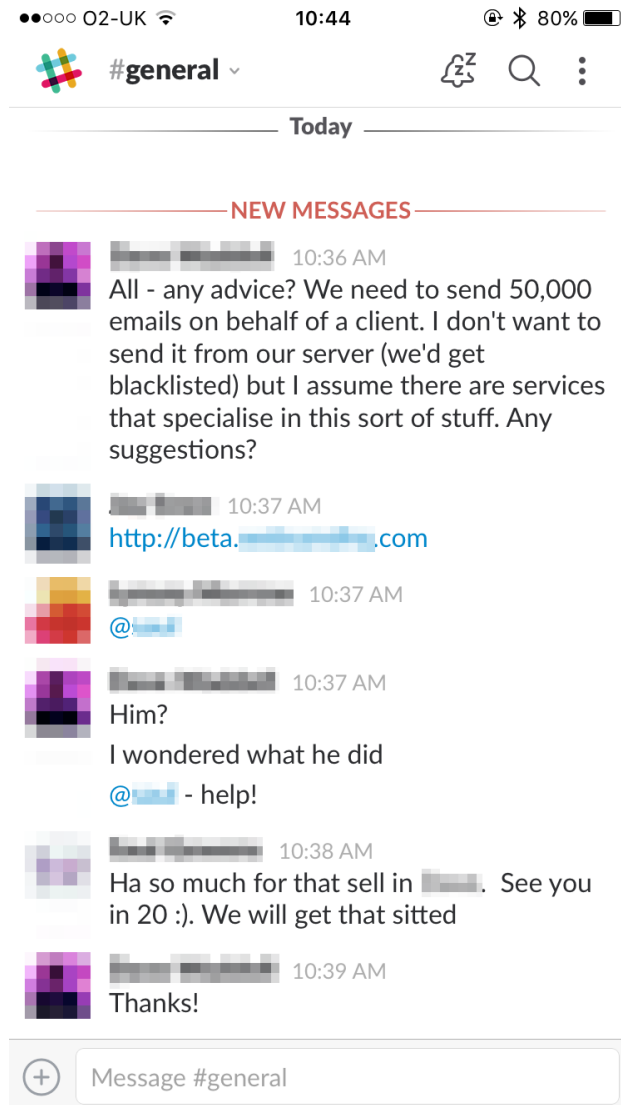


Figure 4.6 shows an interaction on Slack, where a member needed technical help sending a very large batch of emails. Almost immediately - within a minute - another member had given a link to a service that would help, and Diane (S&M Manager CoWork), the second respondent, tagged Zack (Founder, DMCo). This both directed the member to the appropriate person, and because of Slack's functionality, notified Zack that he had been mentioned, prompting him to check and respond. His startup, DMCo, was a platform for managing online direct marketing; Zack offered to set up a meeting. CoWork's staff could facilitate collaboration by acting as nodes within the network of relations within CoWork, directing members as needed to other members.

Secondly, as discussed above, CoWork were both proactive in vetting new members before they joined, to ensure that they are aware of the expectation of participation and mutual collaboration, and could also, in extreme cases, remove members who violate these expectations. CoWork's staff played a vital role in managing the community to ensure that ongoing collaboration was a feature of CoWork.

4.6.4 Community as "Clique"?

When "community" occurred in my data, the tone was almost overwhelmingly positive: community was unequivocally seen as a good thing. Community was a source of support, of collaboration, of humour and fun, and the enterprise of CoWork itself. Very rarely was it considered that community could have a negative connotation. However, there was one example of this. I asked Zack (Founder, DMCo) if he ever attended any of the meet ups or events hosted at CoWork:

Zack: Some. Some. It depends. Like I say, it depends what they are. But that's the whole point of them. Well, I think a lot of people do. The breakfast one is well attended, the Digital Drinks is usually well attended, the meet ups are well attended. I think some people do find them difficult, from a clique, I think there's a clique perspective. But when you've got a group of people, you can't really ignore that. You can't stop that.

Andrew: Yeah.

Zack: And even though the doors are open, and the doors are open to everything in here, a lot of people will point fingers and say that it's a clique, but they've never even tried to walk through the door! [laughs] You know what I mean? That's just the nature of being in a place like this.

Andrew: Yeah. So do you think there are particular cliques within CoWork? Do you agree with that?

Zack: I think from the outside looking in, it could look like that. But I don't think there is. (Zack, Founder DMCo, Interview)

The term clique has a pernicious quality that suggests a group that is inward-focused and identified by an in/out group dynamic: if you are not in, you are out. A clique has an in-group bias with stronger ties between members of the clique, than between clique members and outsiders, and as a result members engage in acts of exchange (for example information) more readily amongst one another (Tichy 1973). Zack acknowledged that, “from the outside looking in”, CoWork might appear to be a clique, and he suggested that for non-members, those who have “never even tried to walk through the door”, this might be the way that they viewed CoWork. Ultimately, Zack vehemently denied the existence of a clique: “the doors are open to everything in here”.

However, there are two elements that might support the assumption that CoWork was a clique. Firstly, whilst Zack claimed that the doors are open to everyone, this was not true. CoWork's cafe area was a publicly available space, and can be accessed by anyone. However, CoWork's space had a very clear physical delineation between the public space, and the members'-only space, in the form of a locked door, to which only paying members were given a key fob granting them access. This ensured that CoWork's members are "surrounded by people who are in quite a similar boat[...] It's good to have that, there is actually a spirit of collaboration in here" (Eugene, Founder Copter, Interview). Because of both their shared membership, and their degree of isolation from non-members, CoWork's members were “in quite a similar boat”, which enabled collaboration: enhanced exchange between members. CoWork's open door policy also supported this. Beyond the locked door leading to the members-only space, all

the doors were open (or at least openable), and they were kept open through CoWork's policing of this policy, such as evicting members who violated it. A non-member could not access this space, however, unless taken through by a member, or one of CoWork's staff. In this way, CoWork's member community was largely incubated from outside members - the exception was when they attended open-access events, such as meet ups. Furthermore, CoWork's members could choose when they wish to interact with non-members, by choosing which events they attended, but non-members had far less agency to choose when to interact with members.

Secondly, members of cliques will share information far more readily within the group, than with outsiders. This certainly happened at CoWork; as discussed above, Deborah (Cofounder, GameCo) would refer clients looking for work outside of GameCo's area of expertise to companies within CoWork. Deborah was not the only member to do this. Toby (Owner ResearchCo) operated a market-research business. As his company was marketing-focused, it only had a small, off-site development team. As a result, he outsourced development work where necessary to other members of CoWork. When his team needed training in PHP, he put out a message on Slack, asking if anyone was able to deliver PHP training within CoWork: "I'd prefer to hire someone from CoWork if I can" (Field Notes, 22/9/16). This also happened on several other occasions, including a freelance copywriter member asking to be referred to a designer with expertise in branding work within CoWork, and was referred to WebCo (Slack Log 24/7/16); and the case above, where Zack's (Founder, DMCo) own company was referred to a member to solve an email marketing issue.

Because of the availability of CoWork's community to other members, and the concentration of diverse, but overlapping, skills within, the community was often the first port-of-call for problem solving. This in turn led to the creation of supplier-customer relations within. Toby (Owner, ResearchCo) was not the only member who expressed a preference to keep supplier relations within CoWork where

possible; Ellis (Owner EngCon) was a member whose company provided security solutions using RFID technology. In a discussion with me he told me that he preferred accessing the community within CoWork for help, because he felt he could trust his fellow members: he had no direct competitors, and collaborations were reciprocal - “you get back what you put in” (Field Notes, 13/7/16).

However, the question here is the extent to which CoWork was a clique, or whether it was merely operating as a CoP, showing preference for fellow members of the CoP, and creating an imagined sense of insider/outsider division, through the shared culture, history, and repertoire. Newcomers were able to access CoWork, and were welcomed to it. As long as newcomers were willing to participate in the joint enterprise, and sense-of-community, they were not excluded. Furthermore, the presence of exclusionary practices was to a certain degree necessary. As Michelle (COO CoWork) argued, it was necessary to have certain conditions for access, in order to ensure that the enterprise of CoWork was maintained. CoWork’s members certainly found value in this, as was seen in the way that Eugene (Founder Copter) contrasted his time within a generic business centre, to his time in CoWork. CoWork’s focus on startups and entrepreneurship meant that the mutual engagement in practice was beneficial to Eugene. CoWork was not a clique. However, Zack was picking up on an important point; accessibility to a group is not only determined by the extent to which it is in practice available to newcomers, but also the extent to which it would *appear* accessible to a newcomer. This will be further developed in section 7.3.

4.7 Conclusion

This chapter has introduced CoWork, the research setting for this thesis. CoWork can be considered a hybrid organisation; a combination of coworking site, and startup accelerator. Whilst the accelerator no longer ran from CoWork, it

nevertheless left an important legacy, both in the number of startups still working from it, and in CoWork's ongoing goal to support and enable entrepreneurship within Northam.

Beyond supporting entrepreneurship, CoWork was also geared towards the production of a sense of community. This production was both structured by the way CoWork is organised, including its space, membership requirements, and the management of it by its staff, and was also emergent through the ongoing patterns of interactions, and unfolding history of participation within the site by its members. This sense-of-community was visible to members in two ways: firstly, as a "vibe", or the milieu of the ongoing interactions; and secondly, as an enabler of collaboration, as learning and support was done through the community.

This chapter has also touched on ways in which exclusionary practices from the community happen; firstly, staff played an active role in vetting members and policing the community for anti-social (and anti-community) behaviour; and secondly, as Zack (Founder DMCo) touched on, the sense-of-community that members enjoyed could create a sense of inaccessibility to outsiders, even if they would otherwise be able to join. These themes will be returned to in Chapter 7, during the discussion of these findings.

The next chapter will discuss the ways in which participation happened in CoWork, in order to build a picture of how participation varies across temporal and emotional commitment, the trajectories that members take, and the differing ways in which members participate in working and social practices.

Chapter 5: Participation at CoWork

5.1 Introduction

This chapter will explore the ways in which CoWork's members participated in the community of CoWork, and how they engaged in the various practices that contributed to the work being done within, including the ongoing work of high technology entrepreneurship. Wenger (1998: p. 55) considers participation to be "the social experience of living in the world in terms of membership in social communities and active involvement in social enterprises". This section will discuss participation in CoWork in terms of both community and enterprise. Firstly, I will discuss participation in terms of trajectories: the varying ways, and degrees to which, individuals took part in CoWork's enterprise. Secondly, I will discuss participation in terms of temporal and affective commitment. Thirdly, I will discuss how members participated in the day-to-day practices of CoWork, which included both coworking and communal practices.

5.2 Trajectories of Participation

The use of the term "trajectory" in Wenger (1998) is a deliberate attempt to capture the dynamism of participation: participation in practice is an ongoing and changing dynamic, and an individual's place within a CoP will change over time. As discussed earlier, an important element of CoWork's enterprise is its support of entrepreneurship within Northam. When CoWork was founded, Michelle (COO CoWork) envisaged a normative trajectory, whereby a new member moved from peripheral participation, on an inbound trajectory, to insider status:

When we first started CoWork we kind of thought the hotdeskers would quite like it to be, in an ideal world, quite a fluid transition for them. Where

say, if they were thinking about starting up their own company or something, but they couldn't leave their full time jobs, then on the time that they have got spare, they would maybe hot desk, and then, once they start kind of rolling that out and doing more of the business, they would maybe go to the co-working space and go and do a bit of coworking, and then once they start getting a team around them, and get more desks, they could maybe take an office, and then... So, it's a nice safe environment, and supportive environment for them to grow into that, [...] but, obviously not everybody does that, and that's not what happens all of the time, but that's, in an ideal world, that's how we like to see that kind of business growth coming through from the hot-desking. (Michelle, COO CoWork, Interview)

The normative trajectory Michelle imagined sees a hypothetical member initially occupying a legitimate peripheral role in CoWork. They join as part time hot-deskers, working around another job. Over time, as they commit more resources to their new enterprise, they are on an inbound trajectory: they start working from CoWork more. Once they have fully committed to their new enterprise, they become insiders: they start hiring new staff, work full time from CoWork, and maybe even take on an office. All of this takes place within a safe and supportive environment, designed to facilitate this through CoWork's commitment to supporting entrepreneurship, and the flexibility of the membership model at CoWork, which allows members to move quite fluidly from peripheral, part-time membership, to insider, full-time membership. However, as Michelle acknowledged, this is not what happened all of the time. Indeed, I did not speak to anyone for whom this was their experience of participating at CoWork. The majority of the members I spoke to had settled into either an insider, or a peripheral, trajectory.

For the startups within CoWork, almost all had joined due to taking part in an Accelerate programme. These startups now worked full-time from CoWork, and

their participation on an Accelerate programme strongly legitimated and centralised their participation in CoWork. The logos of these companies were displayed on the “Community” page of CoWork’s website, along with links to their websites. CoWork publicised press releases about these companies on their social media accounts, and uses them for marketing purposes: Diane (S&M Manager, CoWork) had a series of interviews with the founders of these startups, published on CoWork’s blog. In these interviews she not only asked them what they do, but why they believed working from CoWork was beneficial to them. Many of these startups were long-term members of CoWork. DMCo, for example, had been a member since CoWork first opened in 2014. DMCo went through an Accelerate programme in 2013, prior to CoWork being founded, and moved in as soon as it opened. Zack (Founder, DMCo) credited this in his interview to his visit to coworking spaces in the USA, as part of the Accelerate programme: “because we were all on the same trip and we all bought into that stuff as well, so when this place existed, we wanted to make sure that we were in it, basically”. Zack “bought into” the values of coworking, and fully participated in the community at CoWork; attending events, joining The Workshop, and founding The Collective. Eugene (Founder, Copter) felt that the shared experience of having taken part in Accelerate was particularly useful in creating a bond between the startups in CoWork: “there’s quite a few other companies who’ve taken part in Accelerate; it’s like a family, we all know each other, we’re all invested in each other’s success” (Field Notes 16/8/16).

The insider status of these startups could be seen in elements of CoWork’s repertoire. Slack had the functionality to add custom emojis to the emoji library, which users could then add to messages, or use to “react” to messages. One of the custom emojis added to CoWork’s slack was a picture of Will (Cofounder, Market.io), with hearts in place of his eyes. This was used in place of the 🥰 emoji, to indicate excitement or enthusiasm about something.

The history of these startups was also part of the repertoire of CoWork. When

Market.io initially applied to Accelerate, they applied with a beta-stage wishlist app that Will (Cofounder, Market.io) and Adam (Cofounder, Market.io) had built at university, as Adam told me in his interview: “we brought that to Accelerate, we went through the interviews [...] and while a lot of mentors liked us, one of the recurring advice we got was that the wishlist probably wasn’t the right product to be going forward with”. Adam and Will were then given a few days to come up with another idea to pitch, and successfully pitched the concept of their current startup, Market.io. However, the story of their first, unsuccessful pitch, remained one of CoWork’s stories, as was shown by an interaction on Slack. Ethan (Founder, CoWork) was present in CoWork shortly before Christmas, and needed a set of dice:

Ethan: (Founder, CoWork): Anyone in CoWork got a dice I can borrow until Friday?

[several suggestions given of members who might have one are made]

Jon (Cofounder, IM.io): everyone make a note for next years secret santa

Ethan: If only someone could build a website that was like some kind of ‘wishlist’ for the presents that your friends wanted. If someone did that then I bet they would make a fortune! cc @Will @Adam

Jon: BEST IDEA EVER

Will (Cofounder Market.io): YES THEY WOULD #giftingrules

Adam (Cofounder Market.io): Will... pivot?

Will: Yes!

Ed (CTO HealthApp): Sounds fancy

Adam: Pivot! [includes a gif from the television show *Friends* of the character Ross shouting, “pivot!” as he tries to manoeuvre a sofa around a corner] (Slack Log 14/12/16)

Ethan (Founder CoWork) was also a Director of Accelerate, and was a member of the panel of judges who interviewed Will (Cofounder Market.io) and Adam (Cofounder Market.io). He had advised them not to pursue their wish list idea; as such concepts are notoriously difficult to develop into high growth profitable businesses. Jon (Cofounder IM.io) was on the same cohort as Will and Adam, so was aware of this story. Ed (CTO HealthApp) had been friends with Will and Adam during university, and so knew them whilst they were building the app: their wish list app was called “Fancy”, which his comment, “sounds fancy”, referenced. A “pivot” is a term used in the lean startup methodology, when a startup makes a major modification to their product, in order to better meet customer needs. This interaction was possible because of the insider status of these members, and their access to this shared repertoire of CoWork’s history, the shared repertoire of language, such as startup terminology, and the shared cultural repertoire, such as the pop-culture gif Adam used. Their shared access to this repertoire of history, language, and cultural memes enabled these members to engage in an in-joke that would only make sense to insiders.

The other common trajectory I found within CoWork was members who had settled into a more peripheral trajectory. These members were commonly freelance workers, and worked from CoWork on average for two days a week. Whilst Michelle (COO CoWork) envisaged these kinds of workers on an inbound trajectory, eventually moving to fuller participation over time, these members were for the most part content to access CoWork less frequently, and saw it as a source of community and sociality to disrupt the seclusion of their self-employed working practices. I spoke to one such member during a “Pot Lunch” that I

attended:

Whilst eating I chatted with a few members including Deborah [Cofounder GameCo], and a new person who I have not spoken to before, although apparently he has seen me around before (in his words, he has “only ever seen me when food is around”!), but I got on well with him. He asked me what I did so I explained about my project and he was fairly interested in that; I asked what he did, and he’s a freelance developer. “I started coming to CoWork a couple of months ago because I needed some form of human interaction, as I wasn’t quite sure how best to go about it” - he said that poor social skills and introversion are common for developers. We agreed that the best thing to do in CoWork is to hang around whilst food is being eaten at mealtimes, as that’s when you’ll get most interaction with others! I asked him how he enjoyed working from CoWork, and he said that he liked how it broke up the monotony of his week, and that it was nice “to be around the buzz of other people for a while”. (Field Notes 14/12/16)

This member had taken a somewhat mercenary approach to CoWork: in need of social interaction, but feeling that, due to his poor social skills and introversion he would struggle to find it, he decided to join a space dedicated to producing a sense-of-community for workers such as him. The problem that CoWork was solving for him is this sense of isolation, and this was resolved through being “around the buzz of other people”. As such, he remained on a more peripheral trajectory, rather than an inbound one. These members were not insiders in the way other members, such as the startups, were. They were less likely to participate in discussions on Slack, less likely to attend communal events outside of work, such as trips to the cinema or to the pub organised by members, and none of these members joined The Workshop, described earlier. Access to the general “vibe” of CoWork appeared to fulfil their desire for sociality, as Laura (Freelance Copywriter) told me: “[she told me she is] usually in on Thursday and

Friday. I asked if she would like to work from CoWork full time; she laughed, and said no: 'two days is enough for me to get my fill!'" (Field Notes, 26/8/16).

Whilst the majority of the members that I spoke to had remained on an insider or peripheral trajectory, I did speak to one who had moved into a boundary trajectory. Wenger (1998) identifies the boundaries of a CoP as a point for exchange and transfer; brokers are boundary agents are those who have enough legitimacy to participate to some extent in the CoP, but are not committed members. As such, they are able to transfer knowledge and learning across boundaries. The individual in question was Frank (Code Club Coordinator). Frank used to work for Cynthia (Cofounder SocApp) and Tom (Cofounder SocApp), and was the CTO of their previous startup. He left that position when that startup had a funding round collapse. As a result the business was wound down, and Frank was made redundant. He was then employed by a software development company elsewhere in Northam. However, he still visited CoWork regularly, as he voluntarily ran several coding classes, including an adult's Introduction To Code class, and during school holidays he also ran Code Clubs for teenagers, to introduce young people to coding. We had a discussion about Frank's role in CoWork and his involvement in the Code Clubs and coding workshops hosted there, over lunch:

Since leaving that job he does still come to CoWork, but obviously spends a lot less time here now. Mostly comes to the occasional meetup in the evenings, or to the workshops that he runs. I asked him if he missed CoWork. "Yeah, I think it's a special place, and I made a lot of friends here during my time. I still get to see them, which is nice, but it's a lot less frequent now. I try to come in when I can, although it isn't that often, and I try to attend the out-of-hours events wherever possible". I asked him what he thought about his new job, compared to working from CoWork; he said that his new company is a lot smaller overall than CoWork, so it has a different feel, less of a buzz. "But like I said earlier, compared to being in a

startup, it's nice not to feel like we're constantly out of control!".

I asked him how he got involved with the Code Club in the first place: "I think it's important to give something back to the community. Michelle [COO CoWork] was looking for someone to run it when she came up with the idea so I volunteered; coding is such a useful skill, and the Club and the workshops are a great way to introduce people to it. I even got my new company to sponsor one so CoWork could put it on for free. I've also been playing around with some new [software development] tools at work, so I've been able to incorporate them into the workshops I do which is good".

(Field Notes 17/8/16)

Frank's trajectory had taken him from an insider, as the CTO of a startup resident within CoWork, to a boundary/broker position as an occasional attendee and a coordinator of training events. He still maintained friendships and relations within CoWork, but interacted less with these relations due to his commitment to his new job. He was now in a boundary, rather than peripheral, trajectory, because he has less temporal commitment to CoWork than the other peripheral members, and his current position was geared towards acts of exchange across CoWork's boundaries, rather than primarily engaging in CoWork's enterprise of community. He still attended CoWork to both attend meet ups, and also to run workshops and the Code Club, which he saw as a way to give back to "the community"; an important value of CoWork's and one which he has internalised through his membership of CoWork's CoP. His position on the boundary allowed him to enable acts of exchange. Firstly, by running events within CoWork, he brought newcomers to CoWork, and legitimated their presence within. Secondly, he was also able to facilitate exchange between other CoPs, and CoWork. He was able to convince his new employer to sponsor an event, enabling CoWork to run it for free, and could also bring knowledge he is gaining from that position (such as the new development tools he is working with) into CoWork.

5.3 Participation As Commitment

In the previous section, the primary dimension used to describe someone's participation was temporal: how much time did that individual spend in CoWork. This was how Michelle (COO CoWork) envisaged the normative trajectory of a member; joining as a part-time member, and gradually building up their temporal commitment until they were working from CoWork full time. This is a useful heuristic; the members who spent more time in CoWork had more interactions with other members, and more opportunities to be involved in communal events, activities, and participate in the general "vibe" of CoWork. However, through my data a second, also important, dimension of participation emerged; that of affective commitment, and the extent to which an individual feels an emotional attachment to CoWork. This section will discuss participation in terms of both temporal and affective commitment. Whilst these two dimensions often intersected, they do not overlap completely, and this will be examined.

5.3.1 Temporal Commitment

Figure 5.1: Mapping Participants by Temporal Commitment

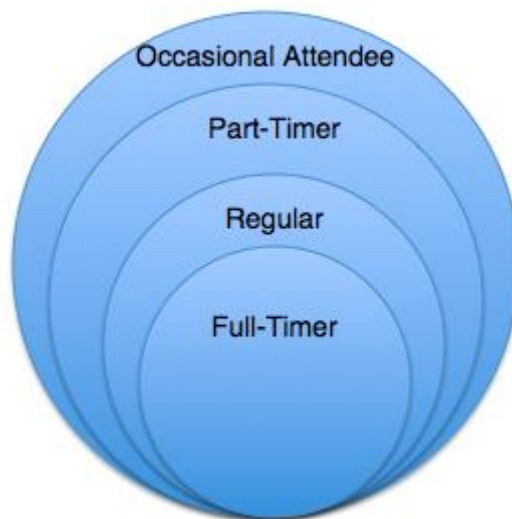


Figure 5.1 is a representation of participants organised by degree of temporal commitment. At the centre are the full-time members for whom CoWork is their sole place of work, and the overwhelming majority of their working hours are spent at CoWork. At the outside are the occasional attendees: this term is used in two senses, meaning both those who attend for specific occasions (such as events), and those who only attend on an infrequent basis. Between these two are the regulars, and the part-timers, both of whom attend CoWork every week, but to a lesser degree than the full-timers.

Table 5.1: Comparing Different Forms of Temporal Participation at CoWork

Type	Description	Time Spent at CoWork	Membership	Illustrative Participant	Illustrative Quote
Full-Timer	CoWork is their primary workplace; they work from CoWork every day	Five days a week	Yes; coworking membership	Eugene (Founder Copter)	"I always said that I need to be in here, because it'll get me out of bed in the morning, it'll get me into work, it'll get me behind a desk, and it'll get me working on a product" (Interview)
Regular	CoWork is their primary workplace; they work from CoWork most days	Three to five days per week	Yes; coworking membership	Deborah (Founder GameCo)	"You get addicted to the whole freedom of it; there's no more staring at your computer screen for hours, and just being like, 'I can't think'. The days where you can't think you just stay at home, and the days that you're motivated you can stay at the office for days on end" (Interview)
Part-Timer	CoWork is their secondary workplace; primarily work from another office (often a home office)	One to two days per week	Yes; hotdesking membership	Marcus (Software Engineer DistribuCo)	"working from home you definitely miss the social side of work; you feel very isolated without it. This way I can stay on top of what's going on in the community!" (Field Notes 16/8/16)
Occasional Attendee	Only uses CoWork's public space as an occasional workplace; primarily attends events, workshops etc.	One to two days per month	No	Frank (Code Club Coordinator)	"I try to attend the relevant meet-ups, when I can. As a developer they are such a useful resource; things change so quickly it can be hard to stay on top of new developments otherwise!" (Field Notes 17/8/16)

Table 5.1 shows the different types of temporal participation, and provides an illustrative example of each type. Full-timers were members who worked from CoWork on a full-time basis. This might not be on a normative Monday-Friday 9am-5pm basis, as members are able to access CoWork at any time of the day, every day of the week, but all of their work (excluding anything such as off-site client meetings) is conducted from CoWork. Eugene (Founder Copter) was a full-timer. An important reason for why he works full-time from CoWork is that, cognitively, CoWork fulfilled the function of a delineated space for work. Full-timers were likely to be active participants in CoWork's community; their constant presence meant it was easy to access them, and they typically occupied an insider trajectory.

Regulars were members who primarily worked from CoWork, but their working arrangements were a little more flexible than full-timers. They chose how often they wish to work from CoWork, and although they were in most days a week, they fit their temporal participation around their lives and mood. Deborah (Founder GameCo) is an example of a regular. Whilst she worked from CoWork most days, she did not conform to normal working hours: on several occasions I noted her only arriving later in the day, because she had decided to work from home during the morning, or simply was not feeling productive and so came in later:

Deborah and Pete [Cofounder GameCo] wandered in around three; I jokingly asked if they had just woken up. Deborah responded with mock indignation that she had been awake since 6; "but I didn't need to be in until this afternoon, so I decided to work from home instead!". Pete laughed at this, and said she was playing League of Legends [a popular multiplayer online game]; she rolled her eyes and said that was just whilst she was waiting for her code to compile. (Field Notes 11/10/16)

Regulars were flexible participants who still committed the majority of their time

to CoWork, but did not treat CoWork as their only place of work. However, because of their time commitment to CoWork, the regulars were still likely to be active participants in CoWork's community, on insider trajectories.

Part-timers were primarily hotdesking members. Hotdesking members were given 10 days per month in access to CoWork, and so worked from CoWork for two days out of each week. This made CoWork their secondary workplace, and of the hotdeskers I spoke to, the majority worked from home for the remainder of the week. Marcus (Software Engineer DistribuCo) was a part-timer. Marcus had been the CTO of DMCo, but left in 2015, as at the time DMCo could not continue paying his salary (Field Notes 16/8/16). When we met he worked for a large distributed company as a Software Engineer. He worked primarily from home, but hotdesked at CoWork two days a week. For Marcus, hotdesking provided him the social aspect of work that was otherwise lacking from his job, and allowed him to maintain relations within the community at CoWork. However, because part-timers spent less time in CoWork they were not as active participants in the community, and those I spoke to had settled into more peripheral trajectories: engaging with CoWork's enterprise of community, but in a less central way. For part-timers, CoWork affords them opportunities to engage in sociality, as Janine (Owner PRCo), a freelance PR Consultant, told me: "there's always something going on" (Field Notes 3/8/16).

Occasional attendees did not access CoWork frequently enough to justify paying for a membership, and were most likely to attend the recurring events held at CoWork each month. As discussed earlier, Frank had moved from a full-timer position, to an irregular attendee, after being made redundant from the startup he worked at in CoWork, and finding a job elsewhere. For the most part, occasional attendees' interactions with CoWork were instrumental in nature; CoWork was simply the hub for various interest groups to coalesce at on an occasional basis, in order to network and learn from one another. CoWork's value as a hub was impressed upon me by an attendee at a "Tech Breakfast" networking event I

attended:

[An attendee I had spoken to at the previous month's Tech Breakfast] was having a discussion with Zack [Founder DMCo] when he recognised me and came over to have a chat with me. His business involves coaching and supporting entrepreneurs, so he makes a point of attending as many networking events at CoWork as he can. "A lot of the startups in Northam have come through CoWork in one way or another, so there's a lot of connections here." I asked him if he had worked with Zack and he told me he hadn't, but he liked to keep up-to-date with what was happening with funded startups, because part of his role involved introducing clients to investors. "Zack is very helpful; he knows a lot of people and he's happy to make introductions". (Field Notes 14/9/16)

For this attendee, he was able to benefit both from the copresence of startups within CoWork for his own business, as well as the connections that the founders of these startups, such as Zack, had. The attendee's business is connected to CoWork's enterprise of supporting entrepreneurship within Northam; as such, by attending these networking events, he is able to participate (in a very peripheral way) to this enterprise. However, for the most part, occasional attendees could not be considered to be part of CoWork's community, due to their limited temporal commitment, and restricted access to CoWork. Frank (Code Club Coordinator) is an exception to this, due to his history as a former full-time member.

5.3.2 Affective Commitment

Figure 5.2: Mapping Participants by Affective Commitment

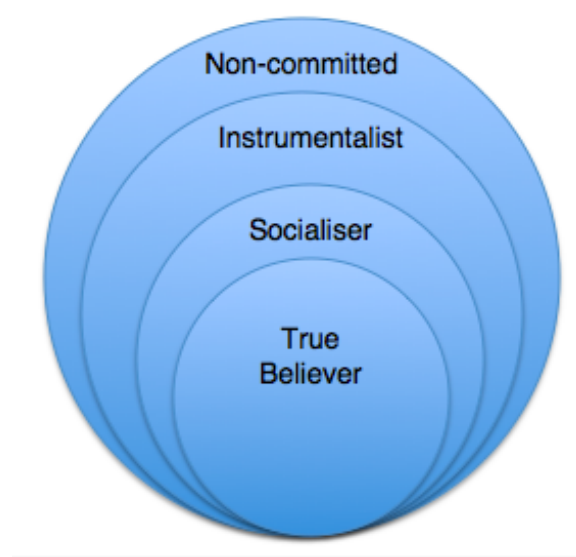


Figure 5.2 is a representation of participants organised by affective commitment. At the centre are the True Believers; these are the participants who have fully committed to CoWork's enterprise, and for whom CoWork was an important and significant part of their lives. At the outside are the non-committed participants; these are those who do not show any particular commitment to CoWork, or its enterprise.

Table 5.2: Comparing Different Forms of Affective Commitment at CoWork

Type	Description	Attachment to CoWork	Membership	Illustrative Participant	Illustrative Quote
True Believer	Identifies closely with CoWork's enterprise and values	Highly positive emotional attachment	Yes	Ed (CTO HealthApp)	"I think I love CoWork more than the other two [HealthApp's Cofounders] [...] I think it's dangerous to leave here, there are so many positives about it." (Interview)
Socialiser	Comes to CoWork to engage with the community	Sense of being part of a community	Yes	Janine (Owner PRCo)	"This is my fun job! There's always something going on" (Field Notes 3/8/16)
Instrumentalist	Sees CoWork's value in the resources it provides	Sense of being part of a work place	Yes	Ellis (Owner EngCon)	"I have a home office but I don't like to use it; it feels inefficient. I can work the hours I need to here, including into the evening, and have everything I need right here." (Field Notes 13/7/16)
Non-Committed	Presence in CoWork driven by expediency - for example attending a meet up in CoWork	No particular attachment beyond superficial	No	Event attendees	"it's really handy having these [Tech Breakfasts]; brings people together and gets you face-to-face with them" (Recruitment Consultant, Field Notes 14/9/16)

Table 5.2 explores the different types of affective commitment. True believers were fully committed participants in CoWork's shared enterprise. They believed strongly in the value of community, and spoke of CoWork in highly positive terms, as in Ed's (CTO HealthApp) case, where he said he "loves" CoWork. The true believers were easy to identify, as they were usually very active participants in CoWork's vibe. They were very active on Slack, engaging in discussions, making jokes, and sharing images and memes. They ate their meals in the kitchen area with their fellow members. They were involved in initiatives such as The Collective, or The Workshop. Zack (Founder DMCo) and Evan (Owner Consult.io) were also both examples of true believers. As Zack told me, he "bought into" the values of coworking during his time on his Accelerate programme, and when Evan decided to start The Workshop, it was because he felt that CoWork needed more opportunities for its members to come together and engage in "share and care". Ed (CTO HealthApp), as a true believer, contrasted his own commitment to CoWork, with the commitment of his two bosses. In his interview he felt that they "don't immerse themselves as much [...] in the CoWork experience", and he attributed this to their move to the office space, after completing the Accelerate programme they were part of: "[the reason] why Sean and Victor don't surround themselves with the community as much is because they've kind of taken themselves out of it". By contrast, Ed made an effort to seek out others, and spend time with them, in particular his closest friends within CoWork; Jon (Cofounder IM.io), Will (Cofounder Market.io) and Adam (Cofounder Market.io):

So, Jon, Will and Adam, we're usually on Slack all day talking to each other. About what we're doing, and the problems we've got. I guess something gets complex, I'll go downstairs, sit on the sofa for five minutes, and talk to them about it. (Ed, CTO HealthApp, Interview).

True believers made effort to engage in the enterprise of community at CoWork, and they strongly believed in the value that arises from it. True believers were,

for the most part, full time members of CoWork, on an insider trajectory. A notable exception to this would be Frank (Code Club Coordinator). During my observational period he was not a member of CoWork, and was an occasional attendee. However, because of his time working within CoWork for Cynthia (Cofounder SocApp) and Tom's (Cofounder SocApp) previous startup, he remained committed to CoWork's enterprise of community, and saw his role as a volunteer coordinator of both the Code Club, and the workshops he ran, as a way to "give something back to the community" (Field Notes 17/8/16).

Socialisers were participants whose commitment to CoWork is predicated on the value of sociality within. Socialisers come to CoWork to engage with the sense of community; to "be around the buzz of other people" (Field Notes 14/12/16). In Janine's case, she worked as a freelancer PR and Marketing Consultant for companies within Northam. She had a large client whose work takes up the majority of her week; for the remainder of the week, she worked from CoWork. CoWork itself has hired Janine in the past, and she also had several other clients amongst CoWork's members. She preferred working from CoWork, which is why she referred to it as her "fun job": the vibe of CoWork, and the patterns of ongoing interactions, meant that there is "always something going on". She was not technical herself - "I had a look at some code once and just thought that wasn't for me" - so CoWork's knowledge-sharing capacities, focused as they were on technical skills, were less useful to her than its capacity for sociality, which is why she would come to CoWork: "I love being part of the community" (Field Notes 3/8/16). Many of the socialisers I met, like Janine, were part-timers, accessing CoWork to feel a sense-of-community.

Instrumentalists were participants who take a more transactional approach to CoWork. Whilst socialisers accessed CoWork primarily for the sense-of-community it affords them, instrumentalists primarily accessed CoWork for the resources that it affords them. These resources include things like a physical place to work, which Ellis (Owner EngCon) valued as he felt he is more "efficient"

working from a work environment than from home, and also include resources which were accessible through the community, such as the knowledge and skills of the fellow members, and the potential customers within. Ellis told me that one of the reasons why he liked CoWork was because he had no direct competitors within; as such, he felt that he could trust his coworkers, and could access them for help with any problems (Field Notes 13/7/16). Of course, it is possible that the resource an instrumentalist was looking to access is the sense-of-community itself; CoWork commodified and marketed their community to new members. The Software Developer discussed earlier, to whom I spoke at the “Pot Lunch” event (Field Notes 14/12/16), had joined CoWork because he wanted some human interaction, and becoming a member was a simple, transactional way to join an extant community. However, this is why Figure 5.2 places Instrumentalists below Socialisers, in terms of their affective commitment: Socialisers attach emotional value to being part of the community at CoWork, whilst Instrumentalists value the community foremost as a resource, rather than a locus of affective commitment.

Instrumentalists were typically members, and may be full-timers, regulars, or part-timers. They may be on insider, or peripheral trajectories. Cynthia (Cofounder SocApp) was an example of a full-timer, insider instrumentalist. She and her Cofounder, Tom, joined CoWork when it opened, and worked full-time from an office. For Cynthia, the vibe of CoWork was a source of problem-solving (and creation): “I’ve often joked that just on the way to the kettle I can solve five problems for myself, and have created ten more!” (Cynthia, Cofounder SocApp, Interview). However, Cynthia, unlike many of the other full-timers, was rarely seen participating on Slack. I asked her if she used it frequently during her interview:

I don’t, unless someone asks me a question, very very rarely do I actually go in and actually look at it. I’m not doing it right, because I only go one when I need to ask people, “can you fill in this poll for me please?”
(Cynthia, Cofounder SocApp, Interview)

Cynthia suggested she is “not doing it right” because she did not participate in the ongoing, daily interactions on Slack, that in part contribute to, and produce, the vibe of CoWork. Whilst she would respond to direct questions on it, she only used it herself when she had a specific issue with which she needed help. As discussed earlier, part of the nature of the community at CoWork was that it was reciprocal; members interacted with one another and helped one another because “you get back what you put in” (Field Notes 13/7/16). Cynthia (Cofounder SocApp) felt she is not “doing it [Slack] right” because she was primarily treating it as a resource, and barring a direct request for help, only used Slack when she needed something from it.

Non-committed participants were most likely to be occasional attendees whose presence in CoWork was explained by expediency; they are present in CoWork because CoWork is the location for the event that they were taking part in. Therefore, they were, to a certain extent, instrumentalists; however, their commitment to CoWork is far more superficial. Non-committed participants appreciated CoWork as an access point for events, or for the networks it contains, but did not join as members themselves - or, were not permitted to. The Recruitment Consultant I spoke with at a Tech Breakfast networking event told me that his company would be interested in setting up an office within CoWork, but CoWork’s staff would not permit it (Field Notes 14/9/16). However, this is not to say that all occasional attendees were non-committed; Janine (Owner PRCo) told me that she first attended CoWork through a networking event, and liked it so much she decided to join (Field Notes 3/8/16). However, for the most part, non-committed participants remained on an extremely peripheral trajectory of participation.

5.3.3 Relating Temporal and Affective Commitment

Temporal and affective commitment are two complementary, but not

synonymous, dimensions of participation. Temporal commitments are important; the presence of full-timers and regulars ensures that there was a certain degree of constancy in who was present in CoWork: "we like the environment, it's creative, it's nice, you can come here at any time and there will usually be somebody [here]" (Deborah, Cofounder GameCo, Interview). Part-timers and occasional attendees provided opportunities for novel interactions:

I went back into the kitchen and bumped into Eugene [Founder Copter]. He asked if we were still on [for his interview that afternoon], which I confirmed, and I asked him about the Showcase from the previous day. He was very enthusiastic; it had gone well, his talk had been received well by the audience, and he'd had a fascinating conversation with someone who worked at Pixar, who was present. "That's one of the best things about this place; I mean, how many places are there where you can bump into someone who works for a company like that, and be able to talk about their work, and what you do?". (Field Notes 28/9/16)

Affective commitment, meanwhile, drove engagement amongst the community. True believers in particular extolled the virtues of CoWork's community. It was a source of both camaraderie: "[there are] so many people giving a lot of, like, boosting comments" (Deborah, Cofounder GameCo, interview); and collaboration and support: "it's the access to the community. It's being able to bounce ideas off people, and talk to people" (Eugene, Founder Copter, interview).

Whilst socialisers and instrumentalists might be driven by a desire for a sense-of-community, or access to CoWork's resources, this still drove engagement with CoWork's enterprise:

The network here, and this sense of community is something that I've not seen anywhere else, ever, and it's really nice to be a part of that, and being able to tell my friends things that we learnt the hard way, so

hopefully they don't have to, it's great! And also they learn things, and you find that really inspiring. (Cynthia, Cofounder SocApp, interview)

Even as an instrumentalist, Cynthia still felt a strong degree of connection to CoWork, and the benefits she got from it encouraged her on-going commitment to CoWork.

Whilst non-committed participants had the most superficial attachment to CoWork, and were most likely to be only occasional attendees, they were still able to participate in CoWork's enterprise, albeit in a very peripheral way. Their co-presence within the site for events such as user group meetings provided opportunities for novel interactions, and knowledge exchange.

There was certainly correlation between the two dimensions; those with high temporal commitment typically had high affective commitment, and vice versa. Spending more time in CoWork provided more opportunities for interactions, which may in turn strengthen one's sense of affective commitment. Likewise, those with higher affective commitment were likely to want to spend more time in CoWork; Janine (Owner PRCo) for example became a member after being an occasional attendee, due to her affective commitment to CoWork from attending events. Of course, it is not an exact correlation. CoWork's own policing of its members ensured that non-committed members were not permitted to stay, as was the case with the graphic design company Michelle (COO CoWork) asked to leave. True believers, such as Frank (Code Club Coordinator) may not be able to spend much time in CoWork, because of other circumstances. Not all full-time members were true believers. However, these two dimensions of participation were the pillars underpin the production of CoWork's community, and the norms of both working and social life within CoWork.

5.4 Participation as Practice

The final category of participation is that of practice. Practice is the process of engaging with the social world in a meaningful way (Wenger 1998). From my data, two important dimensions of practice emerged. The first was the practice of coworking: the ways in which members engaged in their work, particularly entrepreneurial practice, by working alongside one another within the environment of CoWork. The second was the practice of socialising: the ways in which members produced a sense-of-community through prosocial behaviours. Both will be discussed.

5.4.1 Practice of Coworking

An important aspect of CoWork is that it was, in fact, a place of work. CoWork's members spent a significant amount of time engaged in work whilst there. In particular, I was interested in the practices of the startups at CoWork. The majority of the startups I observed and interviewed had been through Accelerate, and were in the "startup" phase of their business, as opposed to the scale-up. During the startup phase, the business is developing its product or service, and iterating to find market fit, whilst the scale-up stage is the point where a business has a viable product and business model, and is looking to achieve rapid growth. As a result, most of the startups were in this process of building and iterating their products: "[our product] doesn't have any users, it's really an MVP, we're alpha testing" (Cynthia, Cofounder SocApp, Interview); "because we are still building quite a few products there's a lot of wire framing, and design work that needs to be done" (Adam, Cofounder Market.io, Interview); "we've started taking payments now, on the site, well, that's what we're working on right now, we signed up our first customer yesterday, who's a paying customer" (Eugene, Founder Copter, Interview); "planning for stuff, building stuff, helping the rest of the team with analytics and things, like, a lot of the time there's just questions that need answering" Ed, CTO, HealthApp, Interview). This constant process of testing and iteration defined what these startups are doing:

We're still at the stage where we're building multiple products every quarter, trying to validate them. We're still getting better at the validation, which is something that I think we're getting into our stride now, because at the beginning of this week, we didn't have the product that we now have. (Adam, Cofounder Market.io, Interview)

This process of building, testing, and validating, was taught to founders during an Accelerate programme. There was even a name taught to founders for this constant, on-going activity: hustle (Accelerate Blog). Zack explained to me what hustle is:

Hustle. Still that hustle. Like to hustle. That's in the nicest way, that's not a nasty hustle, it's a nice hustle. Hustle in terms of doing stuff that adds value. And that's mostly it, really. Managing clients, trying to find new clients, enhancing what we're doing, figuring out what's working, figuring out what's what. The easy way of describing it is, every day in a startup should be about trying to make stuff better. That's it. (Zack)

On a day-to-day basis, these startups were engaged in this on-going process of "hustle"; iterating their products, managing their users, and trying to grow. "Hustle" itself was part of the shared repertoire of CoWork, in particular the graduates of Accelerate, to whom the concept was taught as part of the process. Zack's definition of "hustle" - "doing stuff that adds value" - is part of the Lean Startup methodology, which orients founders (in theory, at least) towards value-adding activities, whilst minimising "waste". This is done through ongoing experimentation. New features, and changes to existing features, were tested by being put into production for customers to use immediately, so that feedback could be gathered quickly. As a result, the language of work within startups was dominated by scientific concepts, such as Adam's (Cofounder Market.io) interview above, where he talks about trying to "validate" new products. Other terms included "iteration", "testing", and "experiment", and are all part of the

startups' repertoire.

Of course, whilst the work of these startups was dressed up in scientific discourse, it is questionable the extent to which it differs from other forms of work, given that development and improvement of products and services is an important reality for most businesses. For Eugene (Founder Copter), however, the difference is that a startup is able to be more responsive, and more agile in its development processes:

if I was working for Airbus, and I had to go and get every single thing - like, all of my ideas - passed by a board in order to get funding to develop it, if we were waiting for that we would be so slow, and the market would just be leaps and bounds over where you are. Whereas now, we can make a decision, see what we want to do, plan what we want to do, and actually deliver it. You know, we're working on a weekly release schedule now, so we do a product announcement... this is an application for marginal gains, you know, you make your product 1% better every week, and by the end of the year it's 52% better than it was. (Eugene, Founder Copter, Interview).

Because of the nature of the work that is being done, most of it was conducted at a desk, using a laptop or desktop computer; and, as discussed elsewhere, this was the kind of work that CoWork is geared to support in the resources it provides. Therefore, a visitor to CoWork would find that, for the most part, work is done in relative quiet. The notes I made on the atmosphere of the coworking space reflect this:

Arrived around my usual time and went to sit in the coworking space, to get on with some work. The room is busier than usual, today; quick headcount shows thirty people in already, so most of the desks are filled. As ever, a number of the workers have earphones in. The desk I'm sat at

today is quite close to Zack's [Founder DMCo] desk. He is typing intently, and appears to be responding to a number of emails. Very little sound in the room; I can hear Erin [Director DesignCo] having a quiet Skype chat with what sounds like a client, but she is keeping her voice low, either for privacy or to avoid disturbing the peace. On the far end of the room I can see GameCo, all hard at work. Lawrence [Cofounder GameCo] seems to be editing some graphics for one of their games, and has a look of fierce concentration on his face. The quiet stretches out for some time; it only breaks when I see Laura [Freelance Copywriter] go over to the desks of WebCo. She asks Timothy (Founder WebCo) a question about a design; "yeah, no problem, I'm on top of that, should be ready by the end of the day". She thanks him and goes back to her desk. Around 11:30 I saw Ethan [Founder CoWork] come in to fetch Zack for something, so I went through to the social space to see what was going on. (Field Notes 18/8/16)

The entry above was representative of my experiences in the coworking space. Members worked predominantly in relative quiet. The use of headphones, mentioned above, was recognised within CoWork as an unspoken "do not disturb" symbol. Members with headphones in wish to avoid direct disturbances; in these cases, as Jenny (Community Manager Funder) told me, the norm is to use Slack to communicate with them: "everyday the atmosphere in here is different; some days it is really chatty, others it is really quiet, and everyone just has the headphones in. Slack is a great way to speak to people without interrupting them" (Field Notes 27/7/16). Members understood the importance of respecting their fellow coworkers' work, and avoiding disturbances where possible. For example, I noted that Zack (Founder, DMCo) would leave the room when he took a phone call and it became clear that the call would last a while (Field Notes 31/8/16). Whilst members would take calls in the space, as in the extract above, where Erin (Director DesignCo) was video-calling with a client, members would commonly use headsets, and talk quietly, to avoid disruptions.

It is not just out of respect for fellow members that noises are kept to a minimum. During my interview with Ed (CTO, HealthApp), I asked him about their planned move from the office to the coworking space. They were moving in order to reduce their overheads, as the rent for the offices was a lot higher. Whilst Ed did not mind the move, he felt that HealthApp's Cofounders, Victor and Sean, would find it harder:

We're being moved to the main coworking space, and they're not too keen on that, just because it's hard to be noisy, you've got to have a lot more respect for your surroundings. Whereas if you're in an office, or kind of upstairs is just like a big office for us, no one else is there, you can play music, you can be stupid. But even just having a conversation, like, it's a lot easier to just have a three way conversation. Like, if there's someone sat there, you feel bad, or if it's a personal topic, are we going to be alive next week, you might not want to have that in front of people. So I think Sean and Victor, I think they're kind of apprehensive about being in the main space. (Ed, CTO, HealthApp, Interview)

The privacy of the office permitted its inhabitants to do things like play music, or joke around, without the worry of disturbing your neighbours. It also provided more privacy for more intimate conversations; at that point in time HealthApp were in the process of raising another funding round, which was essential to their survival, and it was a genuine concern for them that, without raising investment, they would collapse. Not only had they decided to move from the office to reduce their costs, but they had also recently made a member of staff redundant to reduce salary costs. Discussions about failure were a very sensitive topic, but were necessary, given the high failure rate of startups. Working in an office within CoWork not only gave a startup more space to make noise and "be stupid", as Ed puts it, but also permitted important discussions about the future of the startup to take place in a more private space.

However, whilst Ed suggested that you have more liberty to be noisy in an office, this was not necessarily the case, as I noted whilst making observations from one of the offices (Field Notes, 16/8/16). Market.io and IM.io shared the office in question: they had both been through Accelerate together on the same cohort, and together hired a four-person office after completing the programme. The main tenants of this office were Jon (Cofounder IM.io), Will (Cofounder Market.io), and Adam (Cofounder Market.io). The other Cofounder of IM.io was not present in CoWork during my observational period, and Luke, the Marketing Director of Market.io, frequently worked in London to be close to their target clients. During my observations in their office, Jon spent the majority of the time working on code, wearing headphones. He worked at his desk, at his laptop. Adam, the CTO of Market.io, also spent the majority of his time working on code. He worked at his desk, with a dual-monitor set up. The development environment was displayed on one screen, and on the other, he was streaming episodes of *The Big Bang Theory*, a popular sitcom depicting geeky scientists. He was wearing headphones to listen to this. Will, the MD of Market.io, was sat at a desk next to Adam. He spent much of his time replying to emails, and at one point tapped Adam on the shoulder to get his attention, and then asked him what he thought of the reply he had written. Adam suggested a minor change, and then went back to his work. After this, Will switched to a presentation he was working on, for a pitch to a prospective client.

The silence was broken when Jon sent a screenshot on Slack, to the private Slack channel used by Jon, Adam, Will, and Ed (CTO, HealthApp). Jon's company, IM.io, develops instant messaging application tools, and a chatbot they had developed had been implemented by an international company on their Facebook Messenger page. If a user messages the chatbot, it allows them to place orders through the Messenger application, rather than going through the company's website. However, the press release announcing this made no mention of IM.io's involvement, and Jon was frustrated about this. Adam and Will

both commiserated with him. They took the opportunity to show me the Slack channel that they use. It was called #JustABitOfFun, and the description of the channel in the corner of the screen was, “LADS LADS LADS LADS A PLACE FOR LADS AND BANTER LADS”. When I questioned this, they laughed, and Will told me it was a private channel, just for his and Adam’s immediate circle of friends. Will said it was mostly used for work, and for file-sharing with each other. On scrolling through the channel I was able to see snippets of code with comments on them, files and documents, memes, and a number of jokes. Will also showed me his own private Slack channel for Market.io; when he scrolled through this, it was predominantly work files that Adam and Will had sent to each other, and commented on.

Work, including entrepreneurial work, within CoWork could be characterised for the most part as a process of working alone, together. It was difficult to pin down exact moments of entrepreneurial work, as the work these entrepreneurs did was for the most part just on-going daily activities. It was “hustle”; talking with clients, acquiring customers, developing the product, and testing new features and interpreting feedback. All this was performed within the milieu of CoWork; working practices bled quickly into social interactions when members did interact together, and these social interactions could then transform into instances of learning, and collaboration. Work progressed according to the largely unspoken norms of the site. Respect for fellow members is an important norm and, where possible, members tried to avoid disturbing one another. However, this is not to say that members did not interact. Whilst the workplaces may be quiet, Slack was used as a tool for online interactions and conversations both inter and intra-organisationally, producing a sense of community. This sense was also reinforced by other working norms, including the irregular working hours many members shared. The public cafe area of CoWork was available for free hotdesking between 9am and 5pm every working Monday to Friday; the traditional temporal paradigm for office work. CoWork’s staff also work these hours, although their hours are a little more flexible; they occasionally stayed

later in order to help set up an event for example. CoWork's members could, however, access the site 24 hours a day, seven days a week. Whilst most members primarily used CoWork during standard working hours, it was definitely not unusual to work outside these times. These non-traditional working hours were also part of the process that makes the community:

[Other members] can relate to what you're going through, even if it's not the same code, everybody knows what a bug is, and if it's not the same kind, everybody knows how crazy they can be, and people are paying, and trying to meet crazy deadlines, and nobody's gonna look at you weird, like, "oh what are you doing in the office on a weekend?!", they're just like, "hah! Sucks to be you!" (Deborah, Cofounder GameCo, Interview)

Time pressures for the startups within CoWork often meant working late hours. For example, over lunch one day Pete (Cofounder, Developer, GameCo) told me that the other day they had been working in CoWork until four in the morning, trying to solve a serious bug: "that is the kind of thing you need to do in a startup" (Field Notes, 3/8/16). Working during weekends and evenings may occur through choice or necessity for startups, and non-traditional working hours were understood to be a norm of working practice within CoWork.

5.4.2 Practice of Socialising

Whilst coworking together, and the shared norms of work, contributed to the sense of community at CoWork, the production of this community was also driven by the ways in which users socialise together. Social and working lives became intertwined at CoWork. These patterns of on-going social interactions were a key part of CoWork's community, forming bonds, and friendships, between fellow members:

For me, personally, [Cowork is] just a place I like to come. I like the people

around here, everyone's pretty friendly[...] And, well, I've got a pretty close-knit group of friends around here. Some of them came from uni, some of them I met here, but these are people that I actually consider are my friends, even outside of work, so, yeah. Great place to work! [laughs]
(Adam, Cofounder Market.io, interview)

These social interactions were the result of both unstructured and structured activities. One of the primary unstructured forms of socialising was the norm of members eating lunch together. Members used lunch time as an opportunity to catch up with their friends, make small talk, discuss current events and politics, talk about mutual hobbies, share "war stories" about difficult clients or problems, and joke and laugh. This was often the main time of the day when members were able to socialise inter-organisationally. In September 2016, Funder moved from the coworking space, to an office, and Jenny (Community Manager Funder) noted the impact this had on her ability to socialise with other members:

the bad thing is that I don't get to socialise as much with other businesses in the coworking space, whereas before just because you're based in that room together, you do tend to chat a couple of times a day, whereas now I have to make a conscious effort to go and see them. I make a conscious effort to come [to the kitchen area] at lunchtime. (Jenny, Community Manager Funder, interview).

Meal times were dominated by non-work related conversations. Shop-talk was not banned, nor was there an unspoken rule to avoid it. However, when it did occur, it was often complaints about problems, or difficult interactions. This served to develop a sense of camaraderie amongst members:

Over lunch I asked Erin [Director DesignCo] how things were going with the recruitment for her old job; she said that the scope has changed, and now they are looking to hire a developer, with the lead developer taking on

a lot of her old responsibilities. She said that it's a remote working role, and the salary isn't great, because they are a small company in Northam. She'd had an email from a developer in the US, saying he was really interested, but asking if the salary was a "mistake", as when he converted it into dollars, it seemed really low, and to let him know if it was a mistake, as he was really interested. She was quite annoyed about this, but did acknowledge the massive disparity between pay for programmers in the US, and here in the UK. She finished by saying, "like, I understand that in the US you get paid more, but I went to this guy's website, and it was crap! It looked like it hadn't been updated since 1999!". This provoked a lot of amused discussion amongst the developers in particular, who shared some examples of terrible websites they had seen made by professionals. Pete [Cofounder GameCo] argued that it's like a chef: "if you make beautiful food all day, the last thing you want to do when you get home is make more. You just slap together some beans and toast. No one has the energy to make their own websites to the same standards!" The others laughed and nodded at this, and Erin acknowledged it was a fair point. (Field Notes 9/1/17)

Erin (Director DesignCo) was the Project Manager, and a Director, of DesignCo, one of the SMEs working from CoWork. She had handed in her notice as she was planning to move to the U.S.A, but was struggling to find a replacement. Erin's role was non-technical in nature, as was her background; her education was in Classics (Field Notes 13/7/16). The discussion she provoked included bonding over her experiences with the nature of this developer's website, with the developers present willing to share their own stories of poor personal designs made by professionals. However, Pete (Cofounder GameCo), who was one of GameCo's two developers, did go on to defend this member of his occupational community, and by extension both himself and his fellow developers present. He identified not having enough time to work on personal projects as a shared experience of developers in defence to the criticism being levied by a Project

Manager.

As well as impromptu socialising within CoWork, often over lunchtime or at the kettle whilst making tea or coffee, members would also socialise outside of CoWork as well. This would often be arranged over Slack:

Eugene (Founder Copter): I've just been talking to @Alex about Rogue One - can we have a show of hands who would be interested in a CoWork night out to the cinema to see the film as soon as it comes out? If we get 20 we'll rent the private screening room. It has beer. Beer & a new Star Wars movie. In fact, I will donate a Rogue One cinema ticket for the CoWork Christmas Star Wars night out! Whoop whoop!!

Erin (Director DesignCo): How many Star Wars movies do I need to have seen? Is 4 enough ;)

Ed (CTO HealthApp): We're all solving "Friday problems" today...

Eugene: haha

[...]

Alex (Owner SMCo): Count me in @Eugene! Who else? Be there or be square?

Eugene: Right. Looks like it's just me and you. MAN DATE. (Slack Log 14/10/16)

In this case, Eugene (Founder Copter) wanted to organise a night out to the cinema for the members of CoWork, to watch the soon-to-be-released *Star Wars* film. The demographics of CoWork, dominated as it was by men in their

twenties to forties working within the IT industry, meant that the release of a “geek” film, such as this or a superhero film, was always met with a lot of interest. The film was not released until December 2016, and so Eugene was being extremely enthusiastic organising an outing two months in advance. Eugene brushed off the initial lack of sign-ups through humour, instead claiming that it would be a “man date” for him and Alex (Owner SMCo). In the end, eight members attended the screening together, including Eugene, Alex, and Erin (Director DesignCo).

More recurrent, and structured, social events were also organised. On a weekly basis CoWork’s staff hosted Friday Beers, and on a monthly basis, organised a “Pot Lunch”, as discussed in section 5.2.2. The Pot Lunches were an opportunity not only for members to socialise, but also engage in some friendly competition, where talented chefs and bakers within CoWork’s members’ would take the opportunity to show off their skills. At the first Pot Lunch I observed, Toby (Owner ResearchCo) caused a stir when he brought in an enormous homemade paella in an extremely large paella pan. A number of pictures were posted to Slack, and Toby was congratulated by many of the attendees on his efforts. A new member came over and thanked him, and joked that he expected this to be an everyday occurrence (Field Notes 2/8/16). For the members, this became the gold standard to beat for future Pot Lunches, and part of CoWork’s repertoire. When I first met Toby, he introduced himself as “the paella man” (Field Notes 1/9/16), and when plans were being made for a future Pot Lunch, Zack (Founder DMCo) announced that he was going to make gingerbread, and jokingly claimed it would blow the paella “out of the water” (Field Notes 28/9/16). That this single event remained within CoWork’s shared repertoire for months showed how social events such as Pot Lunch contribute to the production of CoWork’s community.

Social relations within CoWork extended across different organisations, and crossed CoWork’s own physical boundaries, with members meeting to socialise outside of CoWork, including events like trips to the cinema, and members going

out drinking together. Furthermore, these social relations were historical in nature. Each year, CoWork organised a Christmas party for its members, and their spouses or partners. Only current members are invited; as a result, Ed (CTO HealthApp) told me that he had planned a second, unofficial Christmas party, for his friends within CoWork, as well as former members of HealthApp's Accelerate cohort, who had since moved on from CoWork (Field Notes 14/12/16). Their former presence within CoWork legitimated peripheral participation in CoWork's social activities, even if they were no longer members themselves. As a result, CoWork's members had access to an extended network of members of Northam's IT community, through their history of relations. Socialising helped to maintain these relations, even as forms of participation change.

5.5 Conclusion

This chapter has examined the ways in which members of CoWork participated in the production of the community, and the ways in which they participated in the practices of work, including high technology entrepreneurship. As this chapter demonstrates, the practice of entrepreneurship within CoWork was communally enabled; members, through working alongside one another, participating in the community, and socialising together, were able to learn from one another. This learning included not only technical knowledge and skills, for example the ways in which Adam (Cofounder Market.io), Will (Cofounder Market.io), Ed (CTO HealthApp), and Jon (Cofounder IM.io) would collaborate and share issues with their code, but also included learning startup norms. The non-traditional working hours of startups, for example, were understood to be part and parcel of being a startup founder.

Chapter Six will continue to develop this theme. It will examine the ways in which startup founders made sense of their identities in relation to one another, and also examine some of the communal practices, such as care-taking work, that

support the on-going work of the startup founders.

Chapter 6: Negotiating Gender at CoWork

6.1 Introduction

Despite the omnirelevance of gender to everyday life (West & Zimmerman 1987), CoP theory to date has engaged little with how gender is negotiated within a CoP, and its relevance to practice within. In this chapter I will explore key themes arising from my data pertaining to gender. Firstly, I will discuss the ways in which masculinity was relevant to the role of the founder within this entrepreneurial CoP. Secondly, I will discuss the clustering of women within care-taking roles, and examine the ways in which this work was a necessary component of CoWork's ongoing enterprise of supporting high technology entrepreneurship. Finally, I will discuss the somewhat fraught issue of gender equality at CoWork; how participants had contested understandings of the extent to which CoWork operated within a meritocracy, and the way that this contrasted with the masculine norms I found pervading CoWork's space and practices.

6.2 Masculinity and Entrepreneurs

6.2.1 Boy Geniuses and Wise Men

I mean, they expect the boy genius, is what they expect. You know. What they typically expect is the nerd from school, who everyone thought was bright as a button, but couldn't talk to anybody, has come up with his magic idea, and as if by magic, you know, boom! Wow! And before you know it, he's got his own charitable foundation, he's worth a billion dollars. That's the dream. But, that's... Yes, that's the stereotype, but it's a stereotype that's based on, maybe, ten success stories? How many

startups are there? How many people are trying to tread that path? You know? And a lot of them aren't young men. A hell of a lot of them aren't.
(Zack, Founder DMCo, Interview)

During my interview with Zack, the issue of age emerged. Zack was in his mid-forties, and DMCo is his first startup. He expressed his frustration with the enduring stereotype of the twenty-something “nerd” boy genius, found in popular culture - for example, the film *The Social Network*, depicting Mark Zuckerberg's founding of Facebook. Zack challenged this stereotype, arguing that it is based on a few outlying cases, and instead assumed a different gender position for himself. The majority of his career history had been working for consultancies and agencies, and he applied to Accelerate with DMCo in his early forties. He was one of the older founders on his cohort: he told me that he, his Cofounder, and his CTO (both of whom have since left DMCo) “used to call ourselves the Three Wise Men of Accelerate, because we were the oldest people in there” (Zack, Founder DMCo, Interview). Zack contrasted himself, one of the “Three Wise Men”, with the stereotypical image of a startup founder, “the boy genius”.

For Zack, the existence of this boy genius stereotype was a source of frustration: “when things are first invested in, the majority of cases, it's the person, not the idea” (Zack, Founder DMCo, Interview). The existence of this stereotype was a potential bias that might inform investment decisions in favour of the person, rather than the product. For Zack, it was his experience within his industry over the course of his career that had culminated in his startup; when I asked him if he would be interested in founding another startup, he told me no, because “DMCo's based on my head” (Zack, Founder DMCo, Interview). It was his combination of experience and knowledge that makes him a “wise man”, and he was operationalising his knowledge and experience to found and run his startup: the “wise man” is the gender role he ascribed to himself as a founder.

Zack was not the only founder to talk of himself in this way. Eugene (Founder

Copter) is also in his forties, and again, in his interview, he treated his age and experience as an asset to his role as a founder:

I think if I had done this when I was 19 or 20, I would have failed straight away, because I didn't have a clue what I was doing twenty years ago. But now, I think - see, this is it, I think the problem is young people, because they don't have so much invested, you know, they don't have mortgages, and kids, and stuff like that, they can take bigger risks, and they can sleep on floors, and under desks, and stuff like that. And I think that's great, but theoretically the more elderly startup, like me, should come from a little bit of wisdom. But in a way, I know that holds me back in some respects, but I think it's good in other ones. [...] And, well, what we lose in speed, we gain in velocity, because we're heading in the right direction. Maybe we'll get there a little bit more slowly, but we'll get there - but that's the thing, we're not going off at a thousand miles an hour in that direction, we're going off in a nice course, with constant corrections on the tiller, with the steady hand of the captain, as we pilot towards success! [laughs]

(Eugene, Founder Copter, Interview)

Similarly to Zack (Founder DMCo), Eugene (Founder Copter) positively identified his age and experience as an integral part of his identity as a founder. Whilst Zack saw himself as a wise man, Eugene instead compared himself to a "Captain"; a classic (and typically male) figure of authority, making calm and rational decisions, guiding his business towards success. Again, Eugene also positively associated his age with wisdom, much as Zack did. Whilst younger founders are freer to take more risks, Zack positioned himself in a place of maturity and experience - less willing, and perhaps less able, to take the risks that a younger man could, but in a position where he could apply his knowledge to his context, in order to make better decisions. For both Zack and Eugene, their identities as founders are predicated on a particular form of masculinity; a wise, authoritative, experienced, older man.

By contrast, Will (Cofounder Market.io) and Adam (Cofounder Market.io) more closely matched the stereotype of the “boy genius” that Zack (Cofounder DMCo) identifies. Will and Adam were both in their early twenties. Market.io was not their first startup; they founded their first startup, a wish list app called Fancy, whilst at university. Will discovered an incubator programme to support student entrepreneurialism that ran at their university, and took Fancy through that. Upon graduation, they applied to Accelerate with Fancy. However, as discussed earlier, they were advised that a wish list app would be hard to develop into a profitable, high growth business, and were given a few days to come up with a different idea to pitch. This itself was unusual for Accelerate’s recruitment process; Adam believed that they were given the second chance because both he and Will had technical skills: “they recognised that we had the skills to build things, which was quite rare for both the founders to have” (Will, Cofounder Market.io, Interview). In this case, both Will and Adam fitted the stereotype of the young, technically skilled, “boy genius”, and fresh out of university.

Whilst being boy geniuses may have helped them get a place on Accelerate, Adam felt that it was not necessarily fully to their advantage:

because me and my Cofounder, we are both technical Cofounders, it was a lot of sitting in a room, building a product that we thought people wanted, instead of going out there, and actually speaking to people!

[...]

I think, looking back now that we have, like, a non-technical person on the team, it’s much easier to see where we would tend to go wrong, we would slip into our comfort zones. (Adam, Cofounder Market.io, Interview)

Technical skills hold a significant position in the knowledge hierarchy for these

types of startups; one of the prerequisites for being offered a place on an Accelerate programme is that at least one member of the team must have technical skills, although it need not necessarily be one of the founders. For both Will and Adam to have had technical skills, this worked to their advantage; however, Adam draws a distinction between the technical knowledge they had, and their lack of soft skills necessary for running a startup. Adam felt that they had a tendency to remain within their comfort zone of building a product, rather than actually going out, speaking to potential customers or users, and ensuring they are building a product that will be used. He contrasted this with the way their (non-technical) employee, Luke (Marketing Director, Market.io), works: “[Luke] will go out and talk to someone immediately, and Will and I will try to find the information ourselves and spend days googling it” (Adam, Cofounder Market.io, Interview). As a technical founder, Adam and Will preferred to use their technical skills to research solutions to problems, which was not always the right answer:

so when we have a project that we need to build a product for someone in the industry that [Luke] has been a part of since he graduated, we could say, “this is how we think it should look”, and then he’ll be like, “no, no one’ll understand what that does, and that should be on a separate page, because you’re doing do many things”. As far as I’m concerned as an engineer, if all things are on the page, and they do what you want it to do, then the product works. (Adam, Cofounder Market.io, Interview).

Despite the existence of the stereotype of the “boy genius”, and the exalted position technical knowledge holds in the knowledge-hierarchy of the startup industry, technical skills alone are not sufficient to be successful. However, it certainly seems that, in Adam and Will’s case, they benefitted from the existence of the stereotype, and were given a second opportunity to pitch to Accelerate, which many other potential founders were not.

Something that many of the founders shared was identifying as geeky, or nerdy.

There is a longstanding cultural association in the west relating technical skills and abilities, with “geeky” interests such as comic books, video games, science-fiction media, and personalities that tend towards introversion, and poorer social skills, and this was certainly reflected in my data:

I always liked video games, and stuff - I had two groups of friends. So, I was playing rugby, so I liked sports and stuff like that, but also I really liked video games, and stuff. So I was kind of like a sporty nerd. (Pete, Cofounder GameCo, Interview)

[In a discussion about Dungeons and Dragons with Will (Cofounder Market.io)]: "it's one of those classic geeky things, isn't it? Sounds right up my alley!" (Field Notes 1/9/16)

Had a bit of a chat with Deborah [Cofounder GameCo] when she came through for a doughnut about Star Wars and Harry Potter; we ended up geeking out a bit together over them. "I'm like a complete nerd for them!" Deborah said that she loves the fact that Harry Potter was a big part of her childhood, and they are still making more of it now that she is an adult, and loves the new Star Wars as it means they are making new merchandise. (Field Notes 20/12/16)

I'm very stereotypically programmer, in the sense that while I do have social skills, I'd rather not be in a situation where I have to use them. (Deborah, Cofounder GameCo, Interview)

I think our saving grace is that even for a tech person - we have a reputation for being more introverted, quieter people - Will [Cofounder Market.io] is definitely the extroverted one of the two of us (Adam, Cofounder Market.io, Interview)

you know, we are geeks, so not all of us have the greatest social skills
(Cynthia, Cofounder SocApp, Interview)

Identifying as geeky, and taking part in “geeky” activities, such as the group trip to the cinema for the opening of the new *Star Wars* film, was common for the founders I observed. During my observations I noted on numerous occasions the prevalence of CoWork’s members wearing t-shirts with pop culture references, including *Star Wars* characters, superhero logos, and artefacts from popular fantasy and science fiction media. Geeky cultural artefacts were part of the discourse of CoWork. For example, Eugene (Founder Copter) shared a link to a new page on his website on Slack, and asked for feedback. When a bug was pointed out to him, he chastised himself by posting a meme of the “Shame Nun”; a minor character from popular fantasy book and TV series *Game of Thrones* (Slack 14/10/16). However, whilst the trope of the geek was often associated with anti-social behaviours (as was suggested to me on a number of occasions), this was not what occurred in practice. The members and founders within CoWork frequently socialised with one another, often bonding around shared “geeky” interests, and pop-culture. Being geeky was part of the shared culture of CoWork’s CoP; when founders and members talked about being anti-social, they meant they did not act in accordance with the norms of mainstream culture, which was assumed not to be geeky.

The majority of the founders at CoWork were men. In some cases, such as Zack (Cofounder DMCo) and Eugene (Cofounder Copter), they were able to mobilise their masculinity in order to legitimate themselves as wise, authoritative leaders. In other cases, such as Will (Cofounder Market.io) and Adam (Cofounder Market.io), they were able to more naturally embody the stereotype of the “boy genius” founder, and in so doing they were able to reframe events in ways that reinforced the stereotype of the (young) heroic risk-taking entrepreneur. For example, Will came in to CoWork one day with a number of his possessions; his lease had expired and he was temporarily homeless, whilst looking for a new

place to live. When he saw me watching him bring in his possessions, he said to me, “this is the real entrepreneur!” (Field Notes 5/8/16). By mobilising his subject position as a young, boy-genius founder, he reframed a not-uncommon issue of the start of a lease for a new home not synchronising with the end of a previous lease as part of a heroic, risk-taking entrepreneurial narrative.

6.2.2 Women and High Technology Entrepreneurship

There were two female startup founders within CoWork; Cynthia (Cofounder SocApp) and Deborah (Cofounder GameCo). Both Cynthia and Deborah were technical Cofounders; Cynthia’s background and education was in front end web design and development, working primarily with scripting languages such as HTML, CSS, and JavaScript, whilst Deborah’s background and education was in games development, which made her a slight outlier at CoWork, where the majority of technical members’ skills were in web development. This was something Deborah noted, when I asked her if she found CoWork’s community a useful resource for support with technical issues:

So that’s one of the things that they tried selling at the beginning, so like, “oh there’s a lot of people that work” - and if you’re into web that is completely true, I’ve seen a lot of people discuss, like, “oh, how are you dealing with your database”. Because we’re in games programming, it’s absolutely not the case. There’s programming, and games programming; they are very very very very different. Like we even use the same language as JavaScript, but in such a completely different way there’s nothing left of it. We could be talking about two different languages.
(Deborah, Cofounder GameCo, Interview)

Whilst her skill set may have been different, her status as a technical Cofounder certainly legitimated her within the community:

[Evan's (Owner Consult.io) chat with Eugene (Founder Copter)] is interrupted when Deborah (Cofounder GameCo) comes through to make some coffee; Evan says he's been meaning to talk to her, and asks if she has experience with Java. She says yes, and asks what's up. "There's a bug I can't figure out and I don't usually work with Java; I was wondering if you could take a look?". She says yep, finishes making her coffee, and they head back to the coworking space together.

As a technical Cofounder, Deborah was able to participate in community collaboration, and her status was legitimated by other insider members treating her as a knowledgeable resource. However, despite this, Deborah did not feel like a natural entrepreneur, and rejected a label that would recognise her as such in favour of one that defined her by her skill set:

we're all directors in this company, technically we could be CEOs and everything, I chose to call myself a Programmer because that's what makes me happy. I don't want to make big decisions, I want to be in front of a computer, programming. (Deborah, Cofounder GameCo, Interview)

Part of the reason she did not identify as an entrepreneur is that, whilst she was a Cofounder of GameCo, it was not initially her idea. Pete (Cofounder GameCo) and Lawrence (Cofounder GameCo) created the company whilst working for a games development studio in Northam; Deborah was dating Pete at the time, and began getting involved with it as a side project whilst continuing her work with her employer. "I felt like I was useful, but I also felt like, you know, I just kind of added myself at the last minute, and ended up there accidentally." (Deborah, Cofounder, Interview). However, whilst Deborah claimed to have added herself at the last minute, this was not the case - she was integral to the start-up process. It was Deborah who convinced Pete and Lawrence that they needed to go full-time with their new venture, and it was Deborah who went through a startup "bootcamp" programme designed to give nascent entrepreneurs the skills and

knowledge necessary to found a startup:

I think they [her Cofounders] were wanting to continue that [developing GameCo as a side project], until they got enough money to just be like, “ok, let’s quit our jobs”, they didn’t want to take the risk. I was not happy with that so I just kind of went and found somebody who would look at the programs available. Quit my job, went into this three month preparation, so a lot of business, startup thingies, I don’t know how they call those, they taught you how an MVP works. (Deborah, Cofounder GameCo, Interview).

Furthermore, after completing this programme, it was Deborah who found a publicly funded incubator programme for startups. As part of winning a place on this programme, they were given a stipend to cover their living costs whilst developing their new business:

So I convinced the guys to do that, I told them that I did have the dream once I knew we were gonna get in, convinced them to quit their jobs, and then for six months, that’s where we got the money from, with a few other companies, we just kind of worked on making as much games as we could, because we knew once the six months were over we’d have to be able to live out of our revenue. So we just worked like mad. (Deborah, Cofounder GameCo, Interview).

Deborah acted entrepreneurially; she took a risk in quitting her job, she spotted an opportunity in the form of the incubator, and she devoted considerable time and energy to getting their venture off the ground. However, despite all this, she still did not feel that the label “entrepreneur” applies to her:

I don’t think either of us three are entrepreneurs. I think those are people with idea who really, you know, if it’s not that idea it’s another idea, they

will make it succeed. (Deborah, Cofounder GameCo, Interview)

Deborah differentiated herself from an entrepreneur, because she believed entrepreneurs are those who can recognise opportunities and will act on them. However, this is exactly what Deborah herself did, with GameCo: identifying the possibility of a viable business, acting upon that, and exploiting opportunities to help realise it. Her unwillingness to identify as an entrepreneur could be because she had not been exposed to a subject position that would fit her comfortably; for Deborah, an entrepreneur is the classic “heroic” figure, identifying opportunities, and taking risks. This is not how Deborah saw her own entrepreneurial journey:

I think the company is not this little baby or dream or thing we really want to succeed, it's this thing that allows us to go on vacations - more of a lifestyle thingie. So we will happily not work at the company for two months if it has enough money for us to get by, even if we get back and we're broke, if it means we can go on awesome holidays, we don't really need the company to succeed. [...] So, we're, like, a hippy startup!
[laughs] (Deborah, Cofounder GameCo, Interview)

In this case, Deborah was describing subsistence entrepreneurship (Schoar 2010), which is entrepreneurial activity geared towards providing for one's lifestyle, as opposed to growth-focused transformational entrepreneurship. However, because the enduring image of an entrepreneur is a transformational one (and rooted in masculine values such as risk-taking), particularly within the startup sector, Deborah did not have an available entrepreneurial subject position to fit within. As a result, she came up with her own term to define this; a “hippy” startup, to differentiate between GameCo, and her peers around her in CoWork: “I have problems with identifying with, like, as a ‘startup’ startup” (Deborah, Cofounder GameCo, Interview).

By contrast, Cynthia (Cofounder, SocApp) had no problem identifying as an

entrepreneur:

Andrew: So, to clarify, this is essentially your third business, that you are the founder of?

Cynthia: This is my third business with Tom [Cofounder SocApp]

Andrew: Yeah, ok.

Cynthia: I've been freelance lots of times, I was always creating new businesses when I was a kid. Gardening, doctoring images [laughs] - I had a Mac! No one else had a Mac! Yeah, lots of different stuff. So I've always had that entrepreneurial thing - ooh, I had a push pop selling business once, that was really good! But yeah, third, PROPER proper business, yes. [laughs]

Cynthia traced a narrative of her entrepreneurial journey within the IT industry starting from her childhood:

when I was eight, my dad had a Mac in the house. Came home, he had a Mac in the house. And he basically encouraged me to use it. And in the world I was in at that point, at school we had a BBC computer, with no mouse. So, I was able to get a head start on everything else. So, computing was just something that I understood in a way that probably kids understand now, and I always thought that I wanted to be some kind of artist, my dad was a graphic designer, hence the Mac, and I always thought that I wanted to do that. (Cynthia, Cofounder SocApp, Interview).

“Tinkering” as a child, with the encouragement of her father, led her towards her career path. This interest was entirely self-led; she received little support from her teachers whilst at school:

My school was terrible for me[...] Terrible, terrible baggage from primary school; secondary school - when I went to university I was diagnosed as being dyslexic, I asked to be tested for dyslexia after my GCSEs, I was refused. (Cynthia, Cofounder SocApp, Interview).

Despite the lack of support from her school she continued to pursue her interest through creating flash animations for friends. After finishing school and looking for graphic design work, she got her first job as an intern on a web design project. After that, she decided to go to university to get a degree in Multimedia Computing. Her first “proper” business was a web design and development agency that she founded with Tom. It was whilst running this that they learned about Accelerate, and decided to apply:

I was speaking at an event, and Patrick [Founder Accelerate], who I’d kind of heard about from other things, got up and spoke about the new programme. So if I think back, that was when I first heard about Accelerate. And then one of my friends worked for a company that was on a previous cohort, and I knew that a couple of my friends were mentors, and things like that, on it. Yeah, so I organised the meeting with Patrick, and we hit him with a couple of ideas - he has since said that he thought that Tom [Cofounder SocApp] was a tramp that I’d just thrown in from the streets! He knew of me, but he was like, “who’s this dude?” And yeah, we hit Patrick with three ideas, and he said, “they are all really good ideas, choose one, apply, and see what happens”. So we did! (Cynthia, Cofounder SocApp, Interview).

Cynthia was the driving force behind their first startup; she recognised the opportunity through serendipity, by speaking at an event that Patrick (Founder Accelerate) was also speaking at to advertise Accelerate, and then set up a meeting with him to pitch ideas. As a result, they skipped the formal interview

stages, and were fast-tracked to the final pitch presentation. The startup that Cynthia and Tom took through Accelerate failed shortly before the start of my observation period, in May 2016, due to the collapse of a funding round. They started their new startup, SocApp, almost immediately after closing that business. Whilst Cynthia was not new to entrepreneurship, her first startup, and her experience on Accelerate, was her first introduction to the concept of startups, and she felt that this had transformed her as an entrepreneur:

So, yeah, no, I didn't understand "hustle", none of those things, that was a crash course for us. We'd known about the concepts, but, yeah, totally not. Business was different, with older terms, that were probably wrong. So old ways of thinking that very much worked for blue-chip, big businesses, IT firms; not creative, fast moving things. Learning about lean startups, "mom testing", totally blew my mind. I remember telling friends about it, like, "oh my god, I've just found out about this thing, and this is how we're gonna do it", and yeah. So yeah, that was completely different. (Cynthia, Cofounder SocApp, Interview).

Her entrepreneurial practice was transformed through engaging in Accelerate, and through her on-going membership of CoWork's entrepreneurial CoP. Through her childhood experiences, her education, her career history, and her experiences both through Accelerate, and through starting two startups, Cynthia was at a point where she felt comfortable identifying with the "entrepreneur" subject position, and was happy to apply this to her own experiences:

[an entrepreneur] is somebody who doesn't decide that it's too hard, and that they just keep doing something until they get successful. I think that's it. And I think that's probably the underlying factor, they change the game to suit them. Like I did at school! That's quite a nice thought. Yeah! You have to have the stubbornness, and opportunity, but stubbornness to keep going. Which is why it's probably more of a white male game, because

they probably have more opportunities. Even if, you know, they have young families, there's still a conversation if a woman wants to then work. (Cynthia, Cofounder GameCo, Interview)

Cynthia identified entrepreneurial heroic traits, such as stubbornness, and changing the game to suit themselves, and applied this to herself and her own experiences, in particular her difficulties during her schooling. However, she did go on to acknowledge the gender bias of this entrepreneurial subject; that male entrepreneurs are typically granted more opportunities, and may not have to contend with social realities such as the expectations on women to occupy carer roles at home. Whilst Cynthia was happy to assume the mantle of entrepreneur, she remained aware that it was predicated on male norms.

6.3 Women and Caring

The majority of CoWork's members were men, as were almost all the founders within CoWork, as discussed above. The women present within CoWork tended to be clustered into "softer", less technical roles. For the freelance members, these included areas such as marketing, PR, copywriting, and design. For those within SMEs and startups, these were often project management, or community management roles. Furthermore, CoWork's operations team was comprised of three women. The aim of this section is to explore the work that these women did to take care of those around them.

As discussed in the previous section, within CoWork there was a generally-held belief that there was a strong correlation between technical skills, and the lack of social skills, such as Cynthia's (Cofounder, SocApp) assertion that "we don't have the greatest social skills", Adam's (Cofounder Market.io) claim that "we [are] quieter, more introverted people", and Deborah's (Cofounder, GameCo) claim that, being stereotypically programmer, she has social skills, but prefers not to use them. This was also repeated to me elsewhere; Ed (CTO HealthApp) told me

in his interview that, when hiring, HealthApp wanted to avoid the stereotypical geek:

we wouldn't hire your stereotypical, or whatever's the right way of putting it, what society would think would be somebody who worked in tech, that just sits in the corner quietly working. (Ed, CTO HealthApp, Interview).

Another such incident occurred at the Christmas party, where I was asked about my research:

Whilst for the most part I was treated just as one of the group, my status as a researcher was still present; I had people ask me about my research, and about researching as a role (at one point I got asked if I could research how developers find wives; when I said, "surely the usual way?", I was told no, that wasn't how it worked for developers). (Field Notes 14/12/16)

The implication in the above incident is that dating, as a social activity, is not something developers are well suited towards. Furthermore, the masculine bias of development meant that the question I was being asked in this case was how do men become romantically involved with women. Whilst a joke, it demonstrated the prevalence of the assumption within the IT industry that technical skills correlate with a lack of social skills,

As a result, there existed a vacuum within CoWork of emotional labour: the concentration of (male) developers with technical skills meant a dearth of "soft" skills. It was primarily women who stepped in to fill this gap, as I noted in conversation with Erin (Director DesignCo). Prior to her move to the U.K., she had worked in a coworking space as part of an operations team. She got the job through her connection to the director of the space there; when talking to him, he had told her that "we need someone to take care of our geeks" - this job

appealed to her, because “I’m good at taking care of geeks!”, and she spent three years there before moving to the U.K. (Field Notes 13/7/16). She since found a job as a Project Manager with DesignCo, and was also promoted to a Director position. Whilst she did not have technical skills herself, she felt that her background in managing and organising people left her well suited to the job:

Not development background; does do some training with clients on how to use tools e.g. wordpress. Feels that she is a good judge of how people tick; managing people and ensuring they are on her side. She mentioned article called “Developers are like tiny Gods”, she found this helpful: need to let them solve it, even if you have the answers. Need to set up a problem for them to solve. (Field Notes 13/7/16)

Here, Erin was demonstrating the importance of emotional management to the job that she did as a Project Manager. She used transformational techniques to get the developers on her side, and the article which she mentioned told her how to do this; it is not enough to set them a task, but you have to manage their emotions through the process, and let them feel that they are the ones in control of the situation.

Managing developers was something that Jenny (Community Manager Funder) had to do, as part of her job. She herself did not have a technical background, but had completed Frank’s (Code Club Coordinator) Introduction to Code workshop. I asked her how useful this was in her day-to-day work:

Jenny: I can’t say I know a lot about code, but I understand it a little bit more now so when our developers are talking to me, I don’t feel they’re speaking a foreign language now, I feel I can understand a little bit of what they’re saying. Which is good!

Andrew: Has it helped with understanding the platform as well, with that bit

of technical...?

Jenny: Oh yeah, definitely. Just having the technical background to it helps whenever I'm speaking to our users. I think the one thing if a developer was to speak to our users, they would speak in far too technical terms for our users to understand. Whereas because I'm in between, I can dumb it down enough so that I understand it, which means that in turn, our users understand it as well. But I'm able to speak to our developers to make sure that they get the right message as well. I feel like I'm a little bit of a go-between!

Andrew: Yeah, bridging that gulf of understanding I guess?

Jenny: Yeah, I understand it enough that I can make a normal user understand what I'm talking about without going into technical whereas if a developer was to try and explain the same situation, I think it might go over their head a little bit. (Jenny, Community Manager Funder, Interview)

Jenny saw part of her role as acting as a liaison between non-technical users, and the development team. She was in a position to effectively translate between one and the other, managing this aspect of interactions, so that the developers would not have to. She felt that if the developers were to speak with the users, they would not necessarily have the skills to communicate effectively. Similarly, Jenny was able to translate the users' issues in a way that the developers would be able to understand the technical issue at hand, so that they could solve it.

Both Erin (Director DesignCo) and Jenny (Community Manager Funder) undertook relational work within the community. Despite not having a technical background herself, Erin still attended a number of technical meet ups that took place at CoWork; however, she saw her role as a networker, whose purpose was to make new connections, and connections amongst the attendees (Field Notes

13/7/16). Erin was an insider and a true believer in CoWork's community value; she was one of the first members to introduce herself to new members, and was one of the first members of CoWork to introduce themselves to me. It was Erin who recommended I make myself available at lunchtimes, as that is the best time to meet CoWork's members (Field Notes 13/7/16). Erin was the creator of a board games channel on Slack, on which board game nights for CoWork's members would be organised. She also organised several community building events; one of these was a "404 page" competition. A 404 error is a specific website error, where an attempt to open a webpage on a site fails because the page cannot be found. Erin organised a competition through Slack for the best, or most humorous, 404 error webpage in CoWork, where each entrant offered a small prize, and all members would be able to vote on which they felt was the best page. The winner would claim all the prizes. There was an enthusiastic response from CoWork's members, with a number entering, including Eugene (Cofounder Copter), and Will (Cofounder Market.io) (Slack 14/10/16).

Jenny (Community Manager Funder) also attended networking events within CoWork, such as the monthly Tech Breakfasts, as the representative for Funder, as Funder's founders were not located in Northam (Field Notes 27/7/16). Unlike Erin (Director DesignCo), she did not attend technical events and meet ups, but did make an effort to attend networking events:

so now I go to different network events, like Digital Showcase, or the networking breakfasts. But they have a lot of good links as well, good links with the Federation of Small Business and that's something that Funder has really benefitted from, just their connections. So, I'm actually going to a networking event tomorrow and it's not CoWork's tech breakfast, but it's actually FSB networking breakfast, I just thought it would be good to mix it up a little bit, you know, to meet some different people.

Jenny made a conscious effort to attend networking events not only within

CoWork, but outside as well, which brought the possibilities of new connections, and allowed Jenny to act as a boundary agent for CoWork, bringing those connections to both her company, and through that, to CoWork. Besides this, she was also an insider member of CoWork. She was one of the first members to join The Workshop, described earlier, and also helped organise communal events. In September 2016 CoWork took part in Macmillan's Coffee Morning fundraising event; an annual event where individuals and businesses host coffee mornings, with the proceeds going to charity. Jenny had helped Diane (S&M Manager, CoWork) organise the cake bake sale for it, and also organised a "Guess the Spots on the Cake" competition for CoWork's members to take part in (Field Notes 29/9/16).

For the operations staff of CoWork, a significant percentage of their day-to-day work involved taking care of members' needs and problems, from the important to the trivial, as shown on an interaction on Slack:

ED (CTO HealthApp): Anyone got a SIM removal pin thing? Or anything pointy?

Diane (S&M Manager CoWork): @Ed earring?

Ed: @Diane Earrings work brilliantly

Diane: @Ed Come collect when you wish 

Ed: @Diane You're the best


Diane: @Ed No, you're the best

Ed: 

Diane:  (Slack Log 7/10/16)

In this case, Ed had a fairly minor issue that needed solving; he needed a removal tool to remove the SIM cardholder from his phone. Diane responded immediately, offering an earring, which Ed felt would work. This then led to a minor bit of “flirting”, telling each other that they are the best, and sending each other a heart emoji. Diane even referred to this kind of care taking as mothering:

one of the tenants came over [to the staff desk] and asked for a plaster as he had nicked his hand on something. Diane got out the first aid kit from under the desk for him. He thanked her, she replied, "no problem, poppet". As he left she caught me watching and laughed; "we do all the mothering around here!" (Field Notes 18/8/16)

CoWork’s staff certainly identify with these kinds of nurturing practices. Michelle (COO CoWork) described her, and her fellow staff, as being “protective’ of their members in her interview; an adjective often applied to mothers. As part of there role of taking care of the community, they would organise the community to help one another. Timothy (Owner WebCo) needed some help moving furniture, and Julie (Events Manager CoWork) put out a message on Slack asking for a volunteer. When Ed (CTO HealthApp) responded with an unenthusiastic offer, Julie chided him: “You’ve got two  have you not?” (Slack 29/11/16). This was something of a carrot-and-stick response; Ed, as an avid gym-goer, was physically strong, and so she was complimenting him on this. However, she was also chiding him; given his physical strength, this would not be a difficult task for him. Ed responded with a joke, “I could kick it into place?”, and did then come to help.

The femininity of these non-technical workers in support and management

positions was a foil to the masculinity of the primarily male technical workforce within CoWork. There was even a case of a company deliberately hiring a female member of staff, in order to exploit her femininity:

our view at HealthApp was companies can benefit - for example if you're a team of all one gender or whatever - you can benefit from having a difference in there. So, when Lisa [Community Manager] worked for us, that was kind of a key objective, out of the people we hire, at least one should be a woman. Because if it's just a room full of men, in the fitness industry, we're gonna miss some things, and we might be a bit, even though we'd try our best not to, we might end up being a bit tunnel-visioned, or macho et cetera. (Ed, CTO HealthApp, Interview).

HealthApp's product was a platform connecting gym-goers with personal trainers. It had a significant number of users and a large online community; as such, they required a Community Manager to act as the "face" of the company to the users, to be the first point of contact for any issues, and to be the presence on social media. According to Ed, when recruiting for the role, they were specifically looking for a woman, to act as a check on the potential male-dominance of the team. However, despite the importance of this to them, and it being a "key objective", Lisa was let go in August 2016, as HealthApp was running low on funds, and had not yet secured new investment. Despite the importance of having a woman on the team, her position as a non-technical worker left her in a far more precarious situation. Whilst community management, as a soft skill, is extremely important to a company, it was not valued the same way that technical skills were.

Much of the work of CoWork's staff, and the other women within CoWork, involved taking care of others. Whilst the gendered nature of this work was occasionally recognised - for example, Diane's (S&M Manager CoWork) claim that they do all the mothering - for the most part, it was just understood as part

and parcel of doing work. Diane, reflecting on the roles of CoWork's operations staff, wrote this:

We all work our bloomin' socks off to get sh*t done. Our trio tackles everything from sales and marketing to event planning and corporate support, community engagement and account management to facilities management and operations, human resources and health & safety, to accounts and invoicing... the list is endless. (Diane, S&M Manager CoWork, Blog)

The work done protecting, managing, and "mothering" the community was subsumed under the managerial list of day-to-day work that the team does. CoWork's staff were responsible for welcoming and integrating new members into the community; when a new member joined, it was Diane (S&M Manager) who took them on a meet-and-greet around CoWork, and would also put out an announcement on Slack, introducing the new members and encouraging everyone to say hello to them. However, the emotional labour of this - of taking care of new members and helping them integrate - was referenced in Diane's list only as community engagement. Women were not the only ones taking care of others; when Evan (Owner Consult.io) set up The Workshop, he initially referred to it as "Share and Care". However, those most visibly involved in taking care of the community were the women present, but it was rare for this care-taking work to be recognised as such; for the most part it was rendered invisible.

6.4 Gender Equality and Masculine Norms

The staff and members of CoWork were well aware of the male domination of the IT industry, and startup sector, and CoWork's staff were involved in a number of initiatives to promote women within the industry, and to encourage women to join, and start their own businesses. For Michelle (COO CoWork), one of her primary concerns was the lack of female role models:

I think the main thing, and this has been something that I've personally struggled with as well until now, is the lack of role models. I think we've got... it's so difficult, I mean there's a lot of amazing women in tech, and I think it's always the same story, where everyone's so busy getting their head down and just getting on with what they're doing. Maybe they're not out, like, having a spotlight enough as what they need to be, so that other people can then look to them as role models as well. (Michelle, COO CoWork, Interview).

Michelle was keen to emphasise that a lack of technical skills *per se* were not sufficient to explain the lack of women within the industry, because development is just one role out of many:

there's so many opportunities within technology, in all of the STEM subjects, really, there's so many opportunities that probably weren't available when we were younger, [...] just because you want to get into tech you don't have to be a developer, there's a million other opportunities and roles that you can do. (Michelle, COO CoWork, Interview)

Michelle saw the IT industry as a fundamentally meritocratic one, with equal opportunities for all, but the main problem being a lack of awareness about this:

I think that one of the biggest things that we need to change is getting role models out there, so the younger generation coming through know who they can look to. (Michelle, COO CoWork, Interview).

Michelle was not the only one who felt that the IT industry was meritocratic. Deborah (Cofounder GameCo) vehemently denied the existence of sexism within the industry, and claimed that, if anything, the needle had swung too far, and now women were being offered opportunities simply for being women, regardless of

talent:

[when] I got into the industry, I realised that the assholes who think that you need to be male to programme, don't make it through. None of them do. They're usually stupid and nobody wants to help them in their work environment. The work environment is really professional, I never had issues with it, and then when I left it to go back and start my own company, I was faced with the opposite, which is... preferential treatment for girls? [...] I see people being like, "oh, we're gonna give you funding because you're a girl". You still have to justify your project, but you're only competing against girls, and we're only taking the best, if you're not competing against guys anymore, you're not the best out of your industry, you just need to be the best out of a handful of people that made it this far. And I think there is sexism, again, in the startup industry, because girls have it easy. You don't have to jump through the same hurdles. (Deborah, Cofounder GameCo, Interview)

Whilst Deborah did experience some sexism in the form of both condescension, and gendered assumptions about programming as a masculine skill, during her education, she felt that this was not the case in the workplace, which was a professional, meritocratic environment. As such, she strongly disagreed with the existence of grants and funds aimed at supporting women within the industry, as she felt this was tokenistic and sexist in nature, which devalued the meritocracy of the industry:

Why am I gonna respect another female when I know, that no, she might be smart, she might have earned her place, or she might have said, "I'm a girl, please we need more people in STEM". And, when I see a guy, I know for certain that he's there because he made his way there. (Deborah, Cofounder GameCo, Interview)

Adam (Cofounder Market.io) also took issue with this perceived issue of female preferential treatment:

well, a lot of people I've come across, studied alongside, when you go and you're all sitting in the same lecture, all learning the same material, and then at the end of the lecture there's someone comes up and says, "so there's this exclusive club for girls, you get to go to [Google's Campus], and do all these things, and get this leg up", I understand what the idea behind that is, I just... It feels like, it's overcompensation, almost? Like, we're not giving everyone the same footing, we're actually actively... Discrimination sounds really bad, but actively giving a certain group of people better chances than the rest to compensate for something (Adam, Cofounder Market.io, Interview)

It is possible that part of the reason why Adam felt this way was that he was the only black founder within CoWork, and was likely one of the few black students on his course. Race is an axis of discrimination, just as gender is. Adam was able to see women being offered extra opportunities, but was not offered these himself. Whilst he acknowledged that there might be a systemic issue, his feeling was that it was not apparent how preferential treatment was solving it at an individual level:

Over time it probably corrects the systemic issue, but for the person in that room, at that time, it's sort of like, "well why don't I also get that opportunity?" (Adam, Cofounder Market.io, Interview)

The systemic issues of (white) male dominance were recognised within CoWork as a significant hurdle for women, and minorities:

In Northam, it's a very white city. So, I remember someone was saying at a startup event a couple of weeks ago, and our local MP, who is black,

mentioned that it was quite nice to see so many women in the room, but it's a shame there weren't more people of colour, and it's like, you're in Northam! [laughs] Like, you know, you can't ask the only two people that I know to keep coming in. (Cynthia, Cofounder SocApp, Interview).

Cynthia understood the lack of black attendees at this event as the local manifestation of a structural issue; Northam's demographics were such that there were very few non-white members of the local population, and therefore it was extremely unlikely to find many people of colour working within Northam's IT sector. However, Cynthia did also go on to acknowledge the role that systemic inequality plays in the on-going production of the white maleness of the sector:

The scene is probably still quite male and caucasian in London, from what I've seen, just Google Campus. I think it comes - so there's a couple of things that I've found. A lot of the time, it's for people that do not have responsibilities, or they have lots of money, which occasionally might be their parents' money. So that is why it often, that kind of playground is ripe for that. There are... I mean, women in STEM generally isn't great. (Cynthia, Cofounder SocApp, Interview).

Cynthia argued that even in a large and diverse metropolitan city such as London, the technology scene is still dominated by white men. She attributed this to the fact that (white) men typically have fewer responsibilities, such as at-home care-taking responsibilities, and also referred to the role of class and wealth: knowledge economy industries such as IT privilege those from wealthier backgrounds, as the initial seed funding for a new startup could be raised through familial wealth or connections.

Certainly, within CoWork, there were active attempts to boost the visibility and participation of women within the IT industry and startup sector. One of the services that CoWork offered were monthly Office Hours with a local venture

capitalist firm, where an account manager from the firm offered their time, free of charge, to consult with anyone who booked a time slot with them on the viability of a potential entrepreneurial venture. There were no criteria for booking slots; anybody was free to. The office hours were advertised through CoWork's social media channels, and appointments were managed through an online scheduling tool, which was linked to in the promotional media. This provided an introduction to venture capital funding for those who might otherwise not have an avenue to approach a venture capital firm. I was able to observe one session of these monthly office hours during my observational period, and was also able to discuss with the account manager his views on the startup industry, funding, and female founders:

We had a chat about the tech sector here; he thinks it has a lot of potential, but we're still not on the exponential part of the growth chart. He thinks that what is needed is for a startup to get to a £50-100m valuation, and then have an exit, because that would be a company with about 100 employees, and of those, a good 20 would go on to be entrepreneurs. He also said that an area he knew the sector was really lacking on was diversity, and freely acknowledged this was a problem with their investments. In their portfolio, they had a few female founders, but very few and far between. Challenge is trying to find ways to increase this, but he says that he's worried it's a bit double-edged; if you hold an event aimed at women in tech, then that is potentially problematic because you are putting them in a box of "women in tech", and treating them differently necessarily as a result. "We would love to get more women on our books; it's just difficult finding them". (Field Notes 14/9/16)

In this case, this prominent VC firm within Northam was aware that they needed more diversity within their portfolio, and wanted to invest in more female founders, to some extent vindicating Deborah's (Cofounder GameCo) belief that women might be at an advantage in terms of resources being offered, although

the account manager was aware of the potential risk of tokenising women. Despite their desire to invest in more women, during the entirety of the office hours he did not meet with a single woman: all the available slots had been booked by men.

Whilst the account manager felt that “women in tech” events could be double-edged, these were something that CoWork hosted themselves. During my observational period, Michelle (COO CoWork) organised a “Leading Ladies in STEM” event, inviting a number of women from different companies within Northam, all within STEM fields, to speak at an event. Erin (Director DesignCo) was invited to be on the panel, as a representative from CoWork’s members:

[The panel] was moderated by Michelle [COO CoWork], comprising 5 women within various STEM sectors, sharing their career histories and advice. One was a student, which I thought was interesting as I would have expected all the panellists to be more senior in their careers, and Erin [Director DesignCo] was also on the panel. The discussions largely revolved around barriers to participation in STEM, with several of the older panellists sharing their experiences of direct discrimination (for example, one, an engineer, told a story about being on the phone with a customer insisting that he needed to speak to an engineer, and refusing to accept her telling him she was one - “no dear, I want to talk to someone technical, I want to talk to a man”). The student, on the other hand, argued that she had not experienced any direct discrimination and if anything felt there was a lot of focus on getting girls and women into STEM, and a lot of encouragement out there. Biases were addressed, and it was acknowledged that they can come from both men and women - one woman in the audience shared a TED talk she had heard given by the head of HR in an organisation who had come to realise that she had an unconscious bias against women, despite outwardly being an advocate for women’s advancement in the workplace. The imposter syndrome was

briefly discussed, as was the “motherhood penalty”. Michelle drove the conversation towards role models and mentors, and their importance was discussed. One audience member said that a useful mentor for her was a man who was somewhat anti-feminist; his insistence on ignoring oppression by mobilising a discourse of meritocracy was something she found useful in working around her own feelings of inferiority/imposterhood - coming to realise that she deserved to be where she was, and to not get too hung up on her fears of not being good enough as a woman to succeed. (Field Notes 11/10/16)

Michelle (COO CoWork) was particularly pleased to hear the female student’s perspective, that there was a lot of encouragement and support for younger women looking to get into STEM fields, and she said that she felt like stories of direct discrimination, such as the one shared by one of the panellists, were becoming far rarer. Again, a common factor here was the feeling that the industry was becoming increasingly meritocratic, and the issue was the need to solve the problem of visibility: more mentors and role models to increase visibility of women in these roles, so that women are aware that these are viable career options.

On the whole CoWork presented itself as a progressive environment, relatively free of bias. Something I noted was that CoWork’s staff, when communicating with members, or with the public through press releases, tended to use gender neutral language wherever possible, for example using “y’all”, in place of something like “you guys”; such as Diane (S&M Manager CoWork) encouraging members to “help yourself to beers, y’all!” for Friday Beers (Slack 26/9/16). Members themselves also claimed to be progressive. After Donald Trump’s success in the 2016 US presidential election, Erin (Director DesignCo) complained on Slack about the increase in racism she was seeing from family members still living in the USA. She then jokingly offered to punch anyone who felt they might be becoming racist: “it’s a freemium service I offer”. Toby (Owner

ResearchCo) responded, saying he was scared of her, and said, “can I point out I’m a feminist”, to ward off any claim of bigotry (Slack Log 11/11/16).

However, despite the appearance of progression and meritocracy, something which was left largely unspoken was the extent to which the IT industry, and CoWork’s community, was predicated on particular masculine norms. These assumptions were present in the presentation of CoWork. As shown in Figure 4.3, CoWork used comic book strips as decoration; these could be found inside the phone booths, and the toilets. CoWork’s use of the superhero logos on the toilet doors, the comic book wallpaper inside the phone booths, and the science-fiction theme of the mural shown in Figure 4.2 (all areas that newcomers to CoWork are likely to see) assumed an audience receptive to such. The assumption here was that participants within the space will be “geeks”, interested in pop-culture and engaged with masculine geeky pursuits such as comic books, super heroes, and science-fiction. Masculine norms were present elsewhere; hanging from the wall in the kitchen area was a framed Steve Jobs’ quote; “It’s Better to Be a Pirate than to Join the Navy”. This quote is in reference to the process of disruption, and the counter-culture (and particularly counter-corporate culture) norms of the IT industry and startup sector. However, what is not questioned by this quote are the masculine norms; both piracy, and the navy, are prototypically masculine occupations.

Behaviours and practices within the space also tended to default to masculine norms. Friday Beers is an example of this; despite the fact that beer, wine, and soft drinks were all served, the event was called Friday Beers, defaulting to the normative masculine choice of alcohol. Events hosted by CoWork would be advertised to note that they included beer, and pizza, or pulled pork sandwiches; refreshments likely to appeal to a normative masculine group. Members would unconsciously revert to male norms in their use of language. Timothy (Owner WebCo) put out a message on Slack to announce that they were hiring, and needed “React.JS guys”. Evan (Owner Consult.io) did call this out: “only guys?”,

to which Timothy replied, “good spot”, and edited his message to read “React.JS guys/girls” (Slack Log 16/9/16). Whilst it was changed, the default norm was the masculine option. Just as was the case when I was asked to research how developers find wives, the assumption remained that developers are male by default, with particular masculine practices and norms.

Sexualised banter was also a commonplace occurrence. When decorating the Christmas tree put up in the cafe area in December 2016, Erin (Director DesignCo) made a comment that she felt it looked better to have the “balls [baubles] go in the middle of the tree”, and suggested to Toby (Owner ResearchCo) that this was where he should hang them. This led to a number of jokes made by Zack (Founder DMCo), Ed (CTO HealthApp), Eugene (Founder Copter), and Toby, about where Toby should put his balls (Field Notes 5/12/16). On the day of the Christmas party, Ed wore a Christmas jumper depicting Santa stuck in the chimney, with his legs stuck out, and his robes falling down, revealing buttocks. These were padded and embroidered onto the jumper around chest height, which led to a number of members squeezing them, and pretending that they were fondling breasts (Field Notes 14/12/16). Sexualised banter would also take place over Slack; Evan (Owner Consult.io) put out a message on Slack asking where all the forks had gone from the kitchen. Ed replied that he was using one, and asked if Evan would like to share: “Happy to feed you. You know where I am” (Slack Log 30/8/16). In this case, the humour derived from the homoerotic imagery of a man engaging in the romantic practice of feeding a (romantic) partner - in this case, another man. On another occasion, Erin was looking for a large envelope, “preferably A4 size, but I can fold in half”, referring to the object to be posted. Toby responded with, “I’d like to see you fold in half” (Slack Log 3/10/16). As part of my strategy to build rapport with CoWork’s members, I brought in baked goods from time to time, as discussed in my methodology. On one occasion when Zack (Founder DMCo) saw me put down a tin in the kitchen, he said, “get your tins out for the lads!” (Field Notes 11/10/16), a reference to the sexist chant/heckle, “get your tits out for the

lads”. Even when the humour was not sexual in nature, it still often relied on masculine norms. For example, a popular image shared to Slack was a comic, entitled “GIT⁹ the Princess! How to Save the Princess Using 8 Programming Languages”, and mocked the idiosyncrasies of various programming languages by applying common flaws within them to rescue a princess from a castle. This comic relied on the gendered trope of a male knight rescuing a princess (Field Notes 6/10/16).

Humour was also used to reinforce gender norms more generally, rather than just masculine norms. I was talking with Marcus (Software Engineer DistribuCo) over lunch, and he remarked that the chips I had looked good. I offered him some, but he refused, telling me, “I’m going on holiday in a few months, and in a very feminine way, I’m trying to lose some weight beforehand”. Someone sitting with us then, as a joke, asked him if he’d bought his bikini yet (Field Notes 16/8/16). Marcus was referencing the “holiday body” expectation, where women are encouraged in media and advertising to get “bikini ready” by losing weight, and the joke, that he needed to buy a bikini, was a response to this: the humour derived from the idea of a man in a bikini; a quintessentially feminine piece of clothing. On another occasion, I was sitting with Evan (Owner Consult.io) and Jenny (Community Manager Funder). Evan asked Jenny how Funder was getting along, and Jenny said that she was going to the Great North Run, to “kiss up” to some charities. Evan replied, “kiss up? Well, not literally”. Jenny responded, “not gonna rule anything out”, and then laughed (Field Notes 24/8/16). In this case, the humour played off the stereotype of the female seductress, using sexual wiles to get what she wants. Of course, to a certain extent jokes like this are subversive; by recognising these norms and riffing off them, we can subvert them. This happened on Slack, where a discussion about Marie Curie winning two Nobel Prizes led to Jon (Cofounder IM.io) joking, “Women can win Nobel

⁹ GIT here refers to Git, a version-control system widely used by developers to track changes in code, particularly when being developed by multiple people.

Prizes?”, and Toby (Owner ResearchCo) responding with, “I think she won one for cooking and one for manicure” (Slack 2/12/16). These jokes recognised the existence of sexist stereotypes; that women are not naturally suited to STEM subjects, and are better suited to feminine spheres such as domestic duties, and beautification. However, whilst humour could be subversive in this way, more often than not it was conforming to, or relying on, gender norms.

Furthermore, the use of sexualised or gendered humour was not unidirectional; women within CoWork would also make these types of jokes. On one occasion, Cynthia (Cofounder SocApp) was making a cup of tea, and was joined by Zack (Founder DMCo). She told him that she liked his t-shirt, which had Japanese kanji (logographic characters used in writing) on it. She asked what they meant, and he told her that he did not know what they meant when he bought the shirt, but had since found out. Before he could explain, Cynthia said, “tits?”, and then laughed (Field Notes 26/8/16). During the Christmas party, a game of beer pong had been set up. The objective of beer pong is to throw a table tennis ball at cups lined up on opposite sides of a table tennis table, which are filled with beer. If you get one in, your opponent has to drink all the beer in the cup the ball landed in, and you can make another attempt. If you miss, your opponent attempts to throw a ball into your cups. Diane (S&M Manager CoWork) was playing:

there was a lot of banter surrounding the beer pong balls; for example, when a ball went between Diane’s legs, this sparked a lot of double entendres (“Diane’s got his balls between her legs!”), although Diane took it in her stride, joking back by saying, “don’t tell my fiancé!”. (Field Notes 14/12/16).

In this case, whilst the joking was directed at Diane, she played along with the joke. This was just seen as “banter” and a fairly normal part of CoWork’s practices. Diane even referenced it in a blog post, stating that if the “banter was poor, life at CoWork wouldn’t be the same!” (Diane, S&M Manager CoWork,

Blog).

Overall, there was a strong dichotomy between the alleged claims of meritocracy that were pervasive within CoWork, and my observations, which found CoWork dominated by masculine norms. This was summed up in a reflexive entry I made in my Field Notes, reflecting on both my experiences at CoWork's Christmas party, and my lived experiences as a participant in CoWork's community for the months leading up to that point:

It did feel like masculine norms were being prioritised - the game of beer pong, having someone from the local brewery turn up with beer samples for example - even if these are behaviours that the women in attendance joined in with, often with gusto (I know Diane [S&M Manager CoWork] and Jenny [Community Manager Funder] both sampled the beer samples, with Jenny ordering some bottles to give as presents to family, and I think all the women present ended up playing beer pong), they act to uphold masculine norms. However, I do not know to what extent this would be problematised or interrogated by either the CoWork staff or attendees. From all my time observing, and including this night, perhaps the best way I can sum up the environment is that everyone is welcome, as long as they are willing to fit in with the way things are done, and I do not think there is a huge amount of desire to change that. (Reflexive Entry, Field Notes 14/12/16)

6.5 Conclusion

Developing the findings on community and participation in the previous two chapters, this chapter has specifically looked at the ways in which gender was relevant to the ways that men and women within CoWork participated in the day-to-day practices of the community, and how these men and women made sense of themselves through their socially situated practice. For entrepreneurs, the

gendered stereotype of the hegemonic “boy genius” required negotiation. In the case of Will (Cofounder Market.io) and Adam (Cofounder Market.io), this was a position that they felt able to assume, as young, technically skilled founders. As a result, they could mobilise this position to their advantage; for example Will reframing his issue with being temporarily between homes as part of a heroic, risk-taking entrepreneurial narrative, rather than a simple process of administrating living arrangements. For other founders, such as Zack (Founder DMCo) and Eugene (Founder Copter), their age, and lack of technical background, meant this position was not available to them. Instead they both negotiated an entrepreneurial identity in relation to it, drawing on their age and experience to frame the way they engaged in high technology entrepreneurship as wise men, guided by their knowledge and wisdom. However, for the female entrepreneurs in this study, the lack of an appropriate female entrepreneurial subject position created additional challenges. For Cynthia (Cofounder SocApp), her response was to lean into her entrepreneurial background and technical skills, as a source of legitimation. For Deborah (Cofounder GameCo), her response was to reject the label of entrepreneur altogether, in order to make sense of her entrepreneurial practice as being part of a “hippy startup”.

Furthermore, this chapter has also looked at the way that practices within CoWork were gendered, in particular the caring and relational aspects of work. Women dominated these positions, and highlighted their contribution to CoWork’s enterprise of entrepreneurship through the ways in which this work contributed to the enterprise overall. However, it was still understood within CoWork that technical skills occupied a privileged position in the knowledge-hierarchy, and lacking technical skills made one’s position more precarious, due to the way that “soft” skills were less valued.

Finally, this chapter has also shown that for the most part, the issue of gender equality was somewhat contentious: structural explanations were preferred, such as the low numbers of women working within the industry, and the resulting lack

of visibility. The assumed meritocratic nature of the industry clashed with the ways that processes of exclusion were unequally targeting women, and other minority groups. The assumption of meritocracy also had the effect of masking the gender norms of day-to-day life within CoWork. This suggests that challenging the dominant masculine norms and values could be difficult.

This chapter marks the conclusion of the empirical section. In the next chapter, the findings present over the course of Chapters Four, Five, and Six will be discussed in relation to the literature questions arising from the review conducted in Chapter Two.

Chapter 7: Inclusion, Exclusion, and the Negotiation of Gender in Entrepreneurial Communities

7.1 Introduction

The aim of this chapter is to relate the emergent themes from the data presented in the previous chapters to our current understandings of both communities of practice, and the roles men and women play in the field of high technology entrepreneurship. A primary theme is the dichotomy of inclusion and exclusion; the processes by which insiders were included in CoWork's CoP, and the processes by which (certain) outsiders were excluded from it. It has also become apparent that exclusion *per se* is not inherently negative; a CoP by necessity is predicated on a degree of exclusivity, in order to protect the enterprise of the community. In order to discuss this I will examine the role of the Gatekeeper within a CoP. Furthermore, exclusionary practices are not necessarily actively excluding outsiders; whilst formal rules of the organisation, such as CoWork's requirement that new members work within the IT or digital/creative industries, are actively exclusionary processes, the ways in which CoWork's members do community may exclude those who might not feel like they are a cultural fit. This will be discussed in terms of how a CoP might seem inaccessible to a newcomer.

Secondly, I will discuss the roles of women within entrepreneurial communities. This will engage both the literature looking at female entrepreneurship, and discuss the ways in which the female founders negotiated legitimation within the community, and how the community served as a transformative force for them. More broadly, the application of a communal lens contributes to this literature through questioning the dominance of the deficit model; whilst to date this literature has prioritised asking where are the female entrepreneurs (Patrick et al. 2016), this research shows that women are present within entrepreneurial communities, and in the case of CoWork, are integral to its functioning, but are fulfilling different roles than merely entrepreneurship itself. I will conclude by

discussing how it is possible that the contributions of women to entrepreneurial communities may well have been marginalised due to the gendered nature of the care-taking work that many of the women at CoWork performed; particularly within an industry that prioritises technical skills over “soft” skills.

7.2 Being Included at CoWork

Inclusion as a concept has primarily been examined within contexts such as social policy and education, and the ways in which individuals, or groups, are able to access particular resources, locations, communities, and so on, and feel a sense of belongingness to them (Abrams et al. 2005). However, within CoP theory, analysis has primarily addressed the concept of membership, and in particular attention is turning to conceptualising the processes of multi-membership across different CoPs, and landscapes of practice as a whole (Omidvar & Kislov 2014; Wenger-Treyner et al. 2015). As a result, the issue of inclusion itself is rarely dealt with; membership and inclusion should not be considered to be analogous (Bogenrieder & van Baalen 2007). In this section I will discuss how inclusion at CoWork was the result of two interrelated dynamics: legitimisation and trust; and a sense of belonging.

7.2.1 Legitimation and Trust

One of the primary contributions of Lave and Wenger (1991) was the concept of legitimate peripheral participation (LPP), the process by which newcomers to a CoP are inducted into the practice. Their presence needs to be legitimated in some way, and they are then allowed to engage in minor tasks that contribute to the practice overall, without any mistakes having a serious impact on the practice. As participants learn through doing they are gradually introduced to more, and more complex, tasks. Lave and Wenger (1991: p. 35) suggest the LPP concept is intended to be *sui generis*: “we intend for the concept to be taken as a whole. Each of its aspects is indispensable in defining the others and cannot be

considered in isolation". In each of their five case studies, the legitimating factor is identified; for the Yucatec midwives, their legitimation came through family connections, for the Vai and Gola tailors, it was being taken on as an apprentice, and so on. Wenger (1998) identifies being employed by Alinsu, and the subsequent completion of the training course all newcomers must take, as the legitimating factor for joining Alinsu's claims processing department.

However, as Jubas and Butterwick (2008) argue, whilst treating LPP as a *sui generis* concept made sense within the context of Lave and Wenger's (1991) focus on apprenticeship, this is not to say the process cannot be deconstructed into its constitutive elements. The role of legitimation in particular is extremely relevant to the issue of inclusion. Bogenrieder and van Baalen (2007) draw a distinction between membership and inclusion and argue that the two are not analogous; membership refers to the ways in which an individual participates, and is legitimated, in a community's practice, whilst inclusion is the relational dynamic between the individual and the group, which is negotiated over time through processes of participation and legitimation. In other words, inclusion is the extent to which an individual's participation and legitimation is accepted, or challenged, by the group. Therefore, understanding legitimation as a discrete concept, rather than simply as one constitutive part of LPP, is necessary to understand how an individual is included.

In the case of CoWork, legitimation is initially gained through meeting the membership criteria of CoWork. There are three criteria that newcomers need to meet in order to be legitimated. Firstly, newcomers are expected to be part of an occupational community (Van Maanen & Barley 1984); engaged in the same sort of work, drawing their identity from their work, and sharing norms and values, with other members of CoWork. Web developers, web designers, and digital marketers are three of the most common occupational communities within CoWork. Secondly, newcomers are expected to understand the values of CoWork, in particular the necessity to engage in collaboration and community,

and to affirm that they intend to operate by these values. Thirdly, newcomers are expected to contribute to CoWork's primary enterprises: coworking; and digital entrepreneurship. Newcomers are expected to understand that coworking is a practice, and that CoWork does not function as mere office space. For entrepreneurs, Accelerate itself was an important source of legitimation for a number of CoWork's members. Taking part in an Accelerate programme immediately legitimated a newcomer's presence in Accelerate, and those alumni who chose to remain within CoWork after completing a programme continued to have their presence legitimated through their history with the programme. In a similar fashion, because of CoWork's value of supporting digital entrepreneurship, digital SMEs were legitimated, and permitted to join, on the proviso that they confirmed their intent to abide by CoWork's value of community.

Despite Lave and Wenger's (1991) claim that LPP is a composite process, my findings suggest that the first element of this - legitimation - plays a vital role in how inclusion is managed within a CoP. Indeed, as an analytic lens, LPP does not seem applicable to many of the examples of learning and becoming within CoWork. As Wenger (1998) argues, peripherality provides an approximation of full participation through giving exposure to practice in ways that lessen the intensity, risk, and cost of error. Cynthia's (Cofounder SocApp) description of the Accelerate process, given in section 4.2.3.1, does not match this description of peripherality. A further issue with LPP as a *sui generis* concept is that it assumes legitimation to be a singular event; furthermore, participation in shared practice is often uncritically assumed to be the sole base for legitimation (Bogenrieder & van Baalen 2007). Instead, as this thesis shows, legitimation is a process, and does not end at the point of a newcomer signing up to a membership, or merely through engaging in shared practice. Legitimation is an ongoing dynamic by which members recognise each other as competent practitioners within CoWork's CoP. The recognition of competence is a key component of legitimation. One of the ways in which this could happen was through the

process of signposting, whereby members identify other members as competent practitioners. For Wenger (1998: p.137), this is one of the hallmarks of a CoP:

it is by its very practice - not by other criteria - that a community establishes what it is to be a competent participant, an outsider, or something in between. In this regard, *a community of practice acts as a locally negotiated regime of competence*. [sic]

Through the act of signposting, members legitimate other members in CoWork's community, and their knowledge is understood to be an aspect of their competence:

Knowledge is a matter of competence with respect to valued enterprises - such as singing in tune, discovering scientific facts, fixing machines, writing poetry, being convivial, growing up as a boy or a girl, and so forth. (Wenger 1998: p. 4)

Therefore, when Zack (Founder DMCo) was signposted to as an expert in direct marketing, or when the CFO of a startup was recommended as the person to talk to for any accountancy issues, the knowledge of these members was being recognised as competence within valued enterprises specific to this CoP (Wenger-Treyner et al. 2015).

Members also legitimate one another through their mutual engagement in practice (Bogenrieder & van Baalen 2007). When Zack set up The Collective, the cooperative group within CoWork working towards producing limited runs of novelty socks, this mutual engagement was predicated on recognising other members as competent practitioners. As Zack explained in his rationale for The Collective, the idea came about through his perception that, many members had unique skills that could be applied. When Ed (CTO HealthApp) told me that, if he were having problems with a technical issue, he would go to talk to Jon

(Cofounder IM.io), Will (Cofounder Market.io), or Adam (Cofounder Market.io), he was recognising them as competent practitioners.

CoWork's shared repertoire was also a source of legitimation for CoWork's members. This repertoire included CoWork's history, in particular its history with Accelerate, which still maintained a significant presence within CoWork, both in the form of Accelerate alumni working from CoWork as members, and in CoWork's enterprise of supporting digital entrepreneurship. Some members of CoWork, such as Zack (Founder DMCo), and Cynthia (Cofounder SocApp) and Tom (Cofounder SocApp) had been members of CoWork since it opened. Some members, such as Evan (Owner Consult.io) had been a part of CoWork's history from the very beginning; he had been part of a team on the original Accelerate programme. On his desk in the coworking space he had decorated his computer's monitor with pinwheels made from lolly-sticks; when I asked him about them, he told me that they had been made on an Accelerate programme whilst it ran in Accelerate Space, the large loft that was initially hired for the programme. Each company on the programme had made one, and he had saved them, and brought them with him when CoWork opened (Field Notes 18/8/16). These artefacts served as reified examples of CoWork's shared history (Wenger 1998). CoWork's shared repertoire also included its in-jokes, such as the use of the Party Parrot gif on Slack; its rituals, such as Pot Lunch and Friday Beers; and its language, such as the scientific terms adopted by startups to describe their work. Access to this repertoire was a legitimating factor; as newcomers were inducted into CoWork's community, their familiarity with this repertoire increased. Knowing when to use an in-joke, for example, legitimated a member's position within the CoP, and contributed to the continued evolution of a conspicuous, shared repertoire (Thompson 2005).

As a result of this process of legitimation, members build stronger ties of trust within the community. Trust ensures that members continue to engage with one another, signpost to one another, and are more willing to share with one another,

than with non-members. This was seen in the case of Toby (Owner ResearchCo), who purposefully sought out a member of CoWork to deliver PHP training to his technical staff, due to his stated preference for giving this work to a fellow member of CoWork. Deborah would refer clients asking for work outside of GameCo's scope to fellow members of CoWorking, and trusted that her fellow members would refer any work suited to GameCo to them. Trust and legitimation are mutually constituted; legitimating a member builds a degree of trust, and in turn, trusting a member legitimates them. It is thought that trust between members is likely to be important to the dynamics of coworking communities, but to date it is not clear what the link between trust and community is (Bouncken & Rouchel 2018). These findings suggest that trust and legitimation are mutually constituted. Through understanding CoWork's domain of entrepreneurship as a CoP - a particular set of relationships directed towards mutual engagement in given practices (Bogenrieder & van Baalen 2007) - trust and legitimation are produced through entry criteria, the recognition of competence, mutual engagement in practice, and the on-going contribution to a conspicuous shared repertoire.

7.2.2 A Sense of Belonging

Alongside trust and legitimation, inclusion within CoWork's CoP required a second dynamic: the on-going production of a sense of belonging. Garrett et al. (2017), in their study of community within coworking spaces, identify two distinct usages of community: the first is a structural definition, focusing on the instrumental functions of a community; the second is a psychological definition (McMillan and Chavis 1986), relating to how members feel that they belong, and identify with other members. Their particular interest is in this second definition, and apply a relational constructionist approach, to define community in terms of a "sense-of-community". In order to adopt this to CoP theory, and understand how members of a CoP are psychologically included, I instead draw on Wenger's (1998) use of the term "belonging", as belonging from an analytical sense refers

to the ways in which our relations constitute identity (Warren 2004). For Garrett et al. (2017), a sense-of-community is the outcome of doing the work of producing community. In this case, a sense of belonging refers to the ways in which through engagement with, imagination of, and alignment to, CoWork's CoP, CoWork's members felt included, and felt that they belonged within CoWork.

Within my data, this came out in a number of ways. Firstly, the affective commitment of members to CoWork was an important constituent of a sense of belonging. Many members expressed an emotional commitment to CoWork, and also expressed a sense of having been transformed by their membership of CoWork, and this transformation is driven through their membership of CoWork's CoP. Wenger (1998: p.57) argues that this transformation affects one's sense of self; pointing out that the claims processors of Alinsu "do not cease to be claims processors at 5 o'clock". This transformation was particularly dramatic for Michelle (COO CoWork), for example. Her education was in Fashion, and prior to joining Accelerate, and then CoWork, she had no experience of the IT industry. However, when I asked her if she would consider moving out of the IT industry, she told me, "I really doubt it! It's a very weird thing to say, but I can't really see myself not being part of [the IT industry]" (Michelle, COO CoWork, Interview). Through this transformation, Michelle had developed a sense of belonging; one that she acknowledged is surprising, because it would not be expected based on her background.

Shared norms and interests also contributed to a sense of belonging to CoWork's community. This was reinforced by CoWork's subculture. The IT industry has long been associated with counter-culture norms, as discussed by Blu Buhs (2010), and Ensmenger (2010) traces the existence of this stereotype back to the late 1960s. Many participants freely acknowledged themselves as geeks and nerds, and suggested that, as a result, they lacked the social skills necessary for "mainstream" culture, and instead negotiated their understanding of themselves

through aligning with a subculture (Woo 2015). The subculture of CoWork existed in artefacts, such as the framed Steve Jobs quote found on the wall of the kitchen area, reading “It’s better to be a pirate than to join the Navy”: the disruptive narratives of the startup industry were here valorised as an (anti)heroic counter-narrative to standard working norms and culture. Members willingly shared their interests in things such as science fiction, superhero films, and video games. References to these would be slipped into conversations, and interactions on Slack, and it was expected that other members would recognise these. Reflecting on my own experiences, I believe that part of the reason why I was so easily able to integrate myself into the community at CoWork is that, as a (relatively) young man with an interest in technology and geeky pursuits, I myself shared a number of CoWork’s norms and interests already. Sharing norms and interests contributes to a sense of belonging within the community through the ability to meaningfully interact with other members about these.

The shared repertoire of CoWork also contributed to the sense of belonging for members. For example, the use of in-jokes clearly delineated insider/outsider status; jokes made that relied on mutual access to a shared repertoire were one way of identifying who belonged within CoWork. Members felt comfortable using the shared language of startups with one another; they could talk to each other about validation, their runways (the length of time remaining based on their current state of finance), lean methodologies, and so on. As members spent more time in CoWork, they became part of its history, and could draw upon this in order to feel part of the community. Toby’s (Owner ResearchCo) paella, which he made for a Pot Lunch, is an example of this; it became part of CoWork’s repertoire as an artefact of the Pot Lunch ritual, and then part of CoWork’s history. Members referenced and remembered it for future Pot Lunches; their ability to access this part of CoWork’s repertoire confirmed their sense of belonging.

Finally, the sense of belonging came through the joint enterprise, or enterprises,

of CoWork. CoWork's two primary enterprises were to provide coworking services, and to support local high technology and digital entrepreneurship. Members who bought into the values of coworking felt an increased sense of belonging, for example Ellis (Owner EngCon), who valued the reciprocity of the practice of coworking; he was happy to help out his fellow members as he knew his fellow members would in turn help him. The joint enterprise of high technology entrepreneurship was a significant factor for the founders in my sample, in their sense of belonging. On several occasions, particularly for the Accelerate alumni, they referred to their fellow founders as being like family, and they remarked on the sense of camaraderie that had developed, or the practice of supporting other member's successes, and commiserating with them when things go wrong. Being part of a shared enterprise allowed members to identify with their fellow members, and feel that they were part of something, together.

7.2.3 Conceptualising Inclusion

Figure 7.1: A Conceptual Model of Inclusion within a CoP

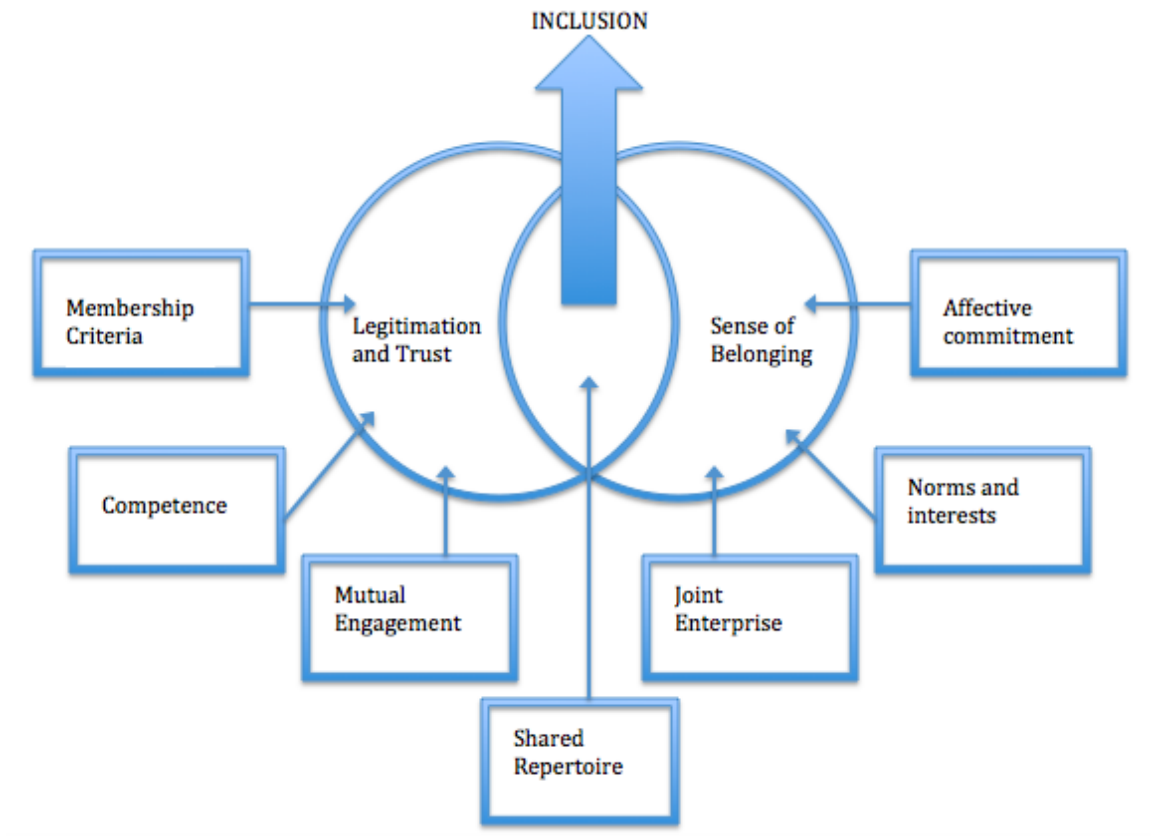


Figure 7.1 is a conceptual model to show how inclusion within a CoP emerges from the joint dynamics of legitimation and trust, and a sense of belonging. This model develops and reconceptualises Wenger's (1998) three dimensions of practice (mutual engagement, joint enterprise, and shared repertoire), and draws on the findings presented within this thesis, in order to focus on how members are included within a CoP, as opposed to simply examining under what conditions does membership occur (Bogenrieder and van Baalen 2007). Inclusion within a CoP is not simply a matter of being legitimated to participate, nor is it merely the extent to which an individual feels that they belong to the CoP. Inclusion is a complex and multi-faceted dynamic that relies on continual interactions between the sense of belonging to a CoP, and the factors that legitimate and build trust between members; in other words, it relies on both structural and psychological conditions (Thompson 2005; Garrett et al. 2017). Legitimation and trust is developed through members passing the criteria for

membership, demonstrating competence, being able to mutually engage, and accessing (and contributing to) the CoP's shared repertoire. The sense of belonging is developed through affective commitment to the CoP, the mutual norms, values and interests of the members, the alignment to a joint enterprise, and the insider status afforded through conspicuous engagement with the CoP's shared repertoire. The extent of each contributing factor may vary; as discussed in section 5.3.2.2, for example, members differed in their degree of affective commitment. However, both legitimation and trust, and a sense of belonging are necessary for inclusion to work. This explains why Michelle expelled the design company that frosted their office door. Whilst the company had been legitimated, through meeting the membership criteria of being an entrepreneurial SME within the digital sector, and therefore engaging in CoWork's practice of local entrepreneurship, they did not have a sense of belonging. Frosting the office door was interpreted as a symbolic gesture of separating themselves from the community, and not being a part of it. Inclusion is essential to ensure that collaboration and learning occur within the CoP; as such, the design company had to be removed. Inclusion comes from not only being able to participate in practice, but from aligning oneself with the practice as well.

7.3 Processes of Exclusion

The literature on CoPs to date has predominantly focused on operationalising the theory, in order to develop groups dedicated towards learning within organisational contexts (Amin & Roberts 2008), as systematic reviews have found (Pattinson et al. 2016; Bolisani & Scarso 2014). Development of the theory itself has largely focused on the dynamics of multi-membership, and the evolution towards landscapes of practices (Wenger-Treyner et al. 2015), as well as more thoroughly understanding the interplay of power and knowledge in relation to the identity-negotiation process (Contu 2014). Critical development of the theory since Barton and Tusting (2005) and Hughes et al. (2007b) has largely focused on the issue of power, in particular the ways in which knowledge is

regulated and controlled within a CoP (Pattinson et al. 2016). Whilst Hughes et al. (2007b) called for the necessity of understanding of processes of exclusion within CoP theory, this call has been less addressed than their criticism of the lack of rigour in defining and using CoP theory correctly (Omidvar & Kislov 2014). However, exclusion is integral to CoP theory, as by necessity, exclusion must occur: if a community is recognisable as a social group, then it has characteristics that define people as either insiders, or outsiders (Abrams et al. 2005). This section will discuss the mechanisms that define non-members of CoWork as non-members, and the dynamics of gatekeeping, and seeming inaccessible, through which exclusion happened.

7.3.1 Gatekeeping

The most obvious form of exclusion that happened at CoWork was the membership requirements. Members were expected to be within the IT, digital, and creative industries, and CoWork's staff actively policed this, for example their reluctance to allow the training company to join, on Ethan's (Director Accelerate) suggestion, and also their refusal to rent an office to a recruitment consultancy. The necessity for new members to be part of an occupational community already shared by CoWork's members was driven by two factors. Firstly, as Michelle (COO CoWork) emphasised, CoWork's goal of collaboration required a certain overlap of skills for it to function effectively as a coworking site, rather than just another office space. This came through strongly in Eugene's (Founder Copter) interview, where he contrasted his time working in a business centre, with his time in CoWork. At the business centre he had nothing in common with any of his fellow tenants, and never interacted with them. By contrast, within CoWork, there are a number of startups, with whom he regularly interacts. Of course, this did not always happen perfectly - Deborah (Cofounder GameCo) for example discussed in her interview how, because of the differences between games programming and web programming, she was not able to use the community as a resource for knowledge exchange in the same way that other members of the

community could. However, whilst her ability to find help with technical problems was more limited, she was able to find help from the community on other issues, for example Erin (Director DesignCo) offering to help her write a letter to a client who was refusing to pay.

Secondly, CoWork on a number of occasions used the word like-minded to describe their members. One of the markers of an occupational community is that members share norms and values with other members of their occupational community (Van Maanen & Barley 1984). Not only did CoWork's membership requirements ensure an overlap of skills that were needed for collaboration, but they also ensured an overlap of norms, interests, and values. At no point was it ever clearly defined what like-minded meant; my understanding emerged from my time spent embedded within the community. From my experience, I understood like-minded individuals to be those who were interested in technology, enjoyed geek culture, understood occupational norms of the industry, and could therefore easily engage with one another. Like-mindedness ensured that newcomers to the community would align with existing members along particular dimensions: that which applies to me, should apply to you. Contu (2014: p. 294) argues that this is a reflexive process that emerges from participating in mutual practice is how members of a CoP make sense of who belongs, and who does not:

In such reflections, they position themselves and others as 'this' rather than 'that' (this is where their discursive position emerges). In so doing, they form and revise their sense of self and that of others.

Like-mindedness was a way for CoWork's staff and members to position themselves as "this" rather than "that". Like-mindedness served to act as a social filter; just like "the vibe" of CoWork, which was never defined in any tangible way, like-mindedness served to favour individuals with particular norms, interests, and values, without specifically defining what is meant by it. As a result, individuals

who are less like-minded might have a more difficult time accessing the CoP, and therefore learn from the knowledge and competence within, in order to pursue a valued future (O'Connor & Allen 2010) - in this case, technology entrepreneurship.

As part of the process of operating CoWork, exclusionary practices were also used. The segregation of members from non-members was one of the most visible forms of exclusion within CoWork; members were deliberately kept separate. To an extent, this may have been necessary to ensure it is a "safe [...] and supportive environment" for the members, as Michelle (COO CoWork) suggested. In this way, CoWork is functioning as an incubator in the traditional meaning of the word: providing a secure, enclosed, and nurturing environment to its members, in particular the entrepreneurs within. This may have been why Ed (CTO HealthApp) told me that he thought it would be "dangerous" to leave CoWork. Alongside the members-only area, CoWork's staff retained the power to expel members who did not conform to CoWork's values, and expected practices. Whilst this was rarely needed, it ensured that CoWork's staff were able to police their members, and ensure that they were conforming to the expected community values. In this way, CoWork's staff took responsibility for ensuring that members continued to feel included.

From this, it is clear that an important role within a CoP is that of a Gatekeeper. To date, this is a concept that has not been explored within the literature; Lave and Wenger (1991) discussions of roles within a CoP focused on the newcomer, and the old-timer, categorising roles primarily by age. Wenger (1998) added to this by discussing the role of the broker; a member located more on the periphery of a CoP, and as a result, able to enact exchange across the boundaries of CoPs. Other literature has elucidated on the role of the "learner" within a CoP (Handley et al. 2006; Pyrko et al. 2017); relatedly, literature has also looked at the role of the "expert" from a knowledge/power perspective (Contu 2014). However, whilst this literature has focused on who controls access to knowledge

within a CoP (Ferlie et al. 2005), and the ways in being positioned as an expert pushes others to the periphery (Oborn & Dawson 2010), the broader question of who determines access to a CoP in the first place has not been resolved.

Gatekeeping theory has primarily been used in communications studies, to describe the roles of those who manage the flow of information; a gatekeeper makes the decision whether to allow a piece of information to move (or not) through their “gate” - for example, a newspaper editor deciding which stories get published (Shoemaker & Vos 2009). The principle here is similar, except that in the case of a CoP, gatekeepers decide which newcomers are allowed to join. In the case of CoWork, this decision is made both on entry requirements, as well as cultural fit. This makes the gatekeeper a powerful figure within a CoP; for a CoP to endure, there must be a process of renewal by which newcomers are able to join (Lave & Wenger 1991). The gatekeeper is the arbiter of which newcomers are allowed in, and therefore also determine who is excluded.

The gatekeeper is a role, or subject position, within a CoP, whose purpose it is to enact exclusionary practices. This role may be held by someone in an official capacity: for example, the operations staff of CoWork. Depending on the CoP, it may be an unofficial arrangement, whereby old-timers vet potential new members and permit them entry based on understood, but undefined, entry criteria. The gatekeeper has power over determining whether or not a newcomer is able to join, and are able to turn away those who are not a suitable match for the CoP. In the case of CoWork, a suitable match would fall into two categories; firstly, they would be part of a suitable occupational community, and secondly, they needed to be like-minded, and share the norms and values of CoWork’s community. In CoWork’s case, when CoWork’s staff act as gatekeepers, they had the power to enforce this: as was the case with the training company that the operations staff did not want to join, or the recruitment consultant I met at a Tech Breakfast whose company had wanted to hire an office within CoWork but had been refused, the staff were able to prevent newcomers who were not a suitable

occupational match from joining. In the case of the design company who joined, but then frosted their office door, Michelle (COO CoWork) was able to evict them, for not being willing to engage with the community. It was also the gatekeepers who enforced the exclusionary practices of CoWork, in particular access to the members-only area. They even appeared to guard the door to it, with their desks located just outside. They were the ones who controlled who was allowed to enter the members-only space, and who was granted a key fob to access it. Gatekeeping as a process can be considered as a form of active exclusion. For CoWork it ensured the integrity of the community, and that members were able to interact and collaborate together. It also meant that the unspecified norms of like-mindedness were reinforced; newcomers whose norms, values, and interests overlapped with those of CoWork's members would have an easier time joining.

7.3.2 Seeming Inaccessible

Just as inclusion is driven by both being legitimated to participate, and through feeling that you belong within the community, exclusion occurs not just from being denied access to the practice, but also through a psychological process of feeling that you do not belong. One of the reasons why CoWork went through a rebranding process after separating from Accelerate was because, as Michelle (COO CoWork) told me, outsiders were under the impression that CoWork was only for Accelerate alumni. This was not true, but as a result, it appeared inaccessible. Similarly, Zack (Founder DMCo) felt that outsiders had an impression that CoWork was a clique. This was not necessarily the case, as cliques are generally understood to be pernicious in nature, actively excluding and othering non-members of the clique, and I did not find evidence of this during my research. However, what he was acknowledging was that, for non-members, the relations between members might appear to be inaccessible. Whilst some activities within CoWork did foreclose wider participation - such as the requirement for new members to work within particular occupational communities - this is not to say that CoWork was inaccessible. Indeed, by CoWork's own

figures for 2016 (the primary year of my observations), the number of inhabited offices rose from five out of six to six out of six, and the number of desks hired in the coworking space rose from 19, to 45. Newcomers were able to access and join CoWork, but Zack's argument was that CoWork did not feel accessible to all, because it could potentially appear to be a clique.

Furthermore CoWork's appearance itself could appear to be exclusionary. When Deborah (Cofounder GameCo) and her cofounders were looking around office space, many spaces did not appeal to them, because they were filled with people in suits, which did not match their own norms. By contrast, CoWork appealed to GameCo because it had the appearance of a "lifestyle office", which included games, and sofas. The comic book art would likely have appealed to Deborah as well, given that she enjoyed comic books herself. As discussed in section 5.4.3, CoWork's aesthetic was designed to appeal to a particular demographic; young, non-traditional, and geeky. For someone like Deborah, who identified as a "nerd", this would have been a draw to her, but may potentially be off-putting to someone who felt that this environment was not aimed at them. Both of the two female founders resident in CoWork, Deborah and Cynthia (Cofounder SocApp) self-identified as geeks or nerds, and did not feel out of place in the environment. However, in Marlow and McAdam's (2012) study of "Kate", the sole female founder within a business incubator, Kate reported feeling out of place within it, and did not identify it as a space for her - she noted that, without her brother, who was a previous tenant of that incubator, it was unlikely that she would have entered it without him. Given the overlap between masculinity and geekiness, and in particular the association of technical prowess, gaming, and science-fiction with masculinity (Kendall 2011), CoWork's appearance may indirectly exclude non-geeky women in particular, even if they might otherwise be a good fit.

CoWork's culture was predicated upon geeky masculinity. This was seen in the shared interests of science-fiction, fantasy, and superhero media enjoyed and

consumed by the members; the willingness of many of the members to identify as geeks or nerds; the pop-culture artefacts found throughout CoWork such as clothing featuring science-fiction and superhero imagery, and desk toys such as lava lamps and statues of well-known fictional characters such as Darth Vader; and the enthusiasm for “toys” - technical devices such as drones, or VR headsets, or phones. It was also found in CoWork’s shared repertoire, including the use of scientific/technical language to discuss work activities, such as the use of the term “growth hacking” to describe marketing, and in the jokes and references CoWork’s members would make, for example the use of gifs and memes on Slack. Somebody who felt comfortable with this type of culture would potentially find it easier to join, and feel part of the community. Certainly in my case, as a man in his late twenties who enjoyed “geeky” things, I fit into CoWork easily: Ed (CTO HealthApp) even referred to me as a “proper lad” (Field Notes 14/12/16). To use CoWork’s own term, I was like-minded. However, joining CoWork may have felt like a less viable option - or not even appeared as an option at all - to someone who was not like-minded. From a cultural perspective, shared cultural meanings contribute to a sense of community through collective identification, producing a community that is, in essence, an imagined entity divided between insiders, and outsiders (Anderson 1991; Jewson 2007). If a newcomer feels that they might not identify with these shared cultural meanings, then their outsider status would be obvious, which may discourage them from joining.

7.3.3. Conceptualising Inclusion and Exclusion

Jewson (2007) calls for study into how exclusion happens within CoPs, and to date, there is little within the literature that answers this call. There is of course a paradox in studying exclusion, particularly from a qualitative, ethnographic perspective, in that it is difficult to find those excluded from a community, within a community, as they will not be present and observable. However, their absence itself is data; whilst absence of evidence is not evidence of absence, both the

practices of CoWork, and CoWork's norms, values, and culture, suggest how exclusion happens.

Figure 7.2: A Conceptual Model of Inclusion and Exclusion Within a CoP

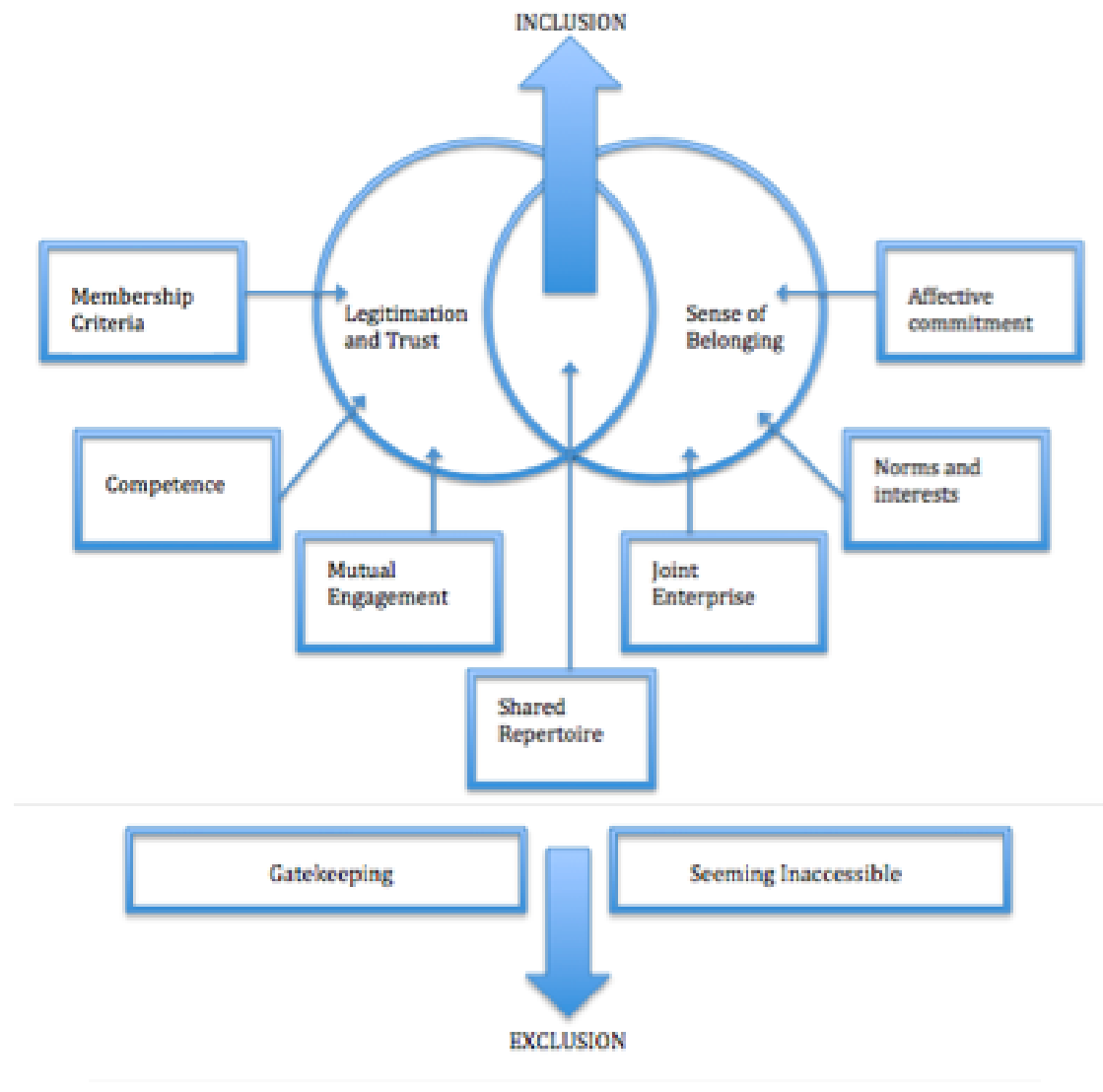


Figure 7.2 is a conceptual model of understanding how inclusion and exclusion happen within a CoP. Building on Figure 7.1, this model understands that exclusionary processes tend to take place at the boundaries of the CoP, as is shown by their placement below, and prior, to the processes of inclusion. Newcomers must negotiate both the processes of gatekeeping, to whatever extent these are formalised or not, and to what extent they feel able to access the CoP. For both of these, “like-mindedness” plays a role. Like-mindedness can be a formal or informal means for a gatekeeper to assess whether to allow a newcomer to join; similarly, if a newcomer does not feel that they are like-minded enough, they may feel that the CoP is inaccessible to them.

Furthermore, Gatekeeping's position beneath Legitimation and Trust is deliberate. Legitimation is the dimension of inclusion by which members are allowed to engage in a CoP's practices, and joint enterprise. Gatekeeping is the exclusionary mechanism that determines if a newcomer can be legitimated, or not. Seeming Inaccessible, likewise, is positioned below a Sense of Belonging as it is a psychological mechanism of exclusion; borrowing Contu's (2014: p. 294) terms, it is the way in which a newcomer determines if they are "this", or "that". If they believe themselves to be "that", rather than "this", then the CoP will seem inaccessible to them. Gatekeeping serves as the process by which the CoP itself determines who is permitted to join. The extent to which a CoP appears inaccessible is the process by which newcomers self-select out.

This model builds on CoP theory by understanding how dimensions of practice constitute the processes of legitimation and belonging, which result in members of a CoP being included. However, it also contributes to CoP theory by addressing the neglected concept of exclusion (Jewson 2007). Belonging as an essential part of CoP theory (Wenger 1998); this thesis developed the theory by providing an explanation of belonging in practice. Belonging to a CoP is the result of successfully negotiating processes of inclusion, and exclusion. The processes of exclusion presented here are grounded in the empirical findings of this thesis, which identified two key processes by which a newcomer to a CoP could be excluded. Importantly, these processes can be enacted not just by the CoP, but by the individual as well: either the CoP, or the individual, can enact exclusionary processes that would prevent them from joining, and being included. This point will be developed further in Chapter 8, in order to discuss how sites such as coworking sites, accelerators, and incubators can critically assess not only how they determine who is included and who is excluded, but how accessible they appear to newcomers.

7.4 Women (and Men) In Entrepreneurial Communities

This section of the chapter will now turn towards the issue of gender, and the role of women in entrepreneurial communities. The literature on female entrepreneurs to date has focused on understanding the deficit of female entrepreneurs (Marlow & McAdam 2013), particularly within masculine-dominated areas such as the IT industry and startup sector (Kuschel & Lepeley 2016). The symbolic intertwining of masculinity and entrepreneurship (Ahl 2006), combined with the masculinisation of the IT industry within the West (Ensmenger 2010) are understood within the literature to be a significant cause of this deficit (Marlow & McAdam 2012). Literature has looked at the structural constraints that affect women's participation, including issues with work-life balance (Greenhaus & Powell 2006), the production of societal scripts that reinforce a male-as-norm entrepreneurial figure (Down & Warren 2008), and the lack of access to resources, for example VC funding (Cosh et al. 2009) and the social capital needed to access investors (Roomi et al. 2009). Literature has also looked at the female entrepreneur as an individual, and how she negotiates her experience of being a woman and being an entrepreneur (Marlow & McAdam 2012), the conflict between being a woman and the social scripting of entrepreneurial innovation as masculine (Bruni et al. 2004b), and how to resolve being a female entrepreneur with being a mother/caregiver (Chasserio et al. 2014). As Wheadon and Duval-Couetil (2017) point out, the existence of the field of research on women entrepreneurs highlights the normative masculinity of entrepreneurship as a practice, and the need to mark women entrepreneurs as such is reflective of the marginalisation and barriers to entry women face.

This section will address two points. Firstly, I shall discuss how the female founders in this study were legitimated through communal processes, and argue that a focus on how inclusion and exclusion is experienced at a communal level is needed in addition to the current analytic focus on structural and individual barriers to entry. Secondly, given the relatively limited number of female founders

in this study, I instead turn attention to the roles of women within CoWork's entrepreneurial community, to show that women were in fact present, and an integral part of the community. I then argue that a focus on the deficit of female founders alone risks rendering the contributions of these women to these communities invisible, and call for research to show greater attention to the roles women perform in entrepreneurial communities in general, rather than simply asking where are the female founders.

7.4.1 Accessing the Community

Whilst structural and individual constraints are both important and relevant to understanding the deficit of female founders, the analytical lens of CoP theory instead takes a meso-level, operating at a communal level between structure and individual (Wenger 1998). Taking a communal lens, accessing the community for both Cynthia (Cofounder SocApp) and Deborah (Cofounder GameCo) was important for both of their entrepreneurial journeys. Cynthia had started other businesses before, but startups were still a new phenomenon to her. Accelerate, and then CoWork, both allowed her to develop as an entrepreneur through community-mediated peer learning, and also provided her access to resources that she might not otherwise have had. For example, one of the investors for her previous company she met by chance, simply because "he was just walking around CoWork" (Cynthia, Cofounder SocApp, Interview), being introduced to some of the companies within. For Deborah, CoWork provided her with a sense of community, and allowed her to feel part of an occupational community of founders; able to collaborate on problems, and recognise shared experiences, such as dealing with difficult clients.

However, for both Deborah and Cynthia, their access to the community was legitimated through their career and educational histories. Both of them had studied IT-related degrees at university. Cynthia had worked within the digital industry after university, and had also set up her own web design agency, along

with Tom (Cofounder SocApp). Deborah had been working for a games development studio near Northam before securing a spot on the publicly funded incubator programme that she and her founders took GameCo through. Both Cynthia and Deborah were members of the right occupational community to legitimate their access to CoWork. Furthermore, both identified with the social norms of IT; both were willing to self-identify as geeks or nerds. As a result, their entry into an entrepreneurial community was fairly seamless. Both were able to pass the membership criteria necessary, and both shared the necessary norms, values, and interests to feel that they belonged. Cynthia and Deborah's participation in CoWork's CoP as women within a male-dominated field of practice was not contested. They were recognised and legitimated by their peers, and were active participants in the community.

The literature on women in entrepreneurial communities of practice is very sparse. Warren's (2004) paper examined how female entrepreneurs developed a CoP within a Women's Network within the government-funded Business Link service. She argued that, as the women within her studies engaged with these networks and mutually engage in practice, they came to be recognised by their peers, and recognised themselves, as entrepreneurs. Their engagement with the Women's Network CoP, combined with the (initially peripheral) activities of starting a business, played an important role in legitimising them as professionals and entrepreneurs, and renegotiating their sense of selves to include an entrepreneurial identity. The Women's Network CoP was an important locus of learning and legitimation, and importantly, through the process of bringing in newcomers and inducting them into the practice of entrepreneurship, served as a point-of-entry for women to become entrepreneurs: the insiders as experienced entrepreneurs and experienced entrepreneurs within the CoP came to refer to themselves as "pioneers" through acting as role models for nascent female entrepreneurs, and were willing to "put their 'stories' back 'out there'" in order to encourage newcomers (Warren 2004: p. 33).

Warren's (2004) study suggests that entrepreneurial communities of practice are important for legitimating newcomers, and transforming their understanding of themselves as entrepreneurs. For Cynthia (Cofounder SocApp), joining Accelerate, and then CoWork, certainly transformed and legitimated her as a startup founder. Although she had entrepreneurial experience, she had not founded a startup previously, and, as discussed in section 6.4.1, she found the experience of Accelerate incredibly transformative, as she was exposed to concepts such as the lean startup. Joining Accelerate, and then joining CoWork upon its opening, legitimated her within the CoP as a competent practitioner. This led to her receiving investment from an angel investor who was visiting CoWork. In Deborah's (Cofounder GameCo) case, whilst she was less willing to identify as an entrepreneur, her membership of CoWork's CoP was certainly transformative, and she was able to recognise mutualities between her, and her fellow startup founders within CoWork, through their shared experiences. In both of these cases, the CoP was the locus where Deborah and Cynthia were able to legitimate themselves as startup founders. Just as the nascent entrepreneurs in Warren (2004) found themselves increasingly constituted as entrepreneurs as they both engaged in practice, and participated in the Women's Network CoP, so too were Deborah and Cynthia able to constitute themselves as startup founders as they engaged in the processes of founding and running their startups within CoWork's entrepreneurial CoP.

Both Warren (2004) and the findings presented here suggest that access to an entrepreneurial community played a significant role for the women involved, through both legitimating, and transforming their sense of belonging. Therefore analysing women's point-of-entry to entrepreneurship at the communal level adds an extra dimension to understanding the deficit model of female entrepreneurship. In Warren (2004), the CoP in question was specifically aimed at female entrepreneurs. Many of the respondents in her study were ambivalent about the term "entrepreneur", feeling that it did not resonate with those seeking to fit self-employment around family (Cohen & Musson 2000; Chasserio et al.

2014). Instead, for the women involved, their experience participating in the Women's Network CoP whilst legitimating and constituting them as entrepreneurs, resolved the tension of understanding themselves as women entrepreneurs through being recognised as professional businesswomen, which in turn legitimated their entrepreneurial activities. In CoWork's case, the CoP was not specifically aimed at women entrepreneurs, and Deborah and Cynthia were instead legitimated through their technical skills, and willingness to identify with geek norms. The negotiated enterprise of the CoP in Warren (2004) was specifically to encourage and support female entrepreneurs; in CoWork's case, its enterprise of supporting entrepreneurship was largely gender-blind. Whilst CoWork did hold some events, such as the Leading Ladies in STEM event to try to encourage female participation, there was not the concerted attempt to support female entrepreneurs through the practice of the CoP as there was in Warren (2004). As a result, Deborah and Cynthia had to negotiate their entrepreneurial identities in accordance with the gender-blind, but in practice masculine-laden, norms of entrepreneurship within CoWork.

As Lave and Wenger (1991) note, there is no reason to assume that a CoP functions fairly and effectively, or without bias; a CoP can be dysfunctional, and biased. This was not necessarily the case for CoWork. CoWork's members interacted frequently with one another, exchanging knowledge and interacting on a regular basis, helping one another in a non-reciprocal fashion, and contributing to one another's learning. However, CoWork's staff did not consider their uncritical reproduction of a masculine culture, and through the discourse of meritocracy, rendered any potential bias within the CoP's functions invisible. Michelle (COO CoWork) strongly felt that it was important to have more women involved in the IT industry, including starting businesses, and wanted to support them. But her belief was that the deficit of female founders was rooted in the lack of mentors, and that therefore the solution was increased visibility of women within the IT industry working in technical or managerial/executive roles. CoWork's reproduction of geeky masculine norms was not considered as a

potential barrier to women joining in the first place. Deborah and Cynthia could be legitimated as startup founders not because they were able to see other female entrepreneurs, but because they had modes of belonging available to them that allowed them to be legitimated within the context of a masculinised entrepreneurial domain (Swail & Marlow 2018). Examining entrepreneurship through a communal lens highlights the importance of the ways in which entrepreneurship is negotiated within a community. The difference between Warren's (2004) study and this study was that alternative negotiations of entrepreneurship were made available to the women in her study, in order to resolve the difficulties the women had identifying as entrepreneurs. This was not the case in CoWork.

This study, in conjunction with Warren (2004), shows that we require further analytic focus in order to understand how access to entrepreneurship is mediated at the communal level, and the processes of inclusion and exclusion into entrepreneurial communities. Whilst Ozkazanc-Pan and Clark Muntean's (2018) study of female high-technology entrepreneurs within accelerators and incubators demonstrates that women's access to these sites is often impaired by a lack of network capital, and that they are therefore disadvantaged when it comes to negotiating access, this relies on the more structural explanation of gender inequality as a problem of resource deficit. Whilst there is some tangential discussion of the way in which access is negotiated at a communal level (for example, how extant incubator and accelerator members can legitimate newcomers), this is explained more broadly in terms of women "[finding] themselves outside of *social networks for men, by men*" (Ozkazanc-Pan & Clark Muntean 2018: p. 390 [sic]). A communal lens would allow for a better understanding of the ways in which processes of inclusion and exclusion, which include structural and individual dimensions, are negotiated within a specific situated context: an entrepreneurial community.

7.4.2 Women as “Caretakers”

Literature on female entrepreneurs has simultaneously addressed the multiple barriers affecting female participation in IT and digital entrepreneurship (Dy et al. 2016), whilst highlighting the potential of this kind of entrepreneurship for women, and the potential benefits at individual, communal, and national level for increasing numbers of female founders (Kuschel & Lepeley 2016). Nevertheless, whilst some literature has looked at the role of female investors (Brush et al. 2014), the analytical focus remains on female entrepreneurs themselves. Even in the case of critical research the focus typically remains on the entrepreneur. For example, Dy et al. (2016) questions the emancipatory narrative of IT and digital entrepreneurship by both arguing that technology is not a meritocratic space for entrepreneurship, and that social hierarchies remain extremely pertinent to women’s access to entrepreneurship. In their call for further research, they suggest the analytic focus switch to the household, rather than simply the entrepreneur, but do not propose looking at how women might be involved in entrepreneurship beyond being entrepreneurs themselves. Similarly, Ozkazanc-Pan and Clark Muntean's (2018) study focused on lived experiences of female entrepreneurs within accelerators and incubators. Despite interviewing several female administrators/directors of accelerators and incubators, they do not discuss other roles available to women within entrepreneurial communities.

Within this thesis, women were found to play extremely important parts in CoWork’s shared enterprise of promoting digital entrepreneurship, beyond undertaking entrepreneurial activities. In particular, their contribution to CoWork’s enterprise came through their roles in maintaining CoWork’s community. This was achieved both through gatekeeping, and through the relational work they did.

As discussed, gatekeeping plays an important role in a CoP in that a CoP’s gatekeeper manages who is able to join, in order to maintain the shared

enterprise of the CoP, and ensure alignment of newcomers to it. Within my data there were three concrete examples of CoWork's staff performing this role. Firstly, when Ethan (Founder Accelerate) wanted to lease an available office to a training company, arguing that CoWork's enterprise had shifted away from catering primarily to startups and entrepreneurs, CoWork's staff did not support this, arguing against it. The training company never joined as members. Secondly, the Recruitment Consultant I spoke with at a networking event told me that the owner of the consultancy had wanted to rent an office in CoWork, but Michelle (COO CoWork) had refused. As discussed, Michelle, and the rest of CoWork's staff, felt that it was important that any business that develop within CoWork be "organic", and a sales-based operation such as an IT recruitment consultancy would not contribute to the "organic" nature of customer-supplier relations within CoWork. Furthermore, a recruitment consultancy would not be a good occupational match for CoWork. Finally, expelling the design agency from CoWork after they frosted their office door was also an example of gatekeeping; in this case, Michelle was exercising her agency to maintain CoWork's enterprise by rescinding access to the space to a company that were not contributing to CoWork's values and goals. This is in addition to the other ways in which gatekeeping practices were performed by CoWork's staff; for example, advertising membership as a place for "like-minded" individuals to congregate.

When discussing power in CoPs, Wenger (1998) argues that individuals with more power within a CoP have a greater ability to determine how meaning is negotiated, and how the practice of a CoP is done. Critical development of theories of power within CoPs has since examined conflict within CoPs both in terms of relations of power within a corporate hierarchy where a CoP within an organisation might be subject to agents outside of the CoP exerting control upon it (Roberts 2006), and also in terms of the power/knowledge conflict. This includes the complex interplay between power, knowledge, and the constitution of identity (Contu 2014), and the ways in which knowledge is regulated and controlled (Ferlie et al. 2005; Pattinson et al. 2016). However, in the case of

gatekeeping, the way CoWork's staff mobilise power is not to regulate and control knowledge, but to manage legitimacy of access to practice (Hamilton 2011). In acting as gatekeepers, CoWork's staff are in a position of significant power to control access to CoWork's community, and the joint enterprise and shared repertoire within. As Wenger (1998) notes, individuals with power can mobilise it in order to create stability within a CoP; in this case, through acting as gatekeepers, CoWork's staff maintained the stability of CoWork's community, and joint enterprise, and ensured it remained aligned towards supporting entrepreneurship.

Whilst there were several examples of female entrepreneurs within CoWork, the majority of women were typically clustered into more relational roles, including project, operations, and community management positions. This phenomenon is not uncommon within the IT industry. In Adam et al.'s (2006) study, they found a tendency for women within the UK IT industry to be clustered within less technical roles; and, for those with technical roles, a trend to downplay the technical aspect of their roles, and instead highlight the relational work they did as part of these roles such as client management. In keeping with this, Deborah (Cofounder GameCo), despite being the joint technical lead, was responsible for all client liaison work within her startup. Jubas and Butterworth (2008) also found a binary distinction between "hard" and "soft" skills within the IT industry, and the ways in which "hard" skills were assumed to be embodied in men, whilst "soft" skills were assumed to be embodied in women. Within knowledge-intensive fields in general, including IT, science, and research, women are typically clustered into lower-status, less-technical, and more precarious positions (Truss et al. 2012). Jubas and Butterworth (2008) argue that the coding of technical skills as masculine, and relational skills as feminine, and the resulting "hard"/"soft" dichotomy is pernicious, as it implies that in the case of the former, hard skills implies a solidly entrenched quality, whilst in the case of the latter, soft skills implies a lack of definition and reliability. Despite the importance of this kind of "soft", relational work, it is not valued in the same way that technical work is.

Within CoWork, there was certainly a hierarchy of knowledge (Foucault 1980) that placed technical skills within a hegemonic position, privileging “hard” skills over “soft” (Jubas & Butterworth 2008). Startup founders were required to have someone with technical skills in order to be considered for the Accelerate process, for example, and as discussed, Will (Cofounder Market.io) and Adam’s (Cofounder Market.io) success in being awarded a place despite apparently failing at Accelerate’s first round interview stage was at least in part predicated on them both being young, technically skilled “boy geniuses”. Non-technical founders, including Eugene (Founder Copter) and Zack (Founder DMCo) were keen to stress that they had gained technical insight into how code worked, and could generally understand it (if not write it), and a number of non-technical members of CoWork had attended Frank’s (Code Club Coordinator) Introduction to Coding course. Jenny (Community Manager Funder) mobilised this in her work to emphasise how the knowledge she had gained allowed her to act as an intermediary between the technical development team, and non-technical users; spanning both knowledge communities, she was able to translate between the two, and it was her technical knowledge that made this valuable. Technical knowledge was positioned as a valuable commodity, in a way that relational work was not: when HealthApp needed to let an employee go in order to cut costs, it was their female, non-technical Community Manager who was let go.

However, the relational work done within CoWork was extremely important to both the effective functioning of CoWork as a community, and to the management of the companies within. Whilst, as noted in chapter 6, it was not solely women engaging in relational work, it was women who were most likely to do so. Diane (S&M Manager CoWork) described the role of the staff as “mothering”; doing the care-taking work that enables the enterprise of CoWork - the entrepreneurial activity within - to be done. Erin (Director DesignCo) described her role as “taking care of geeks”, and discussed with me the ways in which she managed the technical staff in particular. The way she described it

was a transformational style of emotional management; setting out what needed to be done as a problem for the developer to solve, so that they felt that they were in charge, rather than simply telling them what to do. She was also an active member of CoWork's community and facilitated a number of community-building exercises, as well as adopting a role of unofficial ambassador, welcoming new members to CoWork, and easing their entry into the community. Reflecting back on my own experience, this is certainly something she did with me, as one of the first members I met. In Jenny's (Community Manager Funder) case, her ability to "translate" between non-technical users, and the development team, was a valuable form of work within Funder.

Literature on women in organisations has long examined the care-taking nature of work that women are often expected to do. Kanter's (1977) work on role traps identified the "mother" as one of four possible subject positions for women within organisations; Baxter's (2012) study still found evidence of the "mother" as a subject position adopted by women within organisations. Furthermore, as Acker (1990) argued, the care taking work of women has frequently been rendered invisible, and not valued *per se*. Indeed, the relational and caring work done within CoWork was often subsumed under more neutral-coded language, for example Diane (S&M Manager CoWork) subsuming this work under the broader term of "community engagement".

Despite its importance, the work done by women within CoWork to maintain and manage the community was rarely remarked upon. However, these women were able to exercise agency and power in these relational roles; Erin's (Director DesignCo) relational management of her development team was a highly effective use of power, and whilst not entrepreneurs themselves, CoWork's staff had considerable power in their roles as gatekeepers of the community. But for the most part, the female members (and staff) within CoWork did not hold the hegemonic roles of developers, or founders. Technical knowledge and entrepreneurial practice were central to the ways in which work at CoWork was

valued. The event Michelle (COO CoWork) organised for Ada Lovelace Day, to discuss how to get more women into STEM careers, and founding their own businesses, was indicative of this. Despite Michelle's own assertions during her interview that there are many different ways to be involved in the technology industry, the event was very much focused on how to encourage women to get involved in technical positions, or to start their own businesses. Relational and managerial work, such as the work that CoWork's staff performed to provide for the needs of their occupational community and ensure its smooth operation, was not considered.

Organisational research has highlighted the ways in which organisational work ideals typically favour "masculine" norms, including authority, rationality, careerism, competitiveness, aggression, individualism, and technical skills (Acker 1990; Kanter 1977; Brewis 2001; Cockburn 1999b; Connell, 2001). By contrast, "feminine" norms such as relationalism, caring, co-operation, and so on, are either relegated to a position of not being considered "proper" work (Fondas 1997; Kerfoot & Knights 1998); or, when these types of labour are considered relevant to working practices, male performance of "feminine" relational working practices is assumed to be intelligently-acquired social competence (as opposed to biologically innate), and therefore considered to be masculine work (Abrahamsson 2003). Peterson's (2007) study of IT consultants, for example, found that female consultants were positioned as more relational, and lacking the "hard" skills necessary for the job, whilst male consultants' ability to do the relational aspects of their work was simply considered part of their overall competence, in addition to their assumed technical prowess. As a result, when women perform "caring" work, it is often considered to be less valuable, particularly within the high-technology entrepreneurial domain, than technical work (Ozkazanc-Pan 2014).

It is not particularly new to state that women often end up within "softer" roles within technology domains. It is also understood that high-technology

entrepreneurial norms, much like working norms, are predicated on the assumption of a (female) caregiver performing care-taking work at home (Ozkazanc-Pan 2014; Acker 1990). As such, when considering the role of gender in entrepreneurship, analytical focus has remained on the ways in which gender is an organising principle (Calás et al. 2009), and how the ways in which entrepreneurship is done reproduces normative gendered expectations of who, and what, is an entrepreneur (Bourne & Calás 2012).

This thesis contributes to this literature by instead looking at the roles of women within entrepreneurial communities, and how these women facilitate entrepreneurship despite not being entrepreneurs themselves. Entrepreneurial learning, entrepreneurial practices, and the transformation of the self into an entrepreneurial identity were enabled within CoWork through membership of CoWork's CoP. The sense of community, or vibe, within CoWork's CoP appeared "organic", as Diane (S&M Manager CoWork) put it. In other words, the work being done by CoWork's staff, and by many of the women within CoWork, was rendered invisible: CoWork's community was assumed to be a natural outcome of the interactions within, rather than a managed and nurtured phenomenon, to the extent that even CoWork's staff subsumed this work under "professional" terminology such as community engagement. CoWork's staff were responsible for managing the process of bringing newcomers in, ensuring members contributed to the shared value of community, managing events to bring members together, and creating connections between members through signposting. Many communal activities were either organised by CoWork's staff, or female members of CoWork such as Erin (Director DesignCo). As a result, members felt that there was a genuine sense of collaboration within CoWork, with members such as Eugene (Founder Copter) comparing the collaborative environment of CoWork with his previous experience working in a business centre. Through shifting the analytical lens to the communal level, we see that women are not absent from entrepreneurial communities, and in fact perform important and valuable work within them. However, in line with broader findings

about the ways in which we value work, despite this work being valuable, it is not valued within a system that privileges technical and entrepreneurial skills and practices.

7.5 Conclusion

This chapter has examined the dynamics of inclusion and exclusion within CoPs, and has also examined the roles of women within CoWork's entrepreneurial community. Both being included in, and being excluded from, a CoP was found to rely on both communal and individual processes. Inclusion within a CoP requires legitimation and trust; newcomers' presence, and their mutual engagement in practice, requires on-going legitimation that is continually negotiated and renegotiated over time. Whilst entry criteria determine a newcomer's initial access to a CoP, this alone is not enough. Legitimation for all practitioners, whether newcomer or old-timer, occurs through engagement in practice, and the ongoing recognition of competence between practitioners. Psychologically, inclusion also requires a sense of belonging; a transformative process by which a participant renegotiates their sense of self to feel part of the CoP. Whilst the degrees to which a member might be legitimated, and feel a sense of belonging, may vary, inclusion is mutually constituted by both.

Likewise, exclusion occurred through both communal and individual processes. Gatekeeping practices were the primary ways in which exclusion happened through communal practice, and this thesis contributes to the literature on CoP theory by introducing the role of the gatekeeper. This position is less concerned with controlling access to knowledge, as other studies have examined (Ferlie et al. 2005); rather, the gatekeeper's role is to arbitrate the introduction of newcomers into the CoP. Of course, it should be noted that there may well be other forms of exclusionary practice; however, a limit of this study was that through its ethnographic design, I was better positioned to observe (and experience) inclusion, than exclusion. This would be an area for future research.

Psychologically, the extent to which a CoP seems inaccessible to a newcomer is also a dynamic of exclusion. This is the extent to which a newcomer would be able to observe the CoP, and feel that they are “this”, rather than “that”. However, whilst for inclusion, both practices and psychological processes are necessary, for exclusion, either gatekeeping, or seeming inaccessible may be enough to disrupt a newcomer’s access to the CoP.

In terms of gender and women’s entrepreneurship, the application of a communal lens to the two examples of female startups founders within CoWork is insightful. Not only was the community a source of transformation for both of them, but their access to the CoP is explicable through both the ways in which they were legitimated and understood to be competent practitioners, and the ways in which they felt a sense of belonging to CoWork’s CoP. This level of analysis complements both the structural and individual approach to women and entrepreneurship through examining the ways in which the community mediated and legitimated their access.

The final section of the chapter reflected on the roles of women within entrepreneurial communities more broadly. Rather than simply privileging the role of the entrepreneur itself, a hegemonic subject position, this thesis demonstrated the important ways in which women were found to contribute to CoWork’s community. Whilst limited in scope, this study rejects the normative image of the lone, heroic startup founder figure (Ahl 2006; Ozkazanc-Pan 2014) through drawing attention to the necessary relational and care-taking work that women within CoWork performed.

Whilst the theoretical and empirical contributions have been presented separately, each nevertheless impacts upon the other. Given that this is a study of a high technology entrepreneurial community of practice, the ways in which men and women were included or excluded within this community can be understood through the conceptual model presented in Figure 7.2. Not only were

men more easily able to be legitimated within a high technology entrepreneurial CoP, due to the association of both entrepreneurship and technical skill with masculinity (Ahl 2006; Jubas & Butterwick 2008), but the geeky masculine norms and values of the culture provided modes of belonging that were most accessible to geeky young men. Minniti (2005) discusses the way that entrepreneurial practice within a social environment produces a self-replicating culture of entrepreneurship within that environment, but does not consider *what* kind of entrepreneurial culture is being replicated. This thesis suggests that the dynamics of inclusion and exclusion within an entrepreneurial CoP lead to the reproduction of an entrepreneurial culture laden with the norms and values already present within that culture. If those norms and values privilege a particular form of masculinity, then becoming part of that CoP will be will depend on the ability to successfully navigate those norms and values.

Chapter 8: Conclusions

8.1 Overview

This thesis examines how becoming a startup founder is a matter of being included within an entrepreneurial community of practice. Rejecting the lone heroic entrepreneurial mythic figure (Ahl 2006; Ozkazanc-Pan 2014), and the popular image of the young, male, technical-genius startup founder, this thesis is grounded in the assumption that high technology entrepreneurship is not an isolated, individual practice, but instead relies on deep social ties in order to both learn the necessary skills to become an entrepreneur, and access the resources necessary for success. Becoming a startup founder is a social endeavour that takes place in the lived-in, social world, and requires networks of relations surrounding and supporting the entrepreneur. Furthermore, the current trend in entrepreneurial practice is to lean into this: accelerators and incubators are proliferating rapidly, and offer nascent entrepreneurs both an entrepreneurial pedagogy, and access to a resource network, in order to maximise their chances of success (Seet et al. 2018). Becoming a startup founder, more than ever, is a process done within a community: either within an accelerator, an incubator, or a coworking space. As such, this thesis, through the application of a gendered lens, has explored both the ways in which inclusion and exclusion are negotiated at a communal level, and also sought to better understand the roles of women within entrepreneurial communities.

The aim of this chapter is to draw together the findings and contributions of this thesis: the findings outlined in chapters 4-6 will be discussed in relation to the research questions set, and I will link these to the extant literature to demonstrate the empirical and theoretical contributions of this study. Finally, I will outline the limitations of the research, and highlight potential areas for future investigation.

8.2 Findings

Chapter four of this thesis provided an overview of CoWork, and addressed the key concept of community: what did “community” mean at CoWork? Community was shown to be a multifaceted concept referring to the networks of social relations between members, the ways in which these relations manifested in interactions, and the outcomes of these interactions: enterprise, “vibe”, and collaboration. However, in this chapter, there was a contrast between the way that CoWork’s staff and members imagined it as an open, collaborative, cooperative environment, and the extent to which exclusion was such an everyday part of CoWork’s social life. Whilst “community” was seen as the key to knowledge sharing, collaboration, “vibe”, and social relations across different organisations within CoWork, there was nevertheless a tension between the supposed open nature of CoWork, and the ways in which it was closed. CoWork incubated its members from the outside world; members were contained within a members-only area, and its virtual space was only accessible to members. Furthermore, CoWork’s staff actively policed both its existing members, and newcomers, to ensure that only the “right” people were allowed within. This was not a site that was open to all. There was a clear stratification between members, and non-members. This chapter also introduced the all-female staff of CoWork and the work they did in managing CoWork’s operations, as well as the membership base of CoWork: startups and technical positions were predominantly held by men, whilst women were more frequently found in non-technical, “soft” (Jubas & Butterwick 2008) positions.

In Chapter Five, participation was explored and discussed. Participation in CoWork’s practice was driven not only by temporal commitment, but also affective commitment. CoWork’s membership base was heterogeneous in both dimensions; temporally attendance ranged from full-time, to occasional and sporadic. Affectively, those who accessed CoWork varied from true believers in CoWork’s enterprise, to non-committed attendees who nevertheless provided the

possibility of new interactions, and the development of new relations. This heterogeneity is a key aspect of a CoP; CoPs rely on participants occupying a range of positions, from central, to peripheral, to boundary (Wenger 1998; Jubas & Butterwick 2008). As Wenger (1998) notes, the practice of a CoP is constantly evolving, and is not static. Peripheral and boundary members are equally important to a CoP as they contribute to the evolution of practice through spanning different CoPs and different practices, and can therefore provide necessary novelty (Wenger 1998; Wenger et al. 2015).

Furthermore, participation was shown to not only be a matter of working together, but also socialising together. The purpose of CoWork was to produce a community that supported entrepreneurial learning and praxis, mediated through the “vibe” of ongoing social interactions. CoP theory, as a theory of situated social activity and social learning, is predicated on the assumption that learning takes place through engagement in the lived-in, social world. CoWork’s members were constantly learning from one another, and through their mutual engagement in practice reproducing communal norms.

In Chapter Six, I addressed the ways in which gender was negotiated at CoWork. Whilst high-technology entrepreneurship was understood to be a masculine domain, there were nevertheless contested definitions of this. The hegemonic position of the young, male genius (Ozkazanc-Pan 2014) was acknowledged within CoWork’s community of founders, and there were examples of this type of founder. However, its position was challenged by the older, male, startup founders, who instead mobilised their age and experience as the foundation for a position of experience and knowledge: the wise man. For the female founders within CoWork, the assumed masculinity of the startup founder required careful negotiation; one female founder rejected the entrepreneurial label all together, whilst another instead leaned into her technical skills and entrepreneurial background as a way of legitimating her participation. This chapter showed that a very important legitimating factor for participating in high-technology

entrepreneurship within an entrepreneurial CoP were technical skills.

This chapter also explored the roles of women within CoWork more broadly. Within STEM fields, women are often clustered within non-technical, relational roles (Truss et al. 2012). This was also the case within CoWork. However, this thesis also demonstrated the importance of this type of work, and its necessity for producing an entrepreneurial CoP. Women managed relations within the community, acted as networkers, and took care of CoWork's members. This had the effect of producing what appeared to be an "organic" vibe: the network of relations within CoWork appeared to be emergent and self-reproducing, but was in fact nurtured and managed by the performance of relational and care-taking work.

8.2.1 Revisiting the Research Questions

Based on the literature review conducted in Chapter 2, this thesis set out to answer 3 research questions, shown below:

Q1: How does a coworking site support entrepreneurship, and what are the processes by which entrepreneurship is communally enacted within?

Q2: What are the mechanisms that might include or exclude a newcomer from a workplace entrepreneurial community of practice?

Q3: How do men and women participate in a workplace entrepreneurial community of practice?

Over the course of this thesis, these questions have been answered through the empirical findings of the study, and the discussion of those findings. In answer to the first question, it was found that CoWork supported entrepreneurship through both negotiating entrepreneurship to be a vital part of its enterprise and

structuring its practices around that, and also through the on-going production of an (entrepreneurial) sense of community. The founders within CoWork experienced a sense of belonging to the community, and through both the “vibe” of CoWork, and the on-going practice of collaboration, entrepreneurial learning and practice were enabled and enacted within. Furthermore, the communal lens of this study shows how entrepreneurship is communally enacted. Work within CoWork was enacted through processes of coworking; members were available to one another, interacted with one another, and mutually negotiated the joint enterprise of CoWork together.

In answer to the second question, this study found that, firstly, exclusion has to be considered in contrast to inclusion. Inclusion within a CoP is not just a matter of being legitimated in order to participate in the joint enterprise and practices of the CoP, but is also a psychological matter, requiring members to feel that they belong. Exclusion therefore happens when a newcomer is not legitimated, or when a newcomer feels that they would not belong. Being included requires a newcomer to have modes of belonging available to them that overlap with ways of being within the CoP. Exclusion happens when either the CoP, or the newcomer, decides that they cannot enact the modes of belonging necessary for membership.

In answer to the third question, it was found that, unsurprisingly, men were more likely to be in technical and entrepreneurial job roles, whilst women were more likely to be in non-technical and relational job roles. However, this thesis also shows how important the relational and caring work done primarily by the women within CoWork’s community was. Entrepreneurship does not occur in a vacuum; it relies both on access to social networks, and the hierarchical division of labour between the assumed practices of entrepreneurship, and the necessary care work that needs to be done to support the production of entrepreneurial practice. In the case of CoWork, it was found that it was primarily women who were managing the relations within CoWork’s social networks, and it was also women

who were primarily doing the care taking work that entrepreneurial practice was predicated upon. Through de-centring the entrepreneur, and taking the entrepreneurial community as the unit of analysis, this thesis shows how participation in entrepreneurial practice was distributed across the community, rather than just simply in discrete entrepreneurial individuals.

8.3 Contributions

8.3.1 Empirical Contributions

This thesis has made both empirical and theoretical contributions to our understanding of entrepreneurship, and CoP theory. Firstly, from an empirical perspective, this thesis has contributed to the literature on women's entrepreneurship, particularly high-technology entrepreneurship. There are two empirical contributions: firstly, following Warren (2004), this thesis argues that critical attention needs to be paid at the communal level, to better understand how participation is effected through becoming a member of an entrepreneurial community. The salience of gender to women's entrepreneurship at a structural level has been well demonstrated (Ahl 2006; Ozkazanc-Pan & Clark Muntean 2018; Dy et al. 2016; Marlow & Ahl 2012), and literature has also explored the ways in which female entrepreneurs have to individually negotiate their entrepreneurial identity, with their broader gendered identities (Marlow & McAdam 2012; Chasserio et al. 2014; Swail & Marlow 2018). This thesis contributes to the somewhat neglected meso-level of analysis through highlighting the communal domain as the point at which structural constraints, and individual identity work, are negotiated and reconciled. The case of Deborah (Cofounder GameCo) highlights this. Deborah had to negotiate an entrepreneurial identity for herself within a communal context; whilst her background, technical skills, and education were sufficient to legitimate her within a community of founders, she struggled to resolve the apparent differences that she saw within herself, and her peers. As a result she negotiated a new subject

position as the founder of a “hippy startup”, which recognised the shared similarities with her peers, but also permitted difference.

Secondly, this thesis offers an empirical contribution to this strand of literature through reframing the focus away from the individual entrepreneur, to the entrepreneurial community. Whilst to date the literature has largely dwelled on exploring the niche role of the female entrepreneur within the masculinised field of entrepreneurship (Marlow & Martinez-Dy 2018; Stead 2017), this thesis instead examines how women contribute to entrepreneurial communities more broadly. Unsurprisingly, we see that the relational and care-taking work done by the women within CoWork’s community is not valued in the same way that technical work, and entrepreneurial work is, and the work is largely rendered invisible: the production of community is assumed to be “organic”, rather than managed and supported. Critical entrepreneurship research rejects the myth of the lone heroic (and male) entrepreneur (Ahl 2006), and empirical data acknowledges the necessity of social capital and social relations (Seet et al. 2018; Ozkazanc-Pan & Clark Muntean 2018). Through reframing the focus to the entrepreneurial community itself, this thesis highlights the necessity of relational work to a CoP, and in the case of this study, shows the ways in which the women within CoWork are essential to enabling entrepreneurial activity. Whilst previously study on entrepreneurship has largely defined entrepreneurship as the actions undertaken by entrepreneurs, this thesis instead argues that entrepreneurship is the actions undertaken by an entrepreneurial community.

8.3.2 Theoretical Contributions

From a theoretical perspective, this thesis contributes to the literature on Communities of Practice theory. Despite the call for critical attention on how exclusion happens within CoPs (Hughes et al. 2007), this has been largely neglected, in favour of instrumentalist applications of the theory (Pattinson et al. 2016), and critical focus on the role of power within CoPs (Contu 2014). This

thesis has developed a conceptual model, Figure 7.2, of how inclusion and exclusion happen within CoWork's CoP. Exclusion is not merely a matter of not being legitimated to participate in CoWork, but also occurs through whether a newcomer feels that CoWork is accessible to them. This has important practical implications. Work within knowledge-intensive organisations, such as high-tech startups, has been characterised as gender-blind (Truss et al. 2012), and CoWork did not appear to be an exception to this; their organisational practices largely served to reinscribe socio-cultural gender norms, rather than challenge them (Ozkazanc-Pan & Clark Muntean 2018), and rarely were these practices challenged or questioned. The ways in which CoWork uncritically reproduced norms that privileged an assumed young, male, geeky, and technical membership would contribute to a sense of inaccessibility for newcomers who are not young, geeky, and technical. We do not come to CoPs as blank slates, devoid of broader societal identities. These identities may result in exclusion through either gatekeeping practices, or through the CoP seeming inaccessible, or both. CoWork's search for "like-minded" new members, for example, was a form of gatekeeping, in that there was an assumption of characteristics that new members would share. Just as the concept of meritocracy obscures the ways in which "merit" is in fact a socially constructed and value-laden phenomenon (Castilla & Benard 2010), "like-mindedness" obscures the ways in which norms and values can be a barrier to participation.

8.4 Limitations

This study consisted of an in-depth, ethnographic study of a single research setting: an entrepreneurial coworking site. Whilst this approach generated rich and deep data, it was not without its limitations. This section will discuss these limitations, suggest ways in which the work could have been done differently, and also discuss areas for future research, building on these findings.

Firstly, this research was conducted at a single research site. As such, there is

no particular base for comparison within this study, to see if the findings here apply more broadly across similar research settings, or if the idiosyncrasies of the site are such that these findings are unlikely to be relevant outside of this context. One way to account for this would be for future research to adopt a comparative case studies approach (Yin 1994); through conducting ethnographic research at two or more sites, findings can be compared and contrasted across a broader empirical base. When I selected CoWork as my research site, it was the only coworking site in Northam. Three more have since opened; the high growth of coworking sites over the last few years makes a comparative approach far more practical than when I initially scoped this project.

Secondly, there was a methodological limitation in my ethnographic approach. A common feature of ethnographic research projects is that researchers tend to rely on key participants (Millen 2000); these are participants with whom the researcher develops a good relationship, and are typically responsible for a significant amount of data. However, there is certainly an issue of bias here; participants with a particular interest in the research project are more likely to want to participate, and given the co-constructed nature of research participation, the researcher is very limited in their ability to engage with less-willing or uncooperative participants (Graveling 2009). Given my interest in participation and social interaction, my focus was almost inevitably on those who were more active members of CoWork's community. This could potentially have skewed my findings; I spent the least time with those with the least commitment (both temporal and affective) to CoWork. For future research, a strategy that takes these participants into consideration would add further nuance to the data. This could involve showing greater sensitivity to less-participatory members, and developing tactics to engage with them.

Thirdly, from a theoretical perspective, my approach reproduced the issue of entrepreneurship research more generally, in treating women as a generic proxy for the gendered subject (Dy-Martinez & Marlow 2018). Whilst over the course of

this thesis I did engage with the ways in which masculinities were done within CoWork, the study was predicated on an approach that assumed gender to be a one-dimensional property of women (Dy-Martinez & Marlow 2018): the research arose from an observation that women were not engaging in high-technology entrepreneurship, and was motivated by a desire to understand why. This approach was also not intersectional; other social identities such as race, sexuality, social class and so on, whilst present within the research setting, were not considered in how they might be relevant. An approach that addresses inclusion to, and exclusion from, high-technology entrepreneurship along intersectional dimensions could further develop our understanding of the ways in which these social identities impact the ways in which subjects engage in entrepreneurial practices (Ozkazanc-Pan 2014; Ozkazanc-Pan & Clark Muntean 2018).

8.5 Recommendations and Future Directions

The significant increase in the numbers of accelerators, incubators, and coworking sites over the past decade suggests that entrepreneurial practice, particularly in the case of knowledge economy work such as digital and high technology entrepreneurship, will continue to be increasingly performed within these kinds of sites. Whilst Bone et al. (2017) agree it is possible that we are entering into a “bubble”, the stimulative effect of organisations such as accelerators upon a local ecosystem (Fedher & Hochberg 2014), and the increasing trend for corporate investment into incubators and accelerators (Bone et al. 2017), suggests that, whilst these organisational forms are simply the latest in the long line of attempts to stimulate innovation through bringing people together, the market is leaning into them, and they are unlikely to go away any time soon. Furthermore, Bone et al. (2017) note on-going innovation in the way that accelerators and incubators are structured, such as the recent development of virtual accelerators, which provide further opportunities for entrepreneurs to become involved in these types of schemes.

However, with the increasing numbers of entrepreneurs setting up within accelerators, incubators, and coworking sites, the providers of these sites need to turn critical attention to their operations, in particular to recognise the ways in which what are assumed to be “neutral” practices may in fact contribute to gender inequality, and how these practices can be changed to be more inclusive. For example, Ozkazanc-Pan and Clark Muntean (2018), after interviewing an entrepreneur and administrator at an accelerator, prompted the accelerator to consider how some of their practices were contributing to gender inequality. The outcome of this was two changes in practice: firstly, the accelerator ceased holding meetings in “dive” bars; and secondly, began holding meetings at different times of the day, to account for familial obligations.

Based on the literature reviewed within this thesis, and the empirical findings of this research project, I propose three recommendations for accelerators, incubators, and coworking sites, in order to address the issue of inclusion within, and access to.

Firstly, sites should create a model of who their assumed user is. This should be based both on common demographics of current members, tenants, or cohorts, and what the site is looking for from new members. This should include both technical skills, and non-technical, “soft” skills. Sites should be wary of language such as “like-minded” or “a good fit”, as these easily mask normative biases that are assumed to be neutral, but are actually value-loaded. Once a site understands who they have been both intentionally, and unintentionally, targeting, they can better understand who is excluded by this user model. Despite CoWork’s professed openness, the assumed user of the site was young, technical, male, and geeky. Once a site understands who is not being included by their model, they can identify what practices need to be changed in order to be more inclusive - for example, as in Ozkazanc-Pan and Clark Muntean’s (2018) case, no longer holding meetings in “dive” bars.

Secondly, these sites need to recognise the gendered nature of the way work is valued. Being an entrepreneur, and doing technical work, held a valorised position at CoWork, but both entrepreneurs and technical workers have a masculine bias. Relational and care-taking work within the site was also gendered, and as a result, rendered invisible. Michelle (COO CoWork) felt that one solution to the gender imbalance of the IT industry, and startup sector, was increasing focus on female mentors. However, increasing focus on the gendered ways in which work is done, as well as the importance of the relational and care-taking work to the production of entrepreneurial practice, deserves further attention. Women are not absent from the IT industry, or from high technology entrepreneurial sectors. Promoting the varied and valuable work being performed by women already within these types of organisation, and shining a light on the different ways that people contribute, can help move the previously invisible and marginalised work from margin to centre.

Thirdly, these sites need to recognise the gender difference in social networks of nascent entrepreneurs, and how this potentially affects access to services such as accelerators and incubators (in particular), as well as coworking sites. Whilst in the study Accelerate's recruitment process involved an open call for applications, nevertheless, having pre-existing connections to the directors was certainly beneficial. Cynthia (Cofounder SocApp), through her own extensive network, was in a position where Patrick, the founder of Accelerate, was already aware of who she was, which enabled her to skip the first stage of the application process, and proceed directly to the pitching stage for a place on her cohort. However, as Ozkazanc-Pan and Clark Muntean (2018) show, there are key differences in men and women's social networks, with women typically possessing fewer ties compared to men, which limited their ability to be connected to accelerator and incubator directors. Accelerators and incubators in particular should review their recruitment processes to determine if there is implicit bias; for example relying on the use of extant social networks, or

privileging those with whom they already have a connection.

In terms of future research directions, with the growth of coworking sites, incubators, and accelerators, study of high technology entrepreneurial practice within these contexts is increasingly necessary. To date, the literature is beginning to address this; Seet et al. (2018) and Ozkazanczy-Pan and Clark Muntean (2018) have both addressed the roles of accelerators in the social production of entrepreneurship, and Van Wheelee et al. (2018) discuss how entrepreneurship is mediated through community, in particular through coworking sites. This research demonstrates the need for critical attention to what is being learned, and how: to what extent are these sites reproducing dominant masculine norms? What role does the community play in reproducing these norms, and how are processes of inclusion and exclusion negotiated at the point of practice? Potential avenues for future research include an intersectional approach, to better understand how other minority subject positions affect the ability to be included; and research into recruitment practices into these sites, in order to determine what, if any, biases are present at the boundaries to the community, where newcomers are introduced to the practice (Lave 2008). Through this thesis, I hope that I have demonstrated the value of situated learning within a community context: as a coworking site, CoWork was a productive locus of collaboration, knowledge exchange, and access to social capital. However, as a learning environment, critical consideration of *what* is being learned and reproduced, and the ways in which inclusion and exclusion happen, is essential.

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